DOCKETED

Docket Number:	12-AFC-02C
Project Title:	Huntington Beach Energy Project - Compliance
TN #:	211425
Document Title:	South Coast Air Quality Management District Correspondance 05-06-16 Part 1
Description:	N/A
Filer:	Patty Paul
Organization:	CH2M Hill
Submitter Role:	Applicant Consultant
Submission Date:	5/10/2016 11:51:54 AM
Docketed Date:	5/10/2016

Dunavent, Andrew/SDO

From: Lisa Ramos <lramos1@aqmd.gov>
Sent: Tuesday, April 19, 2016 8:44 AM
To: Dunavent, Andrew/SDO
Cc: OB PR Support NA Docs
Subject: Update on Public Records Requests #85113,,

Andrew Dunavent

I only have one of your requests that is still open which is #85113. It is still with the contact person. I sent a reminder email for status/timeframe.
I forwarded your email to Jacob for status check for you. Those have been assigned to him.

Lisa Ramos
South Coast A.Q.M.D
Public Records Unit
909.396.3211

From: Andrew.Dunavent@ch2m.com [mailto:Andrew.Dunavent@ch2m.com]
Sent: Monday, April 18, 2016 9:51 AM
To: Lisa Ramos <lramos1@aqmd.gov>
Subject: Update on Public Records Requests

Hi Lisa,

I am emailing you with regards for some Public Records Requests that have been submitted and am curious on the status of them. I would appreciate any information you may have on the following PRRs:

84576 - Jacob
84575 - Jacob
84574 - Jacob
84573 – Jacob
84580 - Lisa
84579 – Lisa Closed

85112 - Lisa
85113 - Lisa
85106 - Jacob
85107 - Jacob

Thank you and please let me know if you have any questions,

Andrew Dunavent, EIT
Environmental Engineer
CH2M
402 W. Broadway, Suite 1450

San Diego, CA 92101
Office Phone (619) 272-7223
Cell Phone (707) 372-7810

Dunavent, Andrew/SDO

From: Jacob Allen <jallen2@aqmd.gov>
Sent: Friday, April 29, 2016 11:08 AM
To: Dunavent, Andrew/SDO
Subject: RE: Public Records Request partials

Thank you for the reminder! I will take another look. I should be sending more items out to you today

---

From: Andrew.Dunavent@ch2m.com [mailto:Andrew.Dunavent@ch2m.com]
Sent: Friday, April 29, 2016 11:06 AM
To: Jacob Allen <jallen2@aqmd.gov>
Subject: RE: Public Records Request partials

Hi Jacob,

I am following up regarding your email you sent last Friday regarding additional partial deliveries being sent this week. Since I have seen no additional information, I am assuming there have been no recent advancements in the status of our requests. If there have been, I would appreciate an update.

Thanks,

Andrew Dunavent, EIT
Environmental Engineer
CH2M
402 W. Broadway, Suite 1450
San Diego, CA 92101
Office Phone (619) 272-7223
Cell Phone (707) 372-7810

From: Jacob Allen [mailto:jallen2@aqmd.gov]
Sent: Friday, April 22, 2016 5:29 PM
To: Dunavent, Andrew/SDO <Andrew.Dunavent@ch2m.com>
Subject: RE: Public Records Request partials

I will be sending you additional partial deliveries for your other requests on Tuesday when I get back into the office

---

From: Jacob Allen
Sent: Friday, April 22, 2016 3:41 PM
To: 'Andrew.dunavent@ch2m.com' <Andrew.dunavent@ch2m.com>
Cc: OB PR Support NA Docs <ob_pr_support_na_docs@aqmd.gov>
Subject: Public Records Request #84573, partial

Attached is a partial delivery of your requested records. This is everything that is currently available. Your request is still routed out for Complete Engrg Appl File 572641, the Facility Permit and Source Testsrelated to your requested

Applications. I have sent these departments a reminder and let them know that you are asking for your requested records

Jacob Allen
Public Records, SCAQMD
(909) 396-2282

Dunavent, Andrew/SDO

From: Jacob Allen <jallen2@aqmd.gov>
Sent: Tuesday, May 03, 2016 4:09 PM
To: Dunavent, Andrew/SDO
Cc: OB PR Support NA Docs
Subject: Public Records Request #84574, partial
Attachments: ENG - Application Folder - 12/16/2014 - Fac ID: 17301 - Appl# 565933 - Permit# - Name: ORANGE COUNTY SANITATION DISTRICT -.pdf; - PR - PR Review Docs - 5/13/2015 - 84574 - - 568969 APPL FILE - - - ANDREW DUNAVENT.pdf

Attached is a partial delivery of your requested records. There were no S/T Rpts found for your request. I am still waiting on Appl Files 546360-546362 for FAC ID 17301 and the Facility Permit to be able to close out this request. I sent another e-mail to our Engineering and Compliance department letting them know that these files are needed. Once I am provided with documents, I will send them to you immediately.

Jacob Allen
Public Records, SCAQMD
(909) 396-2282

Dunavent, Andrew/SDO

From: Jacob Allen <jallen2@aqmd.gov>
Sent: Wednesday, May 04, 2016 1:43 PM
To: Dunavent, Andrew/SDO
Cc: OB PR Support NA Docs
Subject: Public Records Request #84574,
Attachments: - PR - PR Supporting Docs - 5/4/2016 - 84574 - - - COMPLETION LETTER - ANDREW DUNAVENT.pdf

Attached is a completion letter regarding your request. Below are two links to your requested documents. The files were too large to send as email attachments. Both links are for the same documents. The first link requires Active X and the second is an HTML link. While viewing the document you can Right Click and click Save to File to save each file to your computer.

Active X
https://onbase-pub.aqmd.gov/sAppNet/FolderPop/FolderPop.aspx?KT275_0_0_0=84574&FT=111&clienttype=activex&chksum=34c9b92d4a854f1ead19839efdc61e399d31177bff9c2f21496b7060c66d92cc

HTML
https://onbase-pub.aqmd.gov/sAppNet/FolderPop/FolderPop.aspx?KT275_0_0_0=84574&FT=111&clienttype=html&chksum=81c4378a948bf47ed0dfaee6b0001db29d01939ebac2ff0d3f30d6662563403d

Jacob Allen
Public Records, SCAQMD
(909) 396-2282

South Coast AQMD

Information Management
Public Records Unit

Direct Dial (909) 396-3700
Fax:(909) 396-3330

COMPLETION LETTER

May 04, 2016

ANDREW DUNAVENT
CH2M HILL
402W. BROADWAY # SUITE 1450
SAN DIEGO, CA 92101

Ref.: CONTROL NO. 84574
Received 1/21/2016

Re: APPL'S, P/O'S & S/T RPTS FOR ORANGE COUNTY SANITATION DISTRICT, FAC ID #17301, AT 10844 ELLIS AVENUE, FOUNTAIN VALLEY, CA 92708, APPL #'S 568969, 565933, 546360, 546361 & 546362.

After a thorough search of this agency's records, the following records were found:
APPL'S & P/O'S FOR ORANGE COUNTY SANITATION DISTRICT, FAC ID #17301, AT 10844 ELLIS AVENUE, FOUNTAIN VALLEY, CA 92708, APPL #'S 568969, 565933, 546360, 546361 & 546362.

The following records were not found:
S/T RPTS

YOUR REQUESTED RECORDS WERE PROVIDED ELECTRONICALLY ON 05/04/2016

If you have any questions, please do not hesitate to contact me, Tuesday through Friday, **8:00 a.m**. to **4:30 p.m.**

Sincerely,

JACOB ALLEN x2282
For Colleen Paine
Public Records Coordinator

:ja

ROUTING RECORD

DATE	FROM	TO	ACTION
10-10-14	CT01	GR01	prescreen HR
10-16-14	GR01		III PO NO PC
10-29-14	GR01	CT01	PO NO PC Recom.
01-28-15	GR01	CT01	Rev. PO NO PC
2-2-15	CT	AL	Proposed Revision to EPA HR
5-13-15	GR01	CT01	Issue PO
5-13-15	CT	P/S	P/S HR

REFERENCE TO OTHER APCD RECORDS INCLUDING VARIANCES

~~21~~

31

TV Rev #9 5-15-2015

Sec D Rev # 6

G35620

APPL # 568969

I.D. # 17301

ORANGE COUNTY SANITATION DISTRICT

10844 ELLIS AVE

FOUNTAIN VALLEY

ABRASIVE BLASTING CABINET

Date: 10/09/14

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

South Coast AQMD

XPP

2

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (●) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

10844 Ellis Avenue
Street Address

Fountain Valley, CA 92708-7018
City Zip

Terry Ahn — Regulatory Specialist
Contact Name Title

(714) 593-7082 — (714) 962-2591
Phone # Ext. Fax #

E-Mail: tahn@ocsd.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
[X] Check here if same as equipment location address

10844 Ellis Avenue
Address

Fountain Valley, CA 92708-7018
City State Zip

Terry Ahn — Regulatory Specialist
Contact Name Title

(714) 593-7082 — (714) 962-2591
Phone # Ext. Fax #

E-Mail: tahn@ocsd.com

Section D - Application Type

6. The Facility Is: ( ) Not In RECLAIM or Title V ( ) In RECLAIM (●) In Title V ( ) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:

- ( ) New Construction (Permit to Construct)
- ( ) Equipment On-Site But Not Constructed or Operational
- (●) Equipment Operating Without A Permit * 30
- ( ) Compliance Plan
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

7b. Facility Permits:

- ( ) Title V Application or Amendment (Refer to Title V Matrix)
- ( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:

- ( ) Administrative Change
- ( ) Alteration/Modification
- ( ) Alteration/Modification without Prior Approval *
- ( ) Change of Condition
- ( ) Change of Condition without Prior Approval *
- ( ) Change of Location
- ( ) Change of Location without Prior Approval *
- ( ) Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy):

8b. Estimated End Date of Construction (mm/dd/yyyy):

8c. Estimated Start Date of Operation (mm/dd/yyyy): 02/24/2014

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Abrasive Blasting Cabinet, Media Blast & Abrasives, Inc. Model No. PowerPeen 6060

10. For Identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process)

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (●) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? (●) No ( ) Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Municipal Wastewater 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 (●) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (●) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: James Herberg

18. Title of Responsible Official: General Manager

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ( ) No (●) Yes

20. Print Name: James Herberg

21. Date: 10-07-2014

22. Do you claim confidentiality of data? (If Yes, see instructions.) (●) No ( ) Yes

23. Check List: [X] Authorized Signature/Date [X] Form 400-CEQA [X] Supplemental Form(s) (ie., Form 400-E-xx) [X] Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED	PAYMENT TRACKING #	VALIDATION
	548949	1000068482	5597.85		10/9/14

DATE	APP REJ	DATE	APP REJ	CLASS	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
10/16/14	GCR			I (III)		284	A		

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(118884)

1/2

14 OCT -9 P2:27

S.C.A.Q.M.D.
PERMIT PROCESSING

South Coast Air Quality Management District

Form 400-CEQA
California Environmental Quality Act (CEQA) Applicability

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.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[1] has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].[2] Refer to the attached instructions for guidance in completing this form.[3] 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 Permit Services at (909) 396-3385 or (909) 396-2668.

Section A - Facility Information

1. Facility Name (Business Name of Operator To Appear On The Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

3. Project Description: Installation of one (1) 5.00' L x 4.25' W x 3.33' H Abrasive Blasting Cabinet

Section B - Review For Exemption From Further CEQA Action

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
1.	○	◉	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, attach a copy of the signed Notice of Determination to this form.
2.	○	◉	A request for a change of permittee only (without equipment modifications)?
3.	○	◉	A functionally identical permit unit replacement with no increase in rating or emissions?
4.	○	◉	A change of daily VOC permit limit to a monthly VOC permit limit?
5.	○	◉	Equipment damaged as a result of a disaster during state of emergency?
6.	○	◉	A Title V (i.e., Regulation XXX) permit renewal (without equipment modifications)?
7.	○	◉	A Title V administrative permit revision?
8.	○	◉	The conversion of an existing permit into an initial Title V permit?

If "Yes" is checked for any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on page 2 and sign and date this form.

Section C - Review of Impacts Which May Trigger CEQA

Complete Parts 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	Part I - General
1.	○	◉	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? 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.
2.	○	◉	Is this project part of a larger project? If yes, attach a separate sheet to briefly describe the larger project.
			Part II - Air Quality
3.	○	◉	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	○	◉	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.

[1] 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.

[2] To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

[3] To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

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Section C - Review of Impacts Which May Trigger CEQA (cont.)			
	Yes	No	Part II - Air Quality (cont.)
5.	○	◉	**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.	○	◉	**Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?**
7.	○	◉	**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?**[4]
			Part III – Water Resources
8.	○	◉	**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.	○	◉	**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.
			Part IV – Transportation/Circulation
10.			**Will the project result in** (Check all that apply):
	○	◉	**a. the need for more than 350 new employees?**
	○	◉	**b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?**
	○	◉	**c. increase customer traffic by more than 700 visits per day?**
			Part V – Noise
11.	○	◉	**Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?**
			Part VI – Public Services
12.			**Will the project create a permanent need for new or additional public services in any of the following areas** (Check all that apply):
	○	◉	**a. Solid waste disposal?** Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	○	◉	**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" response in Section C, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.*

Section D - Signatures

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.

1. Signature of Responsible Official of Firm:		2. Title of Responsible Official of Firm:
James Herberg		General Manager
3. Print Name of Responsible Official of Firm:		4. Date Signed:
James Herberg		10-07-2014
5. Phone # of Responsible Official of Firm:	6. Fax # of Responsible Official of Firm:	7. Email of Responsible Official of Firm:
(714) 593-7300	(714) 962-0356	jherberg@ocsd.com
8. Signature of Preparer, (If prepared by person other than responsible official of firm):		9. Title of Preparer:
Terry Ahn		Regulatory Specialist
10. Print Name of Preparer:		11. Date Signed:
Terry Ahn		10/06/2014
12. Phone # of Preparer:	13. Fax # of Preparer:	14. Email of Preparer:
(714) 593-7082	(714) 593-7773	tahn@ocsd.com

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

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

© South Coast Air Quality Management District, Form 400-CEQA (2014.07)

South Coast Air Quality Management District

Form 400-E-4b
Abrasive Blasting Equipment (Other Than Portable/Open)

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

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

South Coast AQMD

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): Orange County Sanitation District

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Address 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): 10844 Ellis Avenue, Fountain Valley, CA. 92708-7018

(●) Fixed Location ( ) Various Locations

Section B - Equipment Description (Select ONLY one type of equipment)

( ) **Abrasive Blasting Room**

Blasting Room	Manufacturer:____ Model No.:____ Room Size: Length:____ ft Width:____ ft Height:____ ft Number of Air Port:____ Dimensions of Air Ports: Length:____ ft Width:____ ft Capacity of Pot*:____ lb Equipped with man door? ( ) No ( ) Yes Exhaust Blower Flow Rate:____
Nozzles	Number of Nozzles:____ Maximum Inner Diameter:____ (inches)
Compressor	☐ Plant Air Air Flow Rate:____ cfm @____ psi

( ) **Abrasive Blasting Machine**

Blasting Machine	Manufacturer:____ Model No.:____ Dimensions: Length:____ ft Width:____ ft Height:____ ft Wheel impeller Horsepower:____ Capacity of Pot*:____ lb Exhaust Blower Flow Rate:____ Material Flow Rate:____

(●) **Abrasive Blasting Cabinet**

Blasting Cabinet	Manufacturer: Media Blast & Abrasives, Inc. Model No.: PowerPeen 6060 Dimensions: Length: 5.00 ft Width: 4.25 ft Height: 3.33 ft Control: Manual Number of Baffled Air Ports: 1 Exhaust Blower Flow Rate: 1160.000
Nozzles	Number of Nozzles: 1 Maximum Inner Diameter: 1/4 inches
Compressor	☒ Plant Air Air Flow Rate: 41.000 cfm @ 40 psi

70.762 FP

© South Coast Air Quality Management District, Form 400-E-4b (2014.07)

South Coast Air Quality Management District

Form 400-E-4b
Abrasive Blasting Equipment (Other Than Portable/Open)

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section C - Process Description

Blasting Type

(•) Dry Blasting ( ) Wet _____ % of time ( ) Hydro-Blasting _____ % of time

Abrasive Used

Material Type: ( ) Sand ( ) Grit ( ) Shot ( ) Plastic Media (•) Other Glass Bead

Material Name: Ballotini Impact Beads

Density: 156 lb/ft^3 Material Flow Rate (if known): _____ lbs/hour

Items To Be Blasted

Description: pupm casings and parts; valve bodies; compressor parts; bearing housings

Operating Schedule

Normal: 2 hours/day 2 days/week 27 weeks/yr

Maximum: 7 hours/day 2 days/week 12 weeks/yr

Control

Is the room vented to an external air pollution control device? ( ) Yes (•) No

If Yes, a separate application (Form 400A and E-1) needs to be filed for the control equipment.

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info

Signature: _____ Date: 10/06/2014

Title: Regulatory Specialist Company Name: OCSD

Name: Terry Ahn

Phone #: (714) 593-7082 Fax #: (714) 593-7773

Email: tahn@ocsd.com

Contact Info

Name: Terry Ahn

Title: Regulatory Specialist Company Name: OCSD

Phone #: (714) 593-7082 Fax #: (714) 593-7773

Email: tahn@ocsd.com

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

South Coast Air Quality Management District

Worksheet For Form 400-E-4b
Abrasive Blasting Equipment (Other Than Portable/Open)

Abrasive Flow Rate (FR)

FR1 = 138.00
ID = 1/4
ID1 = 1/4
ρ1 = 156
ρ = 99

FR = FR1 x (ID/ID1) x ρ/ρ1 FR = 138.000 x (0.063 in² ÷ 0.063 in²) x (156 lb/ft³ ÷ 99 lb/ft³) = 217.455

Machine Emissions

R1,PM = NA x _____ HP x 1- (_____/200) = _____ lb/hr x (_____ hrs/day)= _____ lb/day

Uncontrolled PM Emissions (R1) Max lb/hr _____ Max lb/day _____

R2PM = R1,PM _____ x (1-.98) = _____

Controlled PM Emissions (R2) Max lb/hr _____ Max lb/day _____

Room or Cabinet Emissions

R1,PM = 0.01 EF x 217.45 FR x 1- (0.00 /200) = 2.1745 lb/hr x (2 hrs/day)= 4.3490 lb/day

Uncontrolled PM Emissions (R1) Max lb/hr 2.1745 Max lb/day 15.2215

R2PM = R1,PM 2.1745 x (1-0.98) = 0.0435

Controlled PM Emissions (R2) Max lb/hr 0.0435 Max lb/day 0.3045

Exhaust Gas Total Particulate Concentration (PC)

PC = 0.0435 lb PM/hr (Max) x 7,000 grains/lb / 1160.00 ft3/min x 60 min/hr = 0.00438 grains/dscf

Room Cross Draft Velocity (Vc)

Vc = VFR/W x H = _____ CFM / _____ ft x _____ ft = _____ FPM

Air Inlet Port Velocity (Vi)

Vi = VFR/W x L = _____ CFM / _____ ft² = _____ FPM

Cabinet Air Changes Per Minute (CAC)

CAC = VFR/W x L x H = 1160.00 CFM / 70.76 ft³ = 16.393 FPM

Abrasive Blasting Cabinets

Item	Required	Actual	Compliance
a. Air Changes Per Minute	10-20	16.393	(•) Yes ( ) No
b. Baffled Air Inlet Ports	Yes	Yes	(•) Yes ( ) No

Abrasive Blasting Room Guidelines Review

Item	Required	Actual	Compliance
a. Crossdraft/Downdraft Velocity (FPM)			
Silica Type Abrasive	80	NA	( ) Yes ( ) No
Non-Silica Type Abrasive	50	NA	( ) Yes ( ) No
b. Air Port Opposite Exhaust Duct	Yes	NA	( ) Yes ( ) No
c. Indraft Velocity (FPM)	500	NA	( ) Yes ( ) No

© South Coast Air Quality Management District, Form 400-E-4b Engineer Evaluation (2014.07)

South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

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

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator To Appears On The Permit): Orange County Sanitation District

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Address 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): 10844 Ellis Avenue, Fountain Valley, CA. 92708-7018 ◉ Fixed Location ○ Various Locations

Section B - Location Data

Plot Plan

Please attach a site map for the project with distances and scales. Identify and locate the proposed equipment on the map. A copy of the appropriate Thomas Brothers page, a web-based map, or a sketch that shows the major streets and location of the equipment is acceptable.

Location of Schools Nearby

Is the facility located within a 1/4 mile radius (1,320 feet) of the outer boundary of a school? ○ Yes ◉ No

If yes, please provide name(s) of school(s) below:

School Name: _____ **School Name:** _____

School Address: _____ **School Address:** _____

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

CA Health & Safety Code 42301.9: "School" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.

Population Density

◉ Urban ○ Rural (<50% of land within 3 km radius accounted for by urban land use categories, i.e., multi-family dwelling or industrial.)

Zoning Classification

◉ Mixed Use Residential Commercial Zone (M-U) ○ Service and Professional Zone (C-S) ○ Medium Commercial (C-3)
○ Heavy Commercial (C-4) ○ Commercial Manufacturing (C-M)

Section C - Emission Release Parameters - Stacks, Vents

Stack Data

Stack Height: _____ feet (above ground level) **What is the height of the closest building nearest the stack?** _____ feet

Stack Inside Diameter: _____ inches **Stack Flow:** _____ acfm **Stack Temperature:** _____ °F

Rain Cap Present: ○ Yes ○ No **Stack Orientation:** ○ Vertical ○ Horizontal

If the stack height is less than 2.5 times the closest building height (H), please provide information on any building within 5xH distance from the stack (attach additional sheet if necessary):

Building #/Name: _____ **Building #/Name:** _____

Building Height: _____ feet (above ground level) **Building Height:** _____ feet (above ground level)

Building Width: _____ feet **Building Width:** _____ feet

Building Length: _____ feet **Building Length:** _____ feet

Receptor Distance From Equipment Stack or Roof Vents/Openings

Distance to nearest residence: 820 feet **Distance to nearest business:** 125 feet

Building Information

Are the emissions released from vents and/or openings from a building? ◉ Yes ○ No

If yes, please provide:

Building #/Name: Rebuild Shop **Building Width:** 60 feet

Building Height: 30 feet (above ground level) **Building Length:** 260 feet

© South Coast Air Quality Management District, Form 400-PS (2014.07)

South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

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

Section D - Authorization/Signature			
I hereby certify that all information contained herein and information submittfgfed with this application is true and correct.			
Signature of Preparer:	Title of Preparer: Regulatory Specialist	Preparer's Phone #: (714) 593-7082 Preparer's Email: tahn@ocsd.com	
Contact Person: Terry Ahn Contact's Email: tahn@ocsd.com	Contact's Phone#: (714) 593-7082 Contact's Fax#: (714) 593-7773		Date Signed: 10/06/2014

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

SCAQMD PERMIT PROCESSING SYSTEM (PPS)

FEE DATA - SUMMARY SHEET

Application No	: 568969	IRS/SS No:	
Previous Application No:		Previous Permit No:	

Company Name :	ORANGE COUNTY SANITATION DISTRICT			Facility ID:	17301
Equipment Street:	10844 ELLIS AVE , FOUNTAIN VALLEY CA 92708				
Equipment Desc :	ABRASIVE BLASTING (CABINET/MACHINE/ROOM)				
Equipment Type :	BASIC			Fee Charged by:	B-CAT
B-CAT NO. :	000284	C-CAT NO:	00	Fee Schedule:	B
Facility Zone :	18	Deemed Compl. Date:	10/16/2014	Public Notice:	NO

Evaluation Type :	PO NO PC (PENALTY WILL BE ASSESSED)	Small Business:	☐
Disposition :	Approve PO, Recommended by Engineer	Higher Fees for Failing to Obtain a Permit:	☒
Lead Appl. No :		Identical Permit Unit:	☐

Air quality Analysis			$0.00	Filing Fee Paid:	$0.00
E.I.R			$0.00	Permit Processing Fee Paid:	$4,643.00
Health Risk Assessment			$0.00	Permit Processing Fee Calculated*:	$3,482.25
Public Notice Preparation Fee			$0.00	Permit Processing Fee Adjustment:	$-1,160.75
Public Notice Publication Fee			$0.00		
Expedited Processing	Hours:	0.00	$1,160.75		
Source Test Review	Hours:	0.00	$0.00		
Time & Material	Hours:	0.00	$0.00		
				Total Additional Fee:	$1,160.75
				Additional Charge:	$0.00

COMMENTS: GROUPED UNDER TITLE V REVISION A/N 568970.

RECOMMENDED BY: GAURANG RAWAL DATE: 10/26/2014

REVIEWED BY: _____ DATE: 5/13/15

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

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

May 15, 2015

Mr. James D. Ruth
General Manager
Orange County Sanitation District
PO Box 8127
Fountain Valley, CA 92728-8127

Subject: De Minimis Significant Revision to Title V Permit for Orange County Sanitation District (OCSD), Sewage Treatment Plant, Fountain Valley, (ID# 017301)

Dear Mr. Ruth,

Enclosed please find the revised Title Page, Table of Contents and Section D of the Title V Permit for OCSD, sewage treatment plant located at 10844 Ellis Avenue, Fountain Valley, CA, in Orange County. On February 3, 2015, the South Coast Air Quality Management District (SCAQMD) proposed a draft permit for Environmental Protection Agency's (EPA) review, and no comments were received from EPA. No public notice was required for this revision.

The revised Section D reflects the approval of the permit as shown below.

SECTION D: Facility Equipment and Requirements

Application Number	Permit to Operate	Equipment	Description
568969	G35620	Abrasive Blasting Cabinet with dust collector	Abrasive blasting cabinet, using glass beads as abrasive media, with an integral dust collector.

Please review the attached pages carefully. Insert the enclosed section D in your Title V Facility Permit and discard the earlier version. Questions concerning this revised permit should be directed to Mr. Gaurang Rawal at (909) 396-2543.

The operation of your facility is bound by the conditions and/or requirements stated in your Facility Permit to Operate. If you determine any administrative errors, please contact Mr. Gaurang Rawal at the above number within 30 days of receipt of your permit.

Sincerely,

Andrew Y. Lee, P.E.
Senior AQ Engineering Manager
Energy/Public Services/
Waste Mgmt/Terminals-Permitting

AYL: CDT: GCR
cc: w/ enclosure
Geraldo Rios, EPA Region IX
Compliance
Title V Central File, OCSD, ID # 17301
Title V Revision A/N 568970

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

FACILITY PERMIT TO OPERATE

ORANGE COUNTY SANITATION DISTRICT
10844 ELLIS AVE
FOUNTAIN VALLEY, CA 92708

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

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 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.
EXECUTIVE OFFICER

By FOR
Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

Table of Content	
Facility ID:	017301
Revision #:	9
Date:	May 15, 2015

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

TABLE OF CONTENTS

Section	Description	Revision #	Date Issued
A	Facility Information	1	04/16/2014
B	RECLAIM Annual Emission Allocation	1	04/16/2014
C	Facility Plot Plan	TO BE DEVELOPED	
D	Facility Description and Equipment Specific Conditions	6	05/15/2015
E	Administrative Conditions	1	04/16/2014
F	RECLAIM Monitoring and Source Testing Requirements	1	04/16/2014
G	Recordkeeping and Reporting Requirements for RECLAIM Sources	1	04/16/2014
H	Permit To Construct and Temporary Permit to Operate	7	12/10/2014
I	Compliance Plans & Schedules	1	04/16/2014
J	Air Toxics	1	04/16/2014
K	Title V Administration	1	04/16/2014
Appendix			
A	NOx and SOx Emitting Equipment Exempt From Written Permit Pursuant to Rule 219	1	04/16/2014
B	Rule Emission Limits	1	04/16/2014

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Facility Equipment and Requirements
(Section D)

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, all individual Permits to Construct and Permits to Operate issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit and Rule 219-exempt equipment will list operating conditions including periodic monitoring requirements, and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Operate Number	Equipment Description	Page Number
299283	G9737	SCRUBBER, ODOR CONTROL FOR PRIMARY BASINS	5
06049A	M30530	GAS TURBINE, EMERGENCY, >= 0.3 MW	7
06050A	M30531	GAS TURBINE, EMERGENCY, >= 0.3 MW	8
133994	R-D11231	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	9
133995	R-D11232	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	10
134619	R-D11233	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	11
135464	R-D11234	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	12
13973X	743973	SPRAY BOOTH PAINT AND SOLVENT	13
223413	F00876	BOILER (5-20 MMBTU/HR) DIGESTER GAS	14
356878	F66565	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	16
386679	F40906	SCRUBBER, ODOR CONTROL FOR DEWATERING	19
394229	G25417	ODOR CONTROL SYSTEM, BIOFILTER	20
408166	F55982	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	21
428945	F68430	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	22
429662	F71054	FLARE, ENCLOSED LANDFILL/DIGESTER GAS	23
444109	F99404	SCRUBBER, ODOR CONTROL FOR HEADWORKS	28
459958	F94280	ODOR CONTROL UNIT FOR ELLIS PUMP STATION	30
486760	G2955	I C E (>500 HP) NAT & DIGESTER GAS	32
486792	G2956	I C E (>500 HP) NAT & DIGESTER GAS	35
486793	G2957	I C E (>500 HP) NAT & DIGESTER GAS	38
512830	G19907	STORAGE TANK, HCl, 8000 GALLON CAPACITY, HCl	41
512831	G19908	STORAGE TANK, HCl, 2000 GALLON CAPACITY, HCl	42
568969	G35620	ABRASIVE BLASTING CABINET WITH DUST COLLECTOR	43

NOTE: APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

FACILITY WIDE CONDITION (S)

Condition(s):

1. EXCEPT FOR OPEN ABRASIVE BLASTING OPERATIONS, THE OPERATOR SHALL NOT DISCHARGE INTO THE ATMOSPHERE FROM ANY SINGLE SOURCE OF EMISSIONS WHATSOEVER ANY AIR CONTAMINANT FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR WHICH IS:

   A. AS DARK OR DARKER IN SHADE AS THAT DESIGNATED NO. 1 ON THE RINGLEMANN CHART, AS PUBLISHED BY THE UNITED STATES BUREAU OF MINES; OR
   B. OF SUCH OPACITY AS TO OBSCURE AN OBSERVER'S VIEW TO A DEGREE EQUAL TO OR GREATER THAN DOES SMOKE DESCRIBED IN SUBPARAGRAPH (A) OF THIS CONDITION. [RULE 401]

2. THE OPERATOR SHALL NOT COMBUST DIGESTER GAS CONTAINING SULFUR COMPOUNDS IN EXCESS OF 40 PPMV CALCULATED AS HYDROGEN SULFIDE AVERAGED DAILY. [RULE 431.1]

3. THE OPERATOR SHALL NOT USE FUEL OIL CONTAINING SULFUR COMPOUNDS IN EXCESS OF 15 PPM BY WEIGHT AS SUPPLIED BY THE SUPPLIER. [RULE 431.2, 1470]

4. THE OWNER/OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART VVV - *NON-INDUSTRIAL* POTW PLANT NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) AND ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART ZZZZ – STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES NESHAP. [40 CFR 63 SUBPART VVV, AND 40 CFR 63 SUBPART ZZZZ]

5. THE OPERATOR SHALL MEASURE THE SULFUR CONTENT OF THE DIGESTER GAS ACCORDING TO THE FOLLOWING:

   A. FOR READINGS UP TO 36 PPM AS H2S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H2S, USING COLORIMETRIC TUBES, AND WEEKLY ANALYSIS OF THE DIGESTER GAS BY AQMD METHOD 307 – TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY AND SULFUR CHEMILUMINESCENCE DETECTOR.

   B. FOR READINGS ABOVE 36 PPM AS H2S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H2S BY AQMD METHOD 307 – TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY AND SULFUR CHEMILUMINESCENCE DETECTOR. A MINIMUM OF THREE CONSECUTIVE DAILY SAMPLES ARE REQUIRED TO DEMONSTRATE THE TOTAL SULFUR CONTENT IS BELOW 36 PPM. [RULE 431.1]

6. A COMPLETE APPLICATION FOR COMPLIANCE ASSURANCE MONITORING (CAM, 40 CFR PART 64) SHALL BE SUBMITTED WHENEVER ANNUAL MASS OF VOC OF THE DIGESTER GAS EXCEEDS 19,999 LBS/YR. THE VOC CONTENT OF THE DIGESTER GAS SHALL BE ANALYZED IN CONJUNCTION WITH THE ANNUAL SOURCE TESTING OF THE CGS ENGINES USING THE

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPROVED METHODS. FOR EACH CALENDAR YEAR, THE VOC EMISSIONS SHALL BE CALCULATED BY MARCH 31ST OF THE SUBSEQUENT CALENDAR YEAR BASED ON THE DIGESTER GAS CONCENTRATION DATA FROM THE MOST RECENT ANNUAL RULE 1110.2 SOURCE TESTING OF THE ENGINES. IF THE VOC EMISSIONS EXCEED 19,999 LBS/YR, THE CAM APPLICATION SHALL BE SUBMITTED BY MAY 31ST (WITHIN 60 DAYS AFTER THE CALCULATION DUE DATE).
[40 CFR PART 64, CAM]

~~FACILITY PERMIT TO OPERATE~~
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G9737
A/N 299283

Equipment Description:

AIR POLLUTION CONTROL SYSTEM (PRIMARY BASINS) CONSISTING OF:

1. FOUR SCRUBBERS, NOS. 5 THROUGH 8, EACH VERTICAL TYPE, PACKED TOWER, 10'- 0" DIA. X 33'- 0" H., WITH ASSOCIATED PUMPS.

2. CHEMICAL FEED WHICH MAY INCLUDE CAUSTIC, HYDROGEN PEROXIDE OR BLEACH.

3. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H_2S) MONITORING SYSTEM.

4. EXHAUST SYSTEM WITH ASSOCIATED TWO-SPEED BLOWERS, 116, 200 CFM MAXIMUM FOUL-AIR VENTILATION RATE, VENTING PRIMARY SEDIMENTATION BASINS NOS. 1 THROUGH 31.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. *THIS EQUIPMENT SHALL BE IN OPERATION, WHEN THE BASIC EQUIPMENT DESCRIBED UNDER* PC 453210 ARE IN OPERATION, TO MAINTAIN THE SCRUBBER OUTLET H2S CONCENTRATIONS SPECIFIED UNDER CONDITION NO. 8, AS MEASURED BY THE AUTOMATIC CHEMICAL FEED AND H2S MONITORING SYSTEM EXCEPT DURING UNFORESEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT, THAT REQUIRES THE SCRUBBERS TO BE *SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50* HOURS PER YEAR PER EQUIPMENT.
[RULE 402]

5. WHEN THE SCRUBBERS ARE IN OPERATION, AUTOMATIC CHEMICAL FEED AND HYDROGEN *SULFIDE (H_2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED* TO RECORD THE SCRUBBER OUTLET H2S CONCENTRATION, IN PPMV, EXCEPT DURING SHUTDOWN FOR MAINTENANCE. THE H_2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
[RULE 402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

6. WHEN THE AUTOMATIC CHEMICAL FEED AND H_2S MONITORING SYSTEM IS NOT OPERATING, THE PH OF THE SCRUBBING OR RECYCLING LIQUID, MAKEUP WATER FLOW RATE (GPM), DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN), SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS AS DESCRIBED, AND THE SCRUBBER OUTLET H_2S CONCENTRATION SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.
[RULE 402]

7. WHEN THE SCRUBBERS ARE IN OPERATION, THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS, CALCULATED AS H2S MEASURED AT THE OUTLET OF EACH SCRUBBER SHALL NOT EXCEED 2 PPMV AND 3 PPMV WHEN THE EXHAUST BLOWER IS OPERATING AT LOW AND HIGH SPEED, RESPECTIVELY.
[RULE 402]

8. RECORDS SHALL BE KEPT AND MAINTAINED FOR DAILY AVERAGE H_2S CONCENTRATION, IN PPMV, AT THE OUTLET OF EACH SCRUBBER IN OPERATION. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. M30530
A/N 06049A

Equipment Description:

GAS TURBINE #1, SOLAR, MODEL NO. GSE 1000, 14,000,000 BTU PER HOUR, OIL FIRED, DRIVING A 900 KW EMERGENCY ELECTRIC GENERATOR.

Conditions:

1. THIS EMERGENCY STAND BY EQUIPMENT MAY ONLY OPERATE FOR MAINTENANCE TESTING OF THE EQUIPMENT, DURING MAINTENANCE AND RELIABILITY TESTING OF PLANT NO. 1 OR PLANT NO. 2 CENTRAL POWER GENERATION SYSTEMS, DURING EXCESS POWER DEMANDS, OR DURING A UTILITY POWER OUTAGE.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

2. THIS EQUIPMENT SHALL BE OPERATED LESS THAN 199 HOURS PER CALENDAR YEAR.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

Periodic Monitoring:

3. THE OPERATOR SHALL INSTALL AND MAINTAIN A NON-RESETTABLE ELAPSED TIME METER TO ACCURATELY INDICATE THE ELAPSED OPERATING TIME OF THE EQUIPMENT.
   [RULE 3004 (a)(4)]

4. RECORDS OF DAILY HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO THE EXECUTIVE OFFICER UPON REQUEST.
   [RULE 3004(a) (4)]

Emissions and Requirements:

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

   SULFUR COMPOUNDS: 500 PPMV, CALCULATED AS SO2
   [RULE 53]

Gaurang Rawal

From: Ahn, Terry [tahn@ocsd.com]
Sent: Wednesday, October 22, 2014 10:35 AM
To: Gaurang Rawal
Subject: RE: New application for abrasive blasting cabinet

Hi Gaurang,

Our Maintenance Supervisor contacted the supplier of the cabinet and found out that the manufacturer does not have the PM control efficiency data. He said that they strictly follow the preventive maintenance schedule for dust collector as indicated in the O&M manual.

Terry

From: Ahn, Terry
Sent: Wednesday, October 22, 2014 7:17 AM
To: 'Gaurang Rawal'
Subject: RE: New application for abrasive blasting cabinet

It is an integral part of the cabinet; therefore there's no separate baghouse. I could take a photo of the unit and send it to you if you'd like. Please let me know. Attached manufacturer's info sheet provides additional info on the dust collector. The PM control efficiency of 98% came from the AQMD form. I will have to contact the vendor to see what their number is.

Terry

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Tuesday, October 21, 2014 2:46 PM
To: Ahn, Terry
Subject: RE: New application for abrasive blasting cabinet

's this "an integral part of the cabinet" or venting to the separate baghouse (separate application) ?
Any PM control efficiency rating? If Mgfr. spec sheet is available, will be helpful.

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Tuesday, October 21, 2014 2:07 PM
To: Gaurang Rawal
Subject: FW: New application for abrasive blasting cabinet

Hi Gaurang,

Here's info I got from our Maintenance. Is this what you're looking for?

Thanks,

Terry

From: Ginest, Lance
Sent: Tuesday, October 21, 2014 1:56 PM
To: Ahn, Terry
Cc: Hellebrand, Ingrid; AbuShaban, Randa
Subject: RE: New application for abrasive blasting cabinet

Gaurang Rawal

From: Ahn, Terry [tahn@ocsd.com]
Sent: Wednesday, October 22, 2014 7:17 AM
To: Gaurang Rawal
Subject: RE: New application for abrasive blasting cabinet
Attachments: Power Peen 6060.pdf

It is an integral part of the cabinet; therefore there's no separate baghouse. I could take a photo of the unit and send it to you if you'd like. Please let me know. Attached manufacturer's info sheet provides additional info on the dust collector. The PM control efficiency of 98% came from the AQMD form. I will have to contact the vendor to see what their number is.

Terry

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Tuesday, October 21, 2014 2:46 PM
To: Ahn, Terry
Subject: RE: New application for abrasive blasting cabinet

Is this "an integral part of the cabinet" or venting to the separate baghouse (separate application) ?
Any PM control efficiency rating? If Mgfr. spec sheet is available, will be helpful.

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Tuesday, October 21, 2014 2:07 PM
To: Gaurang Rawal
Subject: FW: New application for abrasive blasting cabinet

Hi Gaurang,

Here's info I got from our Maintenance. Is this what you're looking for?

Thanks,

Terry

From: Ginest, Lance
Sent: Tuesday, October 21, 2014 1:56 PM
To: Ahn, Terry
Cc: Hellebrand, Ingrid; AbuShaban, Randa
Subject: RE: New application for abrasive blasting cabinet

Terry, Here is your information.

- Type of dust collector: Is it a cartridge type? Yes If so, how many? Two
- Dimension of each cartridge 26"L X 12" D
- Material of the filter Paper
- Total filter area in sq. ft. for each cartridge 220 Sq. Ft.
- Blower HP and flow rate 2 HP/ 1,160 CFM

The unit does not have a HEPA filter. Let me know if you need anything else.

Have a great day,

Lance

From: Ahn, Terry
Sent: Tuesday, October 21, 2014 11:17 AM
To: Ginest, Lance
Cc: Hellebrand, Ingrid; AbuShaban, Randa
Subject: FW: New application for abrasive blasting cabinet

Hi Lance,

AQMD is requesting more info on the dust collector. Can you get me the following info to start with?

- Type of dust collector: Is it a cartridge type? If so, how many?
  Dimension of each cartridge
- Material of the filter
- Total filter area in sq. ft. for each cartridge.
- Blower hp and flow rate

I don't think the unit's equipped with a HEPA filter. Please confirm.

Thanks and let me know if you have any questions.

Terry x7082

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Tuesday, October 21, 2014 10:55 AM
To: Ahn, Terry
Subject: FW: New application for abrasive blasting cabinet

Terry,

Thanks for abrasive blasting cabinet information.
For PM emission control it shows 98% control efficiency. Does it have an integral baghouse (if yes, provide information, specs, etc.) or cabinet is connected to a baghouse?
If a separate baghouse, then a separate application is required for an APC. Thanks.

Gaurang
909-396-2543

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Thursday, October 16, 2014 11:09 AM
To: Gaurang Rawal
Subject: New application for abrasive blasting cabinet

Hi Gaurang,

Please find attached pdf copy of the permit application package for an abrasive blasting cabinet. The original package along with the check were mailed out on 10/8.

Thanks,

Terry Ahn

Potters
Innovating Responsibly Since 1914

Tuesday, January 27, 2015

Product Listing

BALLOTINI® Impact Beads
SPHERIGLASS®
A-Series Glass Spheres
Oil Drilling Beads
MEDISPHERES™
Z-Cel
Spacer Beads

Glass Bead Facts

Coarse Beads

- Remove larger, tougher soils.
- Peen to more intense levels.
- Peen to deeper zones in surface.
- Produce higher surface profile.
- Produce brighter surface.

Fine Beads

- Remove smaller, lighter soil.
- Yield more impacts per pound.
- Clean faster.
- Peen to less intense levels.
- Peen outer zones of surfaces.
- Reach into keyways, fillets, and small areas.
- Produce lower surface profile.
- Produce matte finish.

Typical Properties

Shape	spherical
Color	clear
Hardness (Knoop)	515
Compressive strength	36,000 psi (avg.)
Density	2.5 g/cc
Specific Gravity	2.45-2.50
Free silica content	0%

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Power Peen

Pressure

Description:

The Power Peen is a simple to operate Direct Pressure machine designed for Production applications. (We consider production operation to be 1 or more hours of daily usage of the blast machine).

We have incorporated a 1.0 cubic foot Pressure Pot into the Power Peen that we attach to the bottom of the blast cabinet hopper. The Pressure Pot is used to pneumatically push the abrasive media through the blast hose. This is why a pressure machine produces faster abrasive velocities than the typical Siphon Blast machine which doesn't utilize a pressure pot.

This machine is designed for operation with any abrasive size, 120 mesh and larger. Operation with heavier blasting media, through hole part blasting, high abrasive Frictional Heat and blind-hole cleaning, are all advantages when using the Power Peen direct pressure blasting cabinet.

To maintain the proper hopper slope required to feed the pot on the Power Peen machine, we supply a raised operator's platform with all Power Peen models.



Power Peen 3636 with Expanded Height Top and Raised Operator Platform

Dust collector located behind the cabinet.

The dust collector on this machine is negative pressure with an easy to clean dust storage hopper. Negative pressure operation of the dust collector ensures longer duty cycles, a cleaner work area and longer blower service life. We use a replaceable cartridge style filter that has either 220 or 440 square feet of filter surface area. This setup eliminates the need for costly factory service on the dust collector, which results in savings of both time and money. The dust collector also comes with a pneumatic vibrating cleaning assembly for effortless cleaning. The dust collector's capacity to store dust, along with the ease of service, makes this machine the right choice for production operations.

In addition, larger dust collectors are available for even the harshest production requirements.

The Power Peen Direct Pressure Blast Cabinet is available with a standard 40 degree window slope for smaller/lower height parts or the expanded top with reduced window slope for taller parts. Please check the Standard Model listings for top availability.

Standard Features:

- 12 & 14 Gauge CRS Construction
- 100% Welded Construction
- Catalyst Paint
- 1.0 Cubic Foot Pressure Vessel
- Double Panel Door Construction, no spill
- Lockable Door Latch
- Heavy Duty Abrasive Mixing Valve
- Foot Operated Blast Valve
- Air Regulator-Filter-Water Trap
- 380 Watts Lighting
- Safety Plate Glass View Window
- Window Protect Assembly
- Safety Door Interlock
- 10" Diameter Work Ports
- Heavy Duty Bar Grate Work Surface
- Bolt-In Hopper Abrasive Scalper Screen
- Steel Hopper Wear Plate
- Bolt-On Machine Hopper, replaceable
- 1/4" Boron Carbide Blast Nozzle, standard
- Blow-Off Gun
- Abrasive Separator Reclaimer
- Production Dust Collector:
  - 770 CFM
  - 220 Sq. Ft. Filter Cartridge
  - Hopper Bottom Dust Collector
  - Easy Access Door
  - Filter Cycle Cleaning Gauge
  - Pneumatic Filter Cleaning System

Other Available Features:

- Pressure Pot Blow-Down Controls
- Maintenance Meter ••
- Magnahelic Gauge, non-electrical ••
- Cutting Abrasive Package ••
- Fixed Turntable, Manual or Powered
- Mobile Work Cart Assembly & Track Extension
- Gun/Blast Nozzle Holding Fixture ••
- White Polyethylene Cabinet Wear Plates
- Steel Hopper Wear Plate, front hopper location ••
- Expanded Cabinet Heights
- Mirror Images Available
- 2 Operator Stations on larger models
- Additional Side Access Door on smaller single door models
- Stainless Steel cabinet construction for elimination of steel cabinet contamination
- Ergonomic Cabinet Designs
- Increased Cabinet Height, Width, Depth
- Square Top Design with Insert Window for maximum door size
- Powered and Manual Vertical Roll-Up Door
- Available "Less Dust Collector" for connection to central dust collector
- Rubber Dipped Bar Grates or Fiberglass Bar Grates
- Additional Abrasive Blast Nozzle w/Controls
- Magnetic Separator
- Integrated Vacuum Cleanup System
- Shrouded Foot Pedal
- Ambient Air Dryer
- Single Power Source Electrical, standard some models
- Zhp 1160 cfm Exhaust Blower standard on larger cabinets, see "Standard Models Section".
- Dual 2 Cartridge Expanded Dust Collector or 4-6 Cartridge Separate Standing Collector
- Reverse Pulse Cleaning, manual pulse only single cartridge ••
- Contained Dust Discharge Assembly ••
- Polyester Filter Cartridge Upgrade ••
- Blower Exhaust Silencer ••
- HEPA Filtration Package
- Timed Cartridge Filter Cleaning System
- Static Electricity Grounding Kit ••
- Special Machine Color, color chip matched
- Powder coat Machine
- Semi-automated Assemblies
- Pendant Lighting for steel shot

NOTE: Standard Features are included with every model. Available Features can be added at additional cost. Available Features marked with a •• can be bolted-on to house inventory prior to machine shipment. Other Available Features require custom machine work and may increase machine delivery time.

Technical Specifications:

Machine Type:	Direct Pressure
Air Requirements:	25-150 CFM
Compressor:	Standard nozzle size in all Power Peen models is 1/4" I.D. using 41 cfm @ 40 psi, and 56 cfm at 60 psi. A smaller 3/16 nozzle can be used to reduce the requirement to 23 and 31 respectively but, smaller than 3/16"nozzles are not recommended on any Power Peen Production Models. (See Micro PrecisionBlast models). these machines are designed to operate properly with smaller compressed air requirements. Compressors vary greatly, check specification on your compressor for HP and or CFM output, 10 HP minimum is advised. A general rule for piston air compressors would be 4 cfm for each motor horse power, for more information on compressor selection see Air Basics. Most direct pressure machines exceed maximum abrasive impact velocity at 40-60 psi, this includes glass beads, plastics, soda, garnet and silicon carbide. Steel Shot, grit and aluminum oxide will operate at higher pressures.
Recommended Abrasive Size:	16-120 Mesh
Common Abrasives Used:	Glass bead, Aluminum oxide, steel shot/grit
Warning:	NEVER USE A POOR QUALITY LOW RECYCLE ABRASIVE OR SILICA SAND IN ANY MEDIA BLAST EQUIPMENT. THE RAPID AND CONTINUOUS BREAKDOWN OF POOR QUALITY ABRASIVES, WILL REDUCE CABINET VISIBILITY AND OVERLOAD THE DUST COLLECTOR ON ANY BLASTING MACHINE. SILICA SAND CAN BE A HEALTH HAZARD WHEN USED IN ANY BLASTING CABINET AND THE USE OF SILICA SAND VOIDS THE WARRANTY ON ALL MEDIA BLAST EQUIPMENT.
Paint Specs:	Environmentally Friendly High Grade Polyurethane High Gloss Paint. Standard colors MBA Beige and High Gloss White. Custom color matches and Powder Coating available per customer supplied color sample. Call for pricing.

Standard Model Specifications:

MODEL	WORK AREA / DOOR OPENING	OVERALL DIMENSIONS	DUST COLLECTOR SPECIFICATIONS	STANDARD ELECTRICAL
3030 Request Info	30" x 30" x 30"H Door: 24" x 25"H	34" x 45" x 84"H	220 sq. ft. filter cartridge 770 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
3636 Standard Top Request Info	36" x 36" x 30"H Door: 30" x 25"H	44" x 51" x 84"H	220 sq. ft. filter cartridge 770 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
3636 Expanded Top Request Info	36" x 36" x 36"H Door: 27" x 28"H	44" x 51" x 90"H	220 sq. ft. filter cartridge 770 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
4836 Standard Top Request Info	48" x 36" x 30"H Door: 30" x 25"H	52" x 52" x 84"H	220 sq. ft. filter cartridge 770 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
4836 Expanded Top Request Info	48" x 36" x 36"H Door: 27" x 28"H	52" x 51" x 90"H	220 sq. ft. filter cartridge 770 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
4848 Request Info	48" x 48" x 36"H Door: 39" x 28"H	52" x 65" x 90"H	440 sq. ft. filter cartridges 1,160 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
6060 1 station Request Info	60" x 60" x 48"H 2 Doors: 51" x 40"H	65" x 75" x 102"H	440 sq. ft. filter cartridges 1,160 cfm blower, C-III Abrasive Reclaimer	208V/230V/460V/60Hz

Gaurang Rawal

From: Ahn, Terry [tahn@ocsd.com]
Sent: Tuesday, October 21, 2014 10:59 AM
To: Gaurang Rawal
Subject: RE: New application for abrasive blasting cabinet

Hi Gaurang,

It has an integral filter. I will get the information and get back to you.

Thanks,

Terry

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Tuesday, October 21, 2014 10:55 AM
To: Ahn, Terry
Subject: FW: New application for abrasive blasting cabinet

Terry,

Thanks for abrasive blasting cabinet information.
For PM emission control it shows 98% control efficiency. Does it have an integral baghouse (if yes, provide information, specs, etc.) or cabinet is connected to a baghouse?
If a separate baghouse, then a separate application is required for an APC. Thanks.

Gaurang
909-396-2543

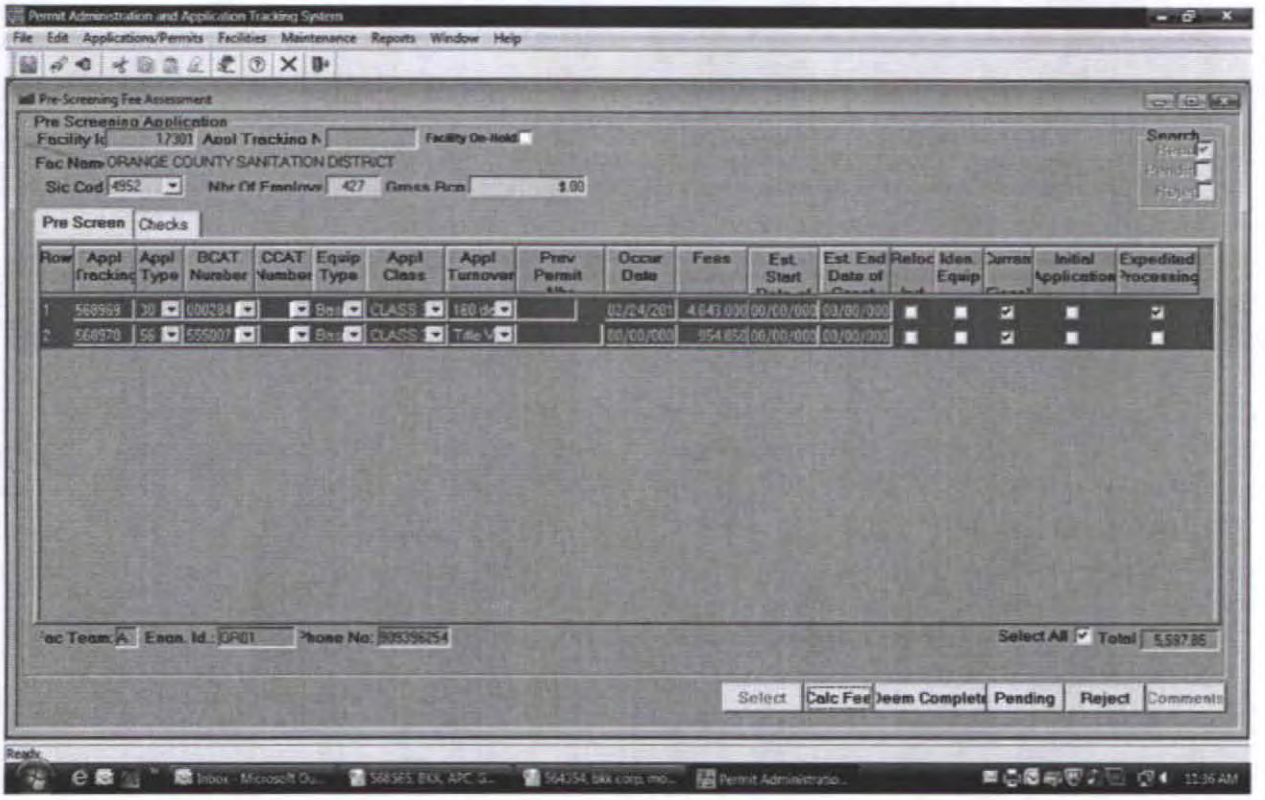
From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Thursday, October 16, 2014 11:09 AM
To: Gaurang Rawal
Subject: New application for abrasive blasting cabinet

Hi Gaurang,

Please find attached pdf copy of the permit application package for an abrasive blasting cabinet. The original package along with the check were mailed out on 10/8.

Thanks,

Terry Ahn
Orange County Sanitation District |Environmental Compliance
Regulatory Specialist
(714) 593-7082



Abrasive Blasting Cabinet
P/o no P/C, ATP

10/16/14

South Coast Air Quality Management District

Form 400 - XPP

Express Permit Processing Request

Form 400-A, Form 400-CEQA and one or more 400-E-xx form(s) must accompany all submittals.

Mail To:
SCAQMD
P.O Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator To Appear On The Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Section B - Equipment Location Address

3. (●) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

10844 Ellis Avenue
Street Address

Fountain Valley, CA 92708-7018
City State Zip

Terry Ahn — Regulatory Specialist
Contact Name Title

(714) 593-7082 — Ext. — (714) 593-7773
Phone # Ext. Fax #

tahn@ocsd.com
E-Mail

Section C - Permit Mailing Address

4. Permit and Correspondence Information:
☑ Check here if same as equipment location address

10844 Ellis Avenue
Address

Fountain Valley, CA 92708-7018
City State Zip

Terry Ahn — Regulatory Specialist
Contact Name Title

(714) 593-7082 — Ext. — (714) 593-7773
Phone # Ext. Fax #

tahn@ocsd.com
E-Mail

Section D - Authorization/Signature

I understand that the Expedited Permit Processing fees must be submitted at the time of application submittal, and that the application may be subject to additional fees per Rule 301. I understand that requests for Express Permit Processing neither guarantees action by any specific date nor does it guarantee permit approval; that Express Permit Processing is subject to availability of qualified staff; and that once Express Permit Processing has commenced, the expedited fees will not be refunded. I hereby certify that all information contained herein and information submitted with the application are true and correct.

5. Signature of Responsible Official:	6. Title of Responsible Official:
James Herberg	General Manager
7. Print Name of Responsible Official:	**8. Date:**
James Herberg	10-07-2014
9. Phone #:	**10. Fax #:**
(714) 593-7300	(714) 962-0356

AQMD USE ONLY	APPLICATION TRACKING #		TYPE B C	EQUIPMENT CATEGORY CODE	FEE SCHEDULE $		VALIDATION
ENG DATE A R	ENG. DATE	A R	CLASS I II	ASSIGNMENT Unit Engineer	CHECK/MONEY ORDER #	AMOUNT $	TRACKING #

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BCT 2884 SCA-B

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Seal Beach
Stanton
Tustin
Villa Park
Yorba Linda
County of Orange
Costa Mesa Sanitary District
Midway City Sanitary District
Irvine Ranch Water District

Orange County Sanitation District
10844 Ellis Avenue, Fountain Valley, CA 92708
(714) 962-2411 www.ocsewers.com

October 6, 2014

Permit Services
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

SUBJECT: Application for Title V Permit Revision for Orange County Sanitation District Plant No. 1 (Facility ID No. 017301): Addition of a Permit-to-Operate an Abrasive Blasting Cabinet

---

Enclosed with this letter is an application for Title V permit revision for Orange County Sanitation District's Reclamation Plant No. 1. The Title V permit revision is requested to add a permit-to-operate an abrasive blasting cabinet which is located in the Rebuild Shop. The abrasive blasting cabinet will be used to remove rust, old paint, and any debris left on the metal parts such as pump casings, valve bodies, and bearing housings.

Enclosed with this letter are:

- (2) SCAQMD Form 400-A: Application for Permit to Construct and Permit to Operate
- (1) SCAQMD Form 500-A2: Title V Application Certification
- (1) SCAQMD Form 500-C1: Title V Compliance Status Report
- (1) SCAQMD Form 400-CEQA
- (1) SCAQMD Form 400-4b: Abrasive Blasting Equipment
- (1) SCAQMD Form 400-XPP: Express Permit Processing Request
- A check in the amount of $5,597.85 for the processing fee

If you have any questions or require further information, please contact Terry Ahn at (714) 593-7082 or tahn@ocsd.com.

James Colston
Environmental Compliance Manager

TA:JC:jb
H:\dept\eng\790\Groups\Compliance\Staff\ahn\Misc Projects\Rebuild Shop - Abrasive Blasting\Permit Pkg\ApplCvr.doc

Enclosure(s)

cc: V. Kogan (w/o enclosures)
Gaurang Rawal (SCAQMD)

Orange County Sanitation District
10844 Ellis Ave, Fountain Valley, CA 92708
(714) 962-2411

PAYMENT STUB
Vendor:
SOUTH COAST AIR QUALITY MGMT DIST

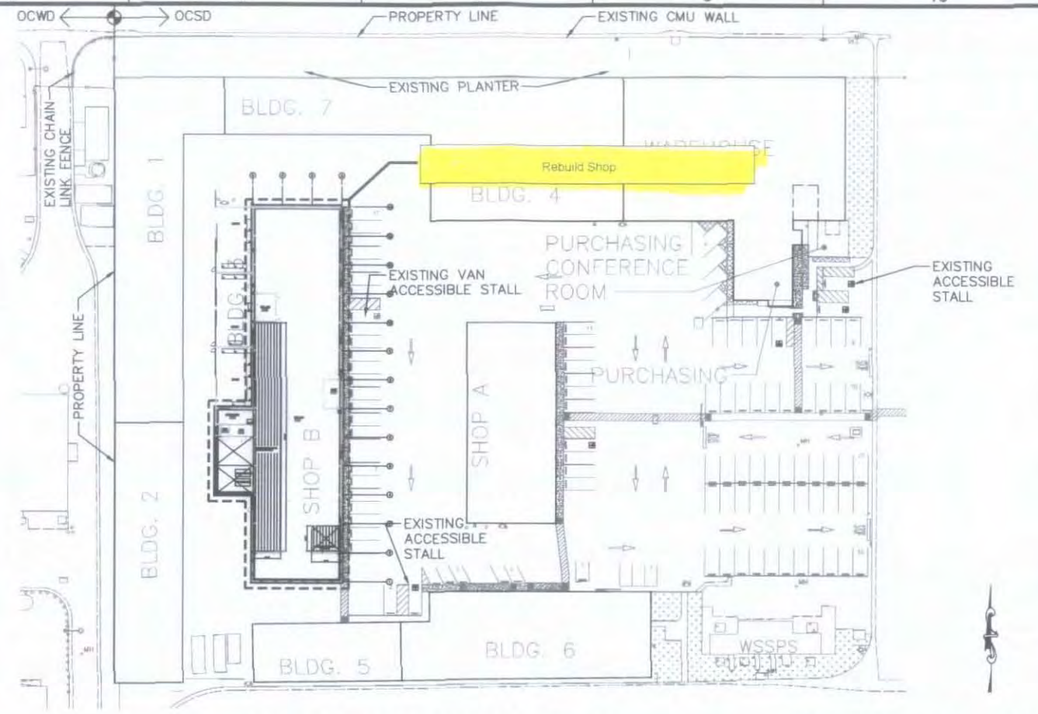
Check No.: 1000068482
Check Date: 10/8/2014
Vendor No.: 15843

Invoice Number	Invoice Date	Description	Gross	Discount	Payment Amount
TITLE V PERMIT APP.	10/6/2014	TITLE V PERMIT REVISIO	5,597.85		5,597.85
		Total Amount			U.S. $*****5,597.85



SITE PLAN (2)
SCALE: 1"=200'

200' 100' 0 200' 400'
SCALE : 1" = 200'-0"



PARTIAL ENLARGED SITE PLAN (1)
SCALE: 1"=50'

50' 25' 0 50' 100'
SCALE : 1" = 50'-0"

TOTAL STALLS: 105
ACCESSIBLE STALLS: 5
VAN STALLS: 1

PROJECT: ORANGE COUNTY SANITATION DISTRICT
P1-115A, PLANT 1 – SHOP B
MAINTENANCE AREA BUILDING IMPROVEMENTS
AND BUILDING H DEMOLITION

SITE LOCATION : 10884 ELLIS AVE,
FOUNTAIN VALLEY, CA 92708

GOVERNING CODES (AS AMENDED BY CITY ORDINANCE):
2010 CALIFORNIA BUILDING CODE
2010 CALIFORNIA ELECTRICAL CODE
2010 CALIFORNIA MECHANICAL CODE
2010 CALIFORNIA PLUMBING CODE
2010 CALIFORNIA FIRE CODE
2010 CALIFORNIA GREEN BUILDING CODE
AMERICAN WITH DISABILITIES ACT (ADA) STANDARDS
2008 BUILDING ENERGY STANDARDS
2010 CALIFORNIA ENERGY CODE

CONSTRUCTION TYPE: V B
OCCUPANCY GROUP: F-1 (PRIMARY) B, S-1 (INCIDENTAL)
USE: OFFICE, MANUF., STORAGE
NO. OF STORIES: 1

FIRE PROTECTION: FULLY FIRE SPRINKLED
AIR CONDITIONED: PARTIAL – SEE SAA1001 FOR AIR CONDITIONED AREAS
STORED ITEMS: SHEET METAL STOCK, FITTINGS, ANGLE IRON STOCK, MOTORS, CHAIN, SMALL PARTS CABINETS, STOCK PILE OF EXPANDED METAL SHEETS

CONFORMED DOCUMENTS FOR CONSTRUCTION

THE ADDENDA ISSUED DURING THE BIDDING PERIOD ARE INCORPORATED INTO THESE DOCUMENTS. IF DISCREPANCIES BETWEEN THESE DOCUMENTS AND THE RESPECTIVE BIDDING DOCUMENTS INCLUDING ADDENDA ARE FOUND, THE BIDDING DOCUMENTS WITH THE ORIGINAL ADDENDA SHALL GOVERN.

HAZARDOUS MATERIALS

CLASSSIFICATION	QUANTITY	ALLOWABLE
CLASS IA FLAM.	5.4 GAL.	60 GAL.
CLASS IC FLAM.	6.0 GAL.	240 GAL.
CLASS II COMB.	1.0 GAL.	220 GAL.
CLASS IIIA COMB.	7.6 GAL.	660 GAL.
CLASS IIIB COMB.	1.0 GAL.	UNLIMITED

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: SCHLESINGER,KAREN-2/25/14
DRAWN BY: ALCIVAR, JOSE-2/25/14
CHECKED BY: LOVELL, STEVE-2/25/14

LINE IS 2 INCHES AT FULL SIZE (IF NOT 2"-SCALE ACCORDINGLY)

This drawing was originally approved for construction by Steven D Lovell on 2/25/14 and sealed by Steven D Lovell a licensed professional architect in the State of California No. C13140

THE AUSTIN COMPANY®
6410 OAK CANYON
IRVINE, CA 92618
949.451.9000
www.theaustin.com

ORANGE COUNTY SANITATION DISTRICT

MAINTENANCE AREA BUILDING IMPROVEMENTS AND BUILDING H DEMOLITION

SITE PLANS AND PROJECT DATA

PROJECT NO. P1-115A
DRAWING NO. SBG0004
4 OF 42

DWG: F:\2011\11-104030_OCSD\10403_CADD\Shop B\P1-115-SBG0004.dwg USER: fred canning
DATE: Jul 31, 2014 11:53am XREFS: P1-115-BHA-XSITE01 P1-115-SBGDBDR Shop B Floor Plan

ORANGE COUNTY
SANITATION DISTRICT
10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708-7018

Hasler
10/08/2014
US POSTAGE

FIRST-CLASS
$01.6

ZIP 927
011D1161

Permit Services
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

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

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: ○ Fixed Location ○ Various Location
(For equipment operated at various locations, provide address of initial site.)

10844 Ellis Avenue (Street Address)
Fountain Valley (City), CA (State) 92708-7018 (Zip)
Terry Ahn (Contact Name) Regulatory Specialist (Title)
(714) 593-7082 (Phone #) Ext. (714) 962-2591 (Fax #)
E-Mail: tahn@ocsd.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
☒ Check here if same as equipment location address

10844 Ellis Avenue (Address)
Fountain Valley (City), CA (State) 92708-7018 (Zip)
Terry Ahn (Contact Name) Regulatory Specialist (Title)
(714) 593-7082 (Phone #) Ext. (714) 962-2591 (Fax #)
E-Mail: tahn@ocsd.com

Section D - Application Type

6. The Facility Is: ○ Not In RECLAIM or Title V ○ In RECLAIM ◉ In Title V ○ In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:

- ○ New Construction (Permit to Construct)
- ○ Equipment On-Site But Not Constructed or Operational
- ○ Equipment Operating Without A Permit *
- ○ Compliance Plan
- ○ Registration/Certification
- ○ Streamlined Standard Permit

7b. Facility Permits:

- ○ Title V Application or Amendment (Refer to Title V Matrix)
- ○ RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:

- ○ Administrative Change
- ◉ Alteration/Modification (50)
- ○ Alteration/Modification without Prior Approval *
- ○ Change of Condition
- ○ Change of Condition without Prior Approval *
- ○ Change of Location
- ○ Change of Location without Prior Approval *
- ○ Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number: G2957

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy): 03/26/2014
8b. Estimated End Date of Construction (mm/dd/yyyy): 10/18/2016
8c. Estimated Start Date of Operation (mm/dd/yyyy): 10/18/2016

9. Description of Equipment or Reason for Compliance Plan (list applicable rule):
Installation of CatOx/SCR System on Internal Combustion Engine (CG1-FV), 3471 HP, Nat Gas/Digester Gas Fired

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process) 2

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) ◉ No ○ Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? ◉ No ○ Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Municipal Wastewater 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 ◉ Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? ◉ No ○ Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: James D. Ruth

18. Title of Responsible Official: General Manager

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ○ No ◉ Yes

20. Print Name: James D. Ruth

21. Date: 12-5-12

22. Do you claim confidentiality of data? (If Yes, see instructions.) ◉ No ○ Yes

23. Check List: ☒ Authorized Signature/Date ☒ Form 400-CEQA ☒ Supplemental Form(s) (ie., Form 400-E-xx) ☒ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED	PAYMENT TRACKING #	VALIDATION
	546360	00063305	$ 10390.27		1/8/13 mr

DATE	APP REJ	DATE	APP REJ	CLASS	BASIC	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
3/13/13	GCR			I III	CONTROL	23	A		

© South Coast Air Quality Management District, Form 400-A (2012.07)

2/4

cm 106734

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546360
Granted as of 04/16/2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 1 (G2957) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

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14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

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D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

1. INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

Application No. 546362

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 3 (G2955) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

Conditions: (A/Ns 546360, 546361 & 546362)

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
[RULE 1110.2]

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE

TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

EMISSIONS AND REQUIREMENTS:

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

CO: RULE 1110.2 LIMIT
NOX: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

Note: Above are the proposed revised permits, as deemed necessary, based on OCSD's and SCAQMD's meetings and comments to the draft permits. Condition #15 was revised for mass emissions rates based on Rule 1110.2 concentration limits.

Application No. 559225

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 1 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC UREA FEED MONITORING AND CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X 62' H., ABOVE GROUND.

Application No. 559226

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 2 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC UREA FEED MONITORING AND CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X 62' H., ABOVE GROUND.

Application No. 559227

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 3 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC UREA FEED MONITORING AND CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X 62' H., ABOVE GROUND.

CONDITIONS: (559225, 559226, 559227)

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. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

EMISSIONS AND REQUIREMENTS:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP. [RULE 1303(b) (1)], [RULE 1402]

Note: Above are the proposed revised permits, as deemed necessary, based on OCSD's and SCAQMD's meetings and comments to the draft permits. Condition #15

BACKGROUND:

On January 8, 2013, Orange County Sanitation District (OCSD) submitted above applications (546360, 546361 and 546362) to add post-combustion control equipment (CatOx and SCR) and digester gas clean up system expansion for the existing three IC engines (G 2957, G2956 and G2955) at Fountain Valley (Sewage Treatment Plant #1), CA.
The proposed modification for the digester gas cleaning system (DGCS) and treatment of the engine's exhaust to further control emissions is required for regulatory compliance with new Rule 1110.2 emissions limits for CO, NOx and ROG using biogas fuel.
Although, at prescreening stage these applications were initially prescreened as control systems, two in a series for the add-on control (Schedule C), however, for simplicity of processing and with addition of few conditions for APC's, these applications are processed as modifications to existing engines' permits*, as current emissions are tied to the previous engine's permit and for simplicity of AEIS/NSR entries with respect to pre and post modifications of engine(s).
Fee will be kept same as submitted with the applications (this was based on modifications to current permits to operate for the engines).

*As per District's direction, OCSD was asked to submit new separate applications for the add-on control devices (CatOx /SCR). Therefore, on 12/20/2013, OCSD submitted 3 new applications; #559225, 559226 & 559227 for APCs.

A/Ns 557227 & 557228 for aqueous urea solution storage tanks were submitted on 10/13/2013.

A/N 546359 is also submitted for Title V de-minimis significant revision to include above permits to appropriate Title V permit section upon approval.

Note: If the equipment demonstrates compliance with the emissions limits by January 1, 2015 then their respective permit application fees to be refunded- Rule 1110.2 (d) (1) (E), amended Sept. 7, 2012.

PROCESS DESCRIPTION:

OCSD was granted a Rule 441 research permit (A/N 497717, G4633, 10/15/2009) for engine #1 that included digester gas cleaning system (DGCS) to remove mainly volatile silicon organic compounds (VSOC - Siloxanes), other impurities, some TNMOCs and total sulfur compounds from the digester gas to help improve combustion characteristics, improve engine operations and to extend engine life. Over several years, OCSD had conducted various experiments to develop emission reduction technology that employed post combustion control equipment- catalytic oxidation (to reduce CO and VOC emissions) and Selective Catalytic reduction (SCR), using aqueous urea solution injection into the engine's exhaust prior to SCR for NOx emission reduction. OCSD had made presentations about this emission reduction technology demonstrating that engine is capable of meeting Rule 1110.2 emissions limits for CO, NOx and ROG.

Based on successful results for achieving low emissions, OCSD had decided to modify existing engine's permits (3 engines at plant #1 and 5 engines at plant #2) with add-on controls in conjunction with DGCS that helps remove siloxanes

present in DG. For information purpose, typical emissions reduction results for CO, NOx and VOC are listed below (Source: A & WMA, West Coast Workshop Presentation, May 16, 2013);

Pollutant	Engine Outlet Avg. ppmv	Post-combustion Emission Avg. ppmv	Rule 1110.2 Limit ppmv (Effective January 1, 2016)
CO	452	**7.5**	250
NOx	31	**7.2**	11
VOC	97	**3.6**	30

Validated data -ppmv values at 15% O2, dry @ 15% O2, 15-minute average.

Note: Proposed DGCS is common to all three engines, supplying clean DG as fuel.
DGCS, CatOx and SCR systems for both plants are identified as **OCSD Project J-111**.

Engine:
Maximum heat input rate, design = 28.5 MMBTU/HR
Exhaust (stack) flow rate = 21,222 acfm, 500 deg. F (Form 400-PS)
Exhaust Stack = 30" Diameter x 62' above ground (Form 400-PS)

Following is the brief operation for catalytic oxidizer (CatOx) and Selective Catalytic Reduction (SCR) with urea injection.

A catalytic oxidizer (CatOx) will be installed to reduce CO and VOC emissions from the engine's exhaust. CatOx, located upstream of the SCR, will be equipped with temperature and pressure monitoring devices and controls. Operating temperature range is min. 600 to max. 850 deg F. CatOx inlet and outlet samples will be taken and analyzed for speciated VOC analysis, including Formaldehyde and other TACs. For CatOx specifications please refer to the information submitted with application. The typical chemical reaction is,

$$2\ CO + O_2 \rightarrow 2\ CO_2$$

$$CH_4 + 2\ O_2 \rightarrow CO_2 + 2\ H_2O$$

Selective Catalytic Reduction (SCR) System for NOx Control

NO and NO_2 in the engine's exhaust, at high temperature, will be reduced by the Selective Catalytic Reduction (SCR) system in presence of aqueous urea injection. The Urea reagent using an injection lance, with compressed air, is injected into the center of the exhaust piping, prior to the catalyst surface. Once the exhaust gas stream reaches the proper reactive temperature for the catalyst, the reagent automatically begins to flow. Control of the proper amount of Urea reagent required is typically done by mapping of NOx reduction performance curve based on engine operating conditions or by following a programmable NOx output based on the signal from the existing CEMS.
At temperature greater than 400 deg F, in the presence of water, the Urea hydrolyses to ammonia (NH_3) and CO2. As these molecules pass through the catalyst they react with NO_x to form N_2, H_2O, and CO_2. The chemical reaction is,

$(NH_2)_2\,CO + H_2O \rightarrow 2\ NH_3 + CO_2$ (Hydrolysis)
[Urea solution hydrolyzes, upon injection in the inlet duct line of SCR at >400 deg F]

$(NH_2)_2\,CO \rightarrow NH_3 + HNCO$ (Pyrolysis)

NH_3 OR HNCO + NOx + O_2 → N2 + H_2O + CO_2 (Catalytic Reduction).

NH3 to NOx ratio:

$4NH_3 + 4NO \rightarrow 4N2 + 6H_2O$
$6NO2 + 8NH_3 \rightarrow 7N2 + 12H_2O$

This is the molar ratio of the injected ammonia over the NOx at the catalyst inlet. SCR reactions require only one mole of NH3 to remove one mole of NOx and about 1.33 moles of NH3 to remove one mole of NO2. Depending on the fraction of NO2 in the overall NOx concentration, no more than 1.1 moles of NH3 are needed per mole of NOx for above reactions to happen. In order to control ammonia slip the uniformity of the NH3/NOx profile across the catalyst face is critical to the SCR process.

Estimated NH3 Injection Rate:

NOx emission rate in engine's exhaust (Pre-modification) = 5.1 lbs/hr, Table 2.3-1 Application submittal
= 5.1/46 =0.1108 lb. moles NOx/hr
Maximum moles of NH3 required/ mole of NOx = 1.1
NH3 required = 0.1108 x 1.1 = 0.1218 lb. moles NH3/ hr
= 0.1218 x 17 = 2.07 lbs NH3/hr
32.5% Wt. urea solution density =1.090 g/l x 8.33 = 9.08 lbs/gal. @20 deg C.
Lb. moles urea/gal = 9.08 lbs/gal x 0.325/ 60.05 MW of urea = 0.0491 lb moles urea/gal of solution.
When one mole of urea is injected in engine's exhaust, upon hydrolysis releases 2 moles of NH3.
$(NH_2)_2CO + H_2O \rightarrow 2\ NH_3 + CO_2$ (Hydrolysis)
Moles of NH3 released/gal of sol = 0.0491 x 2 = 0.0982 lb. moles NH3/ gallon of urea soln.

Urea injection rate needed = 0.1218 lb. moles of NH3 required / 0.0982 lb. moles NH3/gallon
= 1.24 gallon urea soln. /hr.

Urea dosing can change depending on the NOx reduction and other factors such as exhaust temperature, space velocity (volumetric flow of exhaust gas through the catalyst (ft/hr/ft3) and exhaust flow rate. NOx could be measured before and/or after the SCR catalyst through the use of NOx sensor. NOx concentration after SCR catalyst can be measured using CEMS. The level of ammonia slip is dependent on how NOx is being controlled. For typical NOx reduction of 90% - 95%, ammonia slip generally can vary 5-25 ppmv, measured at 15% O2, 1-hr average.

EMISSIONS:
Proposed installations will result in net emission reduction for CO, NOx and VOC. OCSD has estimated reduction in SOx and PM10 emissions based on pilot study source tests results. There will be an increase in ammonia emission- NH3 slip- (due to SCR and urea solution injection).

Following is the summary for maximum emissions reduction/engine, as provided by the OCSD for Plant No. 1 (Please refer to application submittal, Table 2.3-1).

POLLUTANT	PRE-MODIFICATION EMISSION., LBS/DAY	POST-MODIFICATION EMISSION., LBS/DAY	LBS/HR	NET CHANGE IN EMISSION, LBS/DAY
CO	440.3	11.2 (= 0.06 g/bhp-hr)	0.45	-429.1
NOx	122.7	11.9 (= 0.065 g/bhp-hr)	0.49	-110.8

PM10	12.0	1.28	0.05	-10.7
SOx	12.0	0.38	0.02	-11.6
VOC	92.0	0.64 (= 0.004 g/bhp-hr)	0.03	-91.4
NH3 SLIP*	-	3.71	0.15	+3.7

* Ammonia slip is based on 5 ppmv as the pilot project demonstrated maximum level of <5 ppmv ammonia slip. Results and Discussion of the research (pilot project), Final Report July 2011, Table 3-13, indicated free NH3 measurements at < Method Detection Limit (MDL), during 4/7/10 through 5/10/2011 at 65% to 100% engine load, whereas maximum calculated NH3 value was determined to be < 5 ppmv. Urea injection system is designed with associated automatic temperature, pressure monitoring and control devices. This can be considered as LAER for a major source.

AEIS/NSR:

Uncontrolled and controlled emissions are assigned to each IC engine (Basic Eqquipment) and respective APC (CatOx.SCR) are assigned zero emissions, except for ammonia slip.

For each engine,

Pollutant	**R1, lbs/hr**	**R2, lbs/hr**
CO	18.33	0.45
NOx	5.11	0.49
PM10	0.50	0.05
SOx	0.50	0.02
VOC	3.83	0.03

For each APC (Catox/SCR)

	R1, lbs/hr	**R2, lbs/hr**
NH3 (slip)	0.15	0.15

RULES EVALUATION

RULE 212: There is no school within 1000' of emission source. The proposed modifications to expand digester gas cleaning system and add-on post-combustion control equipment are expected to reduce emission. However, there will be an increase in ammonia emission (NH3 slip- 7.4 lbs/day) due urea solution injection for the SCR system. NO public notice is required. Compliance with this rule is expected.

RULE 401: With proper equipment operations, maintenance and keeping equipment in good operating condition, compliance is expected.

RULE 402: Nuisance complaints are not expected with the proper operation and monitoring of the equipment.

RULE 404: Compliance with its rule is expected. Previous source tests results (pre-modification) has shown compliance with this rule.

RULE 431.1: Total sulfur, as H2S, in DG is expected to be less than the rule limit of 40 ppmv H2S prior to DG combustion in IC engines. Also, DGCS is expected to reduce sulfur compounds from the DG. Compliance with this rule is expected.

REG. IX: **Standards of Performance for New stationary Sources**
Federal New Source Performance Standard (NSPS), 40 CFR Part 60 subpart JJJJ for spark ignition engines.

This rule is for emissions increase for CO, VOC and NOx pollutants. The proposed modifications will have net emissions reduction for CO, VOC and ROG. There is no increase in rated capacity of the CGS engine. Therefore, Reg. IX and NSPS subsection JJJJ is not applicable.

REG. X: **National Emission Standards for Hazardous Air Pollutants (NESHAP)**
40 CFR Part 63 subpart ZZZZ - MACT Standards

Based on year 2012 reported emissions for toxic air contaminants (TACs) single TAC is below 10 TPY and cumulative TACs emission is below 25 TPY. Therefore, the facility is not a major source for hazardous pollutants' emission and, facility is considered an area source.
(With the addition of proposed CatOx, significant reduction in VOC emissions is expected, and thereby also reduction in TACs/HAPS emissions once the system is in operation).

As per §63.6603 (a), existing stationary RICE located at an area source of HAP emissions, engine must comply with the requirements in Table 2d and, the operating limitations in Table 1b and Table 2b; as applicable.
Compliance with this regulation is expected.

REG. 1110.2: Proposed modifications (DGCS, CatOx and SCR) are to meet the new regulatory emissions limits for CO, NOx and VOC under Rule 1110.2, amended September 7, 2012. Based on pilot study (OCSD Project J-79) for engine #1, significant reductions in CO, NOx and VOC emissions are expected. Each engine is, therefore, expected to comply with the emissions limits shown under Rule 1110.2 (d) (1) (C), effective January 1, 2016, as listed below;

CO 250 ppmvd*
NOx 11 ppmvd, and*
VOC 30ppmvd*
*corrected to 15% O2, dry basis and averaged over 15 minutes.

Engine is expected to comply with start-up and shut down periods not to exceed 30 minutes. Engine start-up, after an overhaul or major repair/maintenance period not to exceed 4 operating hours is expected (per Rule 1110.2 (i) (10) and (11) listed under Exemptions).

Compliance with this rule is expected.

REG. XIII: Proposed modifications are expected to reduce criteria pollutants' emissions with respect to mass emissions rates for the current permit(s). Engine exhaust will be further treated by air pollution control equipment that is considered BACT for CO, NOx and VOC.

Note: Effective Jan. 1, 2016, Rule1110.2 compliance limits go into effect for CO, NOx and VOC. As a result, corresponding mass emissions rates (as confirmed by approved source tests and 180 days operation) will be considered as achieved in practice, and shall be considered as LAER limit for the major source category.

No modeling or offsets are required for criteria pollutants.

NH_3 is subject to NSR for BACT/LAER applicability for major source. A permit limit of 5 ppmv NH_3 slip is imposed based on pilot test results demonstrating < Method Detection Limit (MDL), 65% to 110% engine load, and calculated total NH3 values of < 5 ppmv. Urea injection system is designed with associated automatic temperature, pressure monitoring and control devices.
NH_3 is not considered a criteria pollutant, therefore, is not subject to offset requirement.

CEQA: For the proposed project, OCSD has provided a copy of Notice of Exemption, signed 9/20/12 and filed on 9/24/2012. Exemption category section # 15329. Cogeneration Projects at existing facility.

Compliance with this regulation is expected.

RULE 1401:

Proposed modification for post-combustion exhaust treatment by CatOx is expected to significantly reduce VOC/TAC emissions. Therefore, health risk is expected to be lower than the current permit and no further health risk analysis is required.

Ammonia is a new pollutant from SCR operation. However, ammonia emission is estimated to be below Emission Screening Levels shown under Table-1A for 25 meter receptor location.

NH3 emission = 3.7 lbs/day = **0.15 lbs/hr** = **1350 lbs/yr**.
Emission Screening Levels @ 25 meter, Acute threshold = **1.60 lbs/hr**

Chronic threshold = **6,610 lbs/yr**

Compliance with this Rule is expected.

REG. XVII:

Prevention of Significant deterioration (PSD)
This regulation incorporates the federal Prevention of Significant Deterioration (PSD) regulations and applies to major source or major modification of major sources located in attainment areas.

Major source is defined as any one of the 28 listed major source categories which emits, or has the PTE, ≥100 TPY of any regulated pollutant OR ≥ 250 TPY of any regulated pollutant if the stationary source does not fall under one of the 28 listed major source categories. OCSD plant is not listed on the 28 categories, therefore 250 TPY threshold applies. AER report (2012) shows CO emission of 97 TPY which is < 250 TPY threshold. Therefore OCSD plant 1 is not a major source and PSD is not applicable.

Major modification under PSD is triggered if the modification results in an increase in emissions > Significant Emission Rates (SERs) (40TPY for NOx, SOx and VOCs; 100 TPY CO, 15/25 TPY for Pm10/PM). The propose modifications would not result in emission increase greater than SERs. Therefore, this regulation does not apply.

Also, Rule 1704 specifically exempts OCSD which is classified as providers of Essential Public Services (EPS), if BACT is installed.

Rule 1714: Prevention of significant deterioration for greenhouse gases

The proposed modification of the existing source is not considered a major modification and would not result in a significant emission increase (SEI) defined in paragraph 40 CFR part 52.21(b) (11). Therefore, this rule is not applicable.

For information purpose only;
Potential to Emit (PTE) CO2e for a single engine (including biogenic CO2 in DG fuel)
= 1055.91 CO2e MTon/MMBTU/Yr x 28.5 MMBTU
= 30,093 CO2e MTon/yr
= 90,279 CO2e MTon/yr for 3 identical engines.

CONCLUSIONS/RECOMMENDATION:

The above equipment is expected to comply with all applicable District's Rules and Regulations.
Permit to construct is recommended for each IC engine and APC with subject to conditions listed above (upon completion of EPA review for the proposed Title V revision).

Gaurang Rawal

From: Ahn, Terry [tahn@ocsd.com]
Sent: Wednesday, January 29, 2014 2:44 PM
To: Andrew Lee
Cc: Gaurang Rawal; Charles Tupac; Kogan, Vlad; van Voorst, Donald
Subject: RE: OCSD Fountain Valley and Huntington Beach Digester Gas ICEs
Attachments: ID 17301 draft revised ptc for R1110 2 project.doc; Engine Temp_Pressure Operating Procedure .docx; Emmisions system temps pressures.pdf; Plt #1 Engine Performance DATA.pdf

Hi Andrew,

Per your request from our meeting please find OCSD's proposal for revised permit language and summary of engine operating procedure presented to your during the meeting. As to the sample ports, we are ok with leaving the way it is in the draft permit.

Thank you, and we're ready for further discussion if necessary.

Terry

From: Andrew Lee [mailto:ALee@aqmd.gov]
Sent: Friday, January 24, 2014 4:08 PM
To: Ahn, Terry; Kogan, Vladimir; van Voorst, Donald
Cc: Gaurang Rawal; Charles Tupac
Subject: OCSD Fountain Valley and Huntington Beach Digester Gas ICEs

Hi Terry,
I was able to get resolution on two of my action items from our meeting yesterday.

First, I've spoken with our source testing staff regarding the use of a flange and they agree it is acceptable. They also ask that the flange be a minimum of 4" Dia. to ensure all necessary probes/sampling tubes, testing apparatus, etc. can be accommodated and that hey are located in areas where uniformed exhaust flow is located. Your source testing staff would be best to consult in determining the proper location. Our permit condition requests installation of test ports only so that you can determine the most appropriate location so that verified testing can take place.

Second I've added some verbiage regarding use of already approved source test protocol.

Excerpt from draft ICE Permit Conditions

15. WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION OF ALL THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO

THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO,:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE (EXHAUST ONLY)
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE (EXHAUST ONLY)
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. Appropriate SCAQMD staff shall be notified a minimum of 90 days in advance of Compliance Source Testing to determine if PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.

Andrew Lee, P.E.
Sr. Air Quality Engineering Manager
Engineering & Compliance
Energy/Public Services/Waste Mgmt/Terminals
(909) 396-2643

Gaurang Rawal

From: Ahn, Terry [tahn@ocsd.com]
Sent: Monday, January 27, 2014 2:17 PM
To: Andrew Lee
Cc: Kogan, Vlad; van Voorst, Donald; Gaurang Rawal; Charles Tupac
Subject: RE: OCSD Fountain Valley and Huntington Beach Digester Gas ICEs

Hi Andrew,

Thank you for following up with your two action items.

I have comments on your findings. First is regarding the sample ports at the inlet and outlet of the air pollution control system (Condition No. 11). When we discussed the sample port size/type in our meeting, its focus was the inlet sample ports since we already have the outlet sample ports in the engine exhaust stack that meet the Rule 217 requirements (two 4-inch sample ports at 90 degrees located at least 2 duct diameter downstream and ½ duct diameter upstream of any flow disturbances). I thought we had agreed that the inlet sample ports are not subject to the Rule 217 requirements as further clarified by the basis of the condition being Rule 204. Your e-mail does not support our agreement. I think one 1-inch sample port before the catalyst system, as we discussed in our meeting, is adequate to support sampling at the inlet of the catalyst system.

Second, regarding the advanced notice for use of the previously approved source testing protocol, a 90-day advanced notice is too excessive. If you require a 30-day advanced submittal of new protocol for approval, why would you require a 90-day advanced notice just to use the previously approved protocol? We may not even have the contract with a source testing company in place and testing date selected that early in advance. I think 45-day notice is more reasonable.

I will shortly follow up with my action item which was to provide: 1) description of current operating procedure regarding the exhaust temperature and engine backpressure and 2) proposed changes to the conditions based on our discussion in the meeting.

We appreciate your continued support in resolving the permitting issues.

Thanks,

Terry Ahn
Orange County Sanitation District |Environmental Compliance
Regulatory Specialist
(714) 593-7082

From: Andrew Lee [mailto:ALee@aqmd.gov]
Sent: Friday, January 24, 2014 4:08 PM
To: Ahn, Terry; Kogan, Vladimir; van Voorst, Donald
Cc: Gaurang Rawal; Charles Tupac
Subject: OCSD Fountain Valley and Huntington Beach Digester Gas ICEs

Hi Terry,
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First, I've spoken with our source testing staff regarding the use of a flange and they agree it is acceptable. They also ask that the flange be a minimum of 4" Dia. to ensure all

necessary probes/sampling tubes, testing apparatus, etc. can be accommodated and that they are located in areas where uniformed exhaust flow is located. Your source testing staff would be best to consult in determining the proper location. Our permit condition requests installation of test ports only so that you can determine the most appropriate location so that verified testing can take place.

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Excerpt from draft ICE Permit Conditions

15. WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION OF ALL THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO,:

    A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
    B. CARBON MONOXIDE (EXHAUST ONLY)
    C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
    D. OXIDES OF NITROGEN (EXHAUST ONLY).
    E. OXYGEN (EXHAUST ONLY)
    F. FLOW RATE (EXHAUST ONLY)
    G. MOISTURE (EXHAUST ONLY)
    H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
    I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
    J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
    K. NITROGEN AND CARBON DIOXIDE (EXHAUST ONLY)
    L. BTU CONTENTS (DIGESTER GAS ONLY)
    M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. Appropriate SCAQMD staff shall be notified a minimum of 90 days in advance of Compliance Source Testing to determine if PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.

Andrew Lee, P.E.
Sr. Air Quality Engineering Manager
Engineering & Compliance
Energy/Public Services/Waste Mgmt/Terminals
(909) 396-2643

Orange County Sanitation District - Central Power Generation Systems

Summary of Current Operating Procedure Regarding the Engine Exhaust Temperature and Engine Back Pressure

Issue #1: The Catalyst will never be exposed to Exhaust temp below 600 F during normal operational load parameters of 60% to 100% load.

Justification: When an individual or single cylinder temp drops below 600 F the engine will alert an operator with an alarm. With the loss of one or two cylinders the post Turbo temp will still be above 700 F. This 600 F is hard coded in the control logic for the engine and cannot be modified.

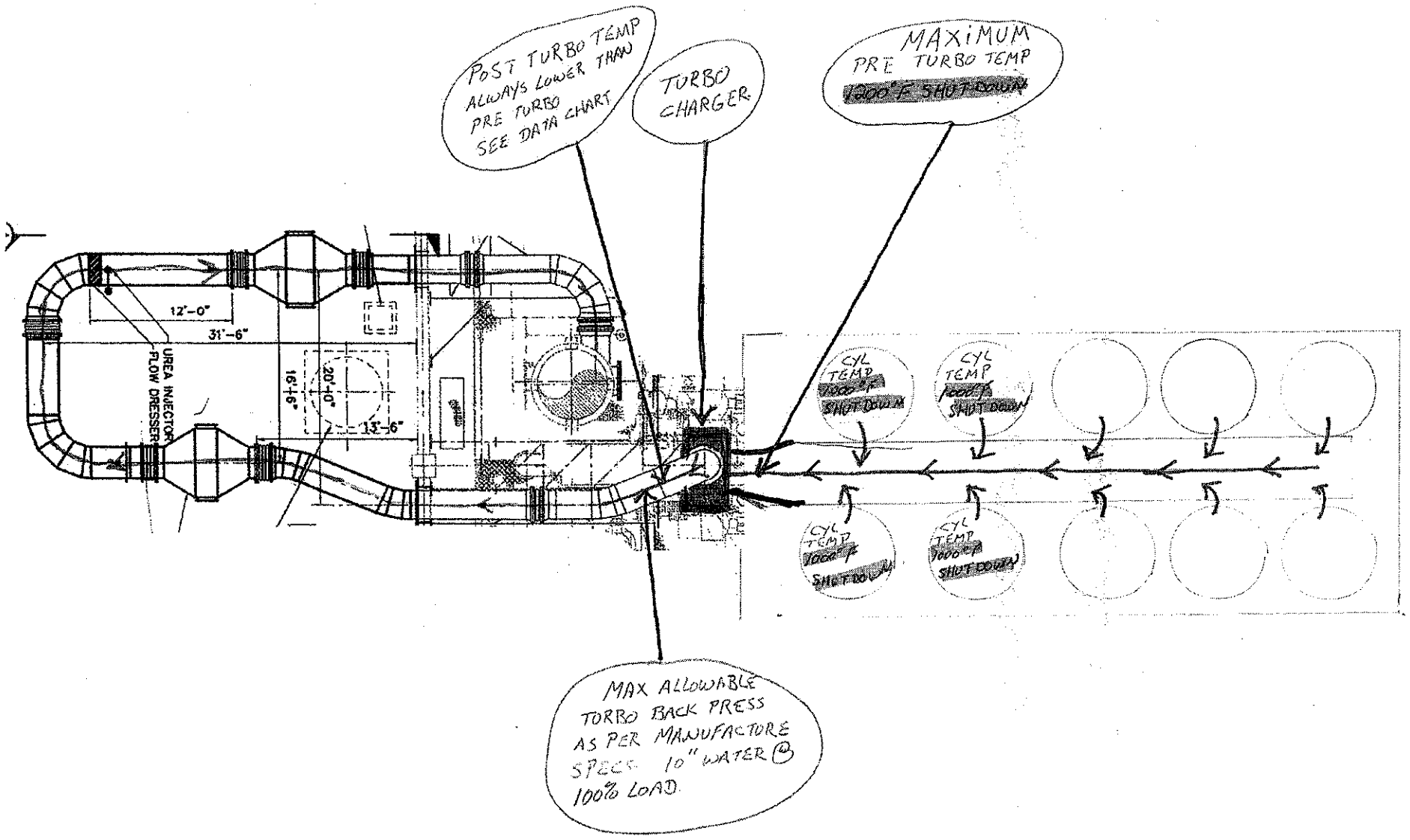
Issue #2: The Catalyst will never be exposed to Exhaust temp above 1200 F during normal operational load parameters of 60% to 100% load.

Justification: The inlet to the turbo charger where all of the cylinders meet to drive the turbo charger there is a pre-turbo temp. If this temp reaches 1200 F the engine will shut down. This 1200 F is hard coded in the control logic for the engine and cannot be modified.

Issue #3: How to read and guarantee the back pressure is minimal on the emission system.

Justification: On the discharge side of the turbo charger there is a pressure gauge that reads in inches of water. The engine manufacturer recommends that the back pressure on the Turbo charger never exceeds 10" of water at 100% load. If the Turbo back pressure starts to exceed 10" of back pressure, it will be documented and verified at multiple points on the engine. The first indicator will be that the back pressure itself will be rising. Secondly, the turbo charge waste gate will start to close trying to force more exhaust thru the turbo charger. The waste gate position is recorded as % open. Third, the reduced air to the engine will be seen with a rise in cylinder temperatures, creating a rise in raw NOX from the engine causing an increase in the volume of Urea injected to compensate for the rise in raw NOX. All of the above are continuously monitored by each engine control system and can be retrieved using historical trending.

Above explanation pertains to the engine operations and parameters. However, it does not affect cato×/SCR operations w/respect to required process parameters monitoring to maintain acceptable control efficiencies—


POST TURBO TEMP
ALWAYS LOWER THAN
PRE TURBO
SEE DATA CHART
TURBO
CHARGER
MAXIMUM
PRE TURBO TEMP
1200°F SHUTDOWN
12'-0"
31'-6"
16'-6"
20'-0"
13'-6"
UREA INJECTOR
FLOW DRESSER
CYL
TEMP
SHUT DOWN
CYL
TEMP
SHUT DOWN
CYL
TEMP
SHUT DOWN
CYL
TEMP
SHUT DOWN
MAX ALLOWABLE
TORBO BACK PRESS
AS PER MANUFACTURE
SPECS 10" WATER @
100% LOAD

OCSD

Unit Data							
Station Name		Plant 1	Plant 1	Plant 1	Plant 1	Plant 1	Plant 1
Unit #		1	1	1	1	1	1
Engine Model		LSVB-12-SGC	LSVB-12-SGC	LSVB-12-SGC	LSVB-12-SGC	LSVB-12-SGC	LSVB-12-SGC
Rated BHP		3,471	3,471	3,471	3,471	3,471	3,471
Rated Speed		400	400	400	400	400	400
Number of Cylinders		12	12	12	12	12	12
Load Setpoint (%)		**50**	**60**	**70**	**80**	**90**	**100**
Blend Setpoint (% Dig Gas)		**97**	**97**	**97**	**97**	**97**	**97**
EGT 1L (F)	A26EL1	798.50	818.10	833.40	818.10	812.70	817.90
EGT 2L (F)	A26EL2	793.10	813.90	830.90	790.00	777.00	784.60
EGT 3L (F)	A26EL3	832.80	844.70	856.10	835.00	822.40	825.80
EGT 4L (F)	A26EL4	808.90	831.80	847.40	795.60	786.90	794.00
EGT 5L (F)	A26EL5	805.30	829.20	845.30	789.10	780.30	786.20
EGT 6L (F)	A26EL6	843.80	856.60	869.40	828.20	763.40	790.40
EGT 1R (F)	A26ER1	766.80	801.20	827.30	787.10	781.20	788.90
EGT 2R (F)	A26ER2	791.40	821.10	840.90	798.60	794.90	798.60
EGT 3R (F)	A26ER3	792.50	825.60	846.20	805.30	798.30	803.10
EGT 4R (F)	A26ER4	792.50	819.50	842.20	815.20	809.80	813.60
EGT 5R (F)	A26ER5	793.80	819.30	837.90	796.30	787.50	792.70
EGT 6R (F)	A26ER6	814.10	835.20	850.70	829.80	820.20	826.40
Pre-Turbo Temp (F)	A26TEI	822.90	848.10	869.00	856.20	850.50	858.60
Post Turbo Temp (F)	A26TEO	767.70	785.50	800.10	753.80	731.70	728.60

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546360
Granted as of TBD

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 1 (G2957) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING A MINIMUM OF 9,900 LBS OF MEDIA, TOTAL OF 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES OR EQUIVALENT CONTROL SYSTEM.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

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6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
[RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF ~~FUEL~~ DIGESTER GAS (BTU/SCF) AT THE ~~COMBINED~~ INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. EFFECTIVE JANUARY 1, 2016, THE EMISSIONS FROM THIS EQUIPMENT POST AIR POLLUTION CONTROL EQUIPMENT AS SPECIFIED IN CONDITON NO. 17 SHALL BE OPERATED IN SUCH A MANNER THAT THE LIMITS OF TABLE III-B IN RULE 1110.2 (d)(1)(C), AMENDED SEPTEMBER 7, 2012, ARE MET, UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d)(1)(H).

[RULE 1110.2]

13. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

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14. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

15. WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION OF ALL THREEE ENGINES (CG1-FV, CG2-FV AND CG3-FV), AND ANNUALLY THEREAFTER (WITHIN 45 DAYS OF ANNIVERSARY OF INITIAL TEST), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, TESTING OF THE INLET FUEL GAS AND THE ENGINE'S EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE (EXHAUST ONLY)
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (NATURAL AND DIGESTER GAS USED DURING TESTING)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.

16 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

17. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID DISTRICT PERMIT.

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Emissions And Requirements:

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

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

PERMIT TO CONSTRUCT

A/N 557227
Granted as of TBD

Equipment Description:

STORAGE TANK, NO. 16KTNK001, AQUEOUS UREA SOLUTION, ABOVE GROUND, 1,000 GALLON CAPACITY, VENTING TO ATMOSPHERE.

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 EQUIPMENT SHALL ONLY BE USED FOR STORAGE OF AQUEOUS UREA SOLUTION WITH A MAXIMUM 45 PERCENT BY VOLUME CONCENTRATION.

4. THE THROUGHPUT OF THIS EQUIPMENT SHALL NOT EXCEED 21 TURNOVERS IN ANY ONE MONTH.

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PERMIT TO CONSTRUCT

A/N TBD
Granted as of TBD

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 1 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, A MINIMUM OF 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST OR AN EQUIVALENT CATALYTIC OXIDIZER SYSTEM.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, A MINIMUM 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST OR AN EQUIVALENT SELECTIVE CATLYTIC REDUCTION SYSTEM.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND UREA FEED CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X ~~5'-2"~~ H., OR EQUIVALENT EXHAUST STACK (62' for Plant 1 and 59' for Plant 2 from the ground level)

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. ~~THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.~~
~~[RULE 204]~~

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~~4. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.~~
~~[RULE 204]~~

5. EXCEPT DURING STARTUP AND SHUTDOWN, THE ~~OPERATOR SHALL MAINTAIN THE TEMPERATURE AT THE INLET TO THE CATALYST BEDS ABOVE 600 DEG. F OR EQUIVALENT TEMPERATURE AS RECOMMENDED BY THE MANUFACTURER~~ ENGINE EXHAUST TEMPERATURE AND THE BACK PRESSURE SHALL BE MAINTAINED PER OCSD'S OPERATING PROCEDURE.
[RULE 204]

6. ~~EXCEPT DURING STARTUP AND SHUTDOWN, THE OPERATOR SHALL MAINTAIN THE TEMPERATURE AT THE OUTLET OF THE CATALYST BEDS BELOW 1250 DEG. F OR EQUIVALENT TEMPERATURE AS RECOMMENDED BY THE MANUFACTURER.~~
~~[RULE 204]~~

7. WHEN SELECTIVE CATALYTIC REDUCTION SYSTEM IS IN OPERATION, EXCEPT DURING STARTUP AND SHUTDOWN, THE UREA FEED CONTROL SYSTEM SHALL BE IN FULL OPERATION TO MAINTAIN NOX EMISSION REDUCTIONS.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS. THE DEVICE SHALL HAVE A RELATIVE ACCURACY OF +/- 5%.
[RULE 204]

10. THE OPERATOR SHALL CONTINUOUSLY ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON A ONE HOUR AVERAGE, EXCEPT DURING NOX ANALYZER FAILURE OR SHUTDOWN PERIOD FOR MAINTENANCE NOT TO EXCEED 96 CONSECUTIVE HOURS.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.

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[RULE 1303(b) (1)]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)]

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PERMIT TO CONSTRUCT

SCAQMD Response A/N 546360
Granted as of TBD

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Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 1 (G2957) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR-STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

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BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS) ~~EXPANSION~~, TWO VESSELS, EACH CONTAINING ~~MINIMUM OF 9,900 LBS OF~~ MEDIA FOR DIGESTER GAS TREATMENT, ~~TOTAL 2100 CFM CAPACITY,~~ WITH ASSOCIATED PIPING AND VALVES ~~FOR TWO-STAGE CONFIGURATION~~.

Specifying a minimum amount of media is always problematic. The minimum of 9,900 lbs of media is based on the original design spec for the pilot engine which specified media from the Applied Filter Technology (now part of the Robinson Group). The "formula" for these manufacturers does not always stay the same. Since the operation of the pilot system, our Operations has been investigating and operating different media that is more effective in terms of performance and cost.

Information is based on application submittal. Amount of media is an integral spec which is generally designed based on total siloxanes impurities loading and to maintain optimum siloxanes removal efficiency. Alternatively, a condition can be imposed that OCSD provide final selection of vendor, media and specs upon installation completion and at least 30 days before start up.

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We have the ability to divert digester gas from one plant to the other and either plant may use more gas than normal. Specifying the total cfm capacity may limit our ability to do this and potentially put us in non-compliance situation or force us to flare.

DG flow capacity for the treatment system is believed to be based on CGFA engines operating design and maximum KW generation rating. Again, this is based on information provided with the system.

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"TWO-STAGE" may imply that both vessels have to operating in series at all times. In normal operation, one vessel will operate as a primary and the second one as a secondary polishing vessel. However, during media change out or servicing of a vessel, only one vessel will be in operation. We will have the ability to run one or both vessels at any given time. In order to prevent any questioning during AQMD inspections, we request that this description be deleted.

"Two stage configuration" is based on application information. It is our understanding that both vessels can be online simultaneously providing treated DG to CGFN engines. Equipment description does not mention media

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vessels either in series or parallel (need to verify from P& ID). If second vessel is used as a polishing then both vessels operated as lead and lag mode. If equipment are operated as per application submittal and as per final P & ID there should not be any confusion and any questioning from SCAQMD inspector can be satisfied based on facts.

~~COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV):~~

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME ~~FOR EACH FUEL BLEND BURNED~~.
   [RULE 1110.2]

This condition is not new, but it really does not make sense. The fuel blend changes constantly. It could be at 100% digester gas, 100% natural gas, or any blend at any one time depending on the digester gas availability. The time meter runs whenever the engine is running regardless of the fuel type/blend.

FUEL implies either DG, NG or DG+NG blend. This condition merely provides information as to what % of time each fuel (DG or NG or DG + NG blend) is burned and associated emissions to comply with mass emissions rates.

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS ~~OR FUEL BLEND SAMPLES~~.
   [RULE 204]

This condition is not new, but it should be cleaned up. The fuel blend changes constantly and taking samples of the fuel blend makes no sense with no real practical purpose.

Equipment description states NATURAL GAS AND/OR DIGESTER GAS FIRED.

7. MONTHLY READINGS OF THE BTU CONTENT OF ~~FUEL~~ DIGESTER GAS (BTU/SCF) ~~AT THE COMBINED INLET TO THE CGS ENGINES~~ SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
   [RULE 204]

This condition is not new, but it should be cleaned up. For our CEMS, we take samples of digester gas for ultimate gas analysis to estimate the F factor/stack flow. Btu content of the natural gas is provided by the Gas Company. The fuel

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blend changes constantly and taking one monthly sample of the fuel blend has no practical purpose. We have no use for such data.

Heat input rate, BTU/HR, monitoring is a function of hurly emissions (modeling) and daily emissions (offsets) as well as for other compliance, see condition #9.

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8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY. [RULE 204]

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING. [RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2. [RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

~~12.~~ EFFECTIVE JANUARY 1, 2016, THE EMISSIONS FROM THIS EQUIPMENT POST AIR POLLUTION CONTROL EQUIPMENT AS SPECIFIED IN CONDITION NO. 17 SHALL ~~BE OPERATED IN SUCH A MANNER THAT~~ MEET THE LIMITS OF TABLE III-B IN RULE 1110.2 (d)(1)(C) ~~ARE MET~~, UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d)(1)(H).

[RULE 1110.2, ~~RULE 1303 (a) (1) - BACT FOR NH3 SLIP~~]

The engine itself cannot meet the Rule 1110.2 limits without the APC. Rule 1110.2 has no limit for NH3 slip; therefore the Rule 1303(a)(1) reference for NH3 slip does not belong here.

Condition #17 states that equipment shall not be operated unless vented to an APC. Engine emissions implies to emissions "into the atmosphere" which is after post-combustion control and exhausting from the stack, as there is no atmospheric discharge point between engine and APCs. NH3 slip emission limit is based on BACT/LAER which is Reg XIII.

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13. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36

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ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2) EMISSIONS OFFSET]

14. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

15. WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION OF ALL THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV), ~~AND ANNUALLY THEREAFTER (WITHIN 45 DAYS OF ANNIVERSARY OF INITIAL TEST),~~ THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, ~~A TEST OF THE INLET FUEL GAS AND THE ENGINE'S EXHAUST FOR~~:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE (EXHAUST ONLY)
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (~~FUEL~~ DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE (EXHAUST ONLY)
L. BTU CONTENTS (~~FUEL~~ DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.

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[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

Your proposed permit wording for initial start-up test most likely will cause us to mobilize the independent source testing company three (five for Plant No. 2) different times adding potentially a significant cost to the testing. Rule 1110.2 (f)(1)(C) requires routine compliance testing to be conducted at least once every two years or every 8,760 hours, whichever occurs first. It even allows testing every three years if the engine operated less than 2,000 hours.

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OCSD has 180 days from the start up and each engine is required performance compliance source test. Three engines can be scheduled for ST during 180 days. OCSD is operating engines for many years and had no problem scheduling tests.

16. ~~RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE~~ COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST. [RULE 204]

17. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT (A/N _____) WHICH IS IN ~~FULL USE AND HAS~~ OPERATION IN ACCORDANCE WITH ITS~~A~~ VALID DISTRICT PERMIT.

SCAQMD prefers not to tie in A/N as A/N may change in future and may be superseded by new A/N (modification, change of condition, etc.).

Emissions And Requirements:

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

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

PERMIT TO CONSTRUCT

A/N 557227
Granted as of TBD

Equipment Description:

STORAGE TANK, NO. 16KTNK001, AQUEOUS UREA SOLUTION, ABOVE GROUND, 1,000 GALLON CAPACITY, VENTING TO ATMOSPHERE.

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 EQUIPMENT SHALL ONLY BE USED FOR STORAGE OF AQUEOUS UREA SOLUTION ~~WITH MAXIMUM 32.5 PERCENT BY VOLUME CONCENTRATION~~.

This condition is too restrictive. The urea system is designed for 32.5% urea, but it is available commercially in concentrations of 32.5%, 40.0%, and 45.0% as we speak. What if the manufacturer decides to make 33% concentration next month? We may also find that in the future that higher concentration may be more effective in terms of performance and cost.

This is simply based on information and MSDS provided.
Rate capacity."

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FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

4. THE THROUGHPUT OF THIS EQUIPMENT SHALL NOT EXCEED 21 TURNOVERS IN ANY ONE MONTH.

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ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

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A/N TBD
Granted as of TBD

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 1 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, ~~18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND~~ WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

The volume specified refers to the Johnson Matthey system only. More importantly, specifying the exact volume will require a permit modification if we want to add more layers of catalyst in the future.

Catalyst specs is an important information which is based on expected performance.

Conditions 3 and 4 require installation of the temperature and pressure monitoring devices. Having the description here is redundant and makes the permit unnecessarily lengthy.

This can be corrected. However, it is the fact that such controls are installed for monitoring purpose and helps during field inspection.

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2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, ~~37.33 CUBIC FOOT TOTAL VOLUME AND~~ WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

The volume specified refers to the Johnson Matthey system only. More importantly, specifying the exact volume will require a permit modification if we want to add more layers of catalyst in the future.

Again this is an important specs. Instead we can say "minimum 37.33" volume. In the event Mfr. type of catalyst and specs are changed, alteration/modification application is required.

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3. AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC ~~TEMPERATURE, PRESSURE MONITORING AND~~ UREA FEED ~~CONTROL DEVICES~~ SYSTEM.

Temperature and pressure monitoring devices do not make sense here. "CONTROL DEVICES" implies air pollution control system to control NH3 which is not the intent.

4. ~~EXHAUST STACK, 2'-6" DIA. X 5'-2" H.~~

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There is no stack for the catalyst system. The exhaust from the catalyst system is routed to the engine heat recovery system and to the engine exhaust stack. Even if we remove the catalyst system, the engine exhaust remains. By the way, I'm not sure where the 5'-2" height came from. The straight run portion of engine exhaust stack alone is approximately 12 ft.

This might be a typo. We will verify exhaust ht from previous permits. Exhaust stack dimensions are important for modeling and HRA purpose.

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ORANGE COUNTY SANITATION DISTRICT

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]

The following comment applies to Conditions 3 thru 6:

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We strongly urge you to remove Conditions 3 thru 6. They impose unnecessary compliance and maintenance burden. Since the start-up of the pilot system on Plant 1 Engine 1 on April 1, 2010, we have been continuously measuring and recording the temperature and pressure data. However, these data have no practical use in that we have never used either of the parameters to make any catalyst system adjustment or troubleshooting of the catalyst system or the engine.

We monitor the digester gas treatment system deligently to prevent any fouling of the catalyst using markers such as H2S, siloxanes and other compounds. The new digester gas cleaning system will normally operate with a primary vessel followed by a secondary polishing vessel to ensure that no siloxanes get passed through. In addition to the redundant digester gas cleaning system, we also have the CEMS which is the ultimate tool for demonstrating continuous compliance. Any unusual increase in NOx or CO concentration is immediately noted and investigated.

3. ~~THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.~~
[RULE 204]

4. ~~THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.~~
[RULE 204]

5. ~~EXCEPT DURING STARTUP AND SHUTDOWN, THE OPERATOR SHALL MAINTAIN THE TEMPERATURE AT THE INLET TO THE CATALYST BEDS ABOVE 600 DEG. F.~~
[RULE 204]

6. ~~EXCEPT DURING STARTUP AND SHUTDOWN, THE OPERATOR SHALL MAINTAIN THE TEMPERATURE AT THE OUTLET OF THE CATALYST BEDS BELOW 1250 DEG. F.~~
[RULE 204]

Above conditions are part of CAM requirements.

7. WHEN SELECTIVE CATALYTIC REDUCTION SYSTEM IS IN OPERATION, EXCEPT DURING STARTUP AND SHUTDOWN, THE UREA FEED CONTROL SYSTEM SHALL BE IN ~~FULL~~ OPERATION.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION ~~(+/- 5%)~~ AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

What's the basis for +/- 5%? Even Rule 218 allows up to 20% relative accuracy.

+/- is for instrument measurement accuracy, 20% is for the RATA range.

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10. THE OPERATOR SHALL ~~CONTINUOUSLY~~ ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.

What does it mean by "CONTINUOUSLY?"

In absence of continuously means monitoring can be done at will and may be at desired interval. Urea injection rate is a function of ammonia slip control and NOx reduction.

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[RULE 204]

11. ~~SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.~~

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The catalyst system has no exhaust stack. The compliance testing are conducted on engine stack where the sample ports that meet the SCAQMD requirements are located.
[RULE 204]

Equipment description #4 states exhaust stack where emissions are discharged into the atmosphere (only source of emissions by combusting fuel into the engines).

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12. THE AMMONIA SLIP SHALL BE TESTED ~~WITHIN 180 DAYS AFTER INITIAL START UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS~~ IN ACCORDANCE ~~WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.~~ WITH THE CONDITION NO. 15 OF THE RESPECTIVE ENGINE PERMIT (CG1-FV).
[RULE 1303(b) (1)], ~~[RULE 1402]~~

We do not undertand why Ruel 1402 is referenced here. In the permit application, we have demonstrated compliance with Rule 1303(a) for NH3 as a criteria pollutant and Rule 1401 for NH3 as a toxic air contaminant. In addition, the NH3 slip is emitted through the engine stack; therefore, this condition should belong in the engine permit.

Urea injection is for the engine's exhaust treatment thereby to control NOx and NH3 slip. Engine description does not have exhaust stack. Controlled emissions (NOx and NH3) can be measured after SCR or at exhaust stack.

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13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

[RULE 204]

Emissions And Requirements:

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

NH3 (AMMONIA SLIP): ~~5~~ 10 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.

In the permit application, we have demonstrated even at 10 ppmv NH3 slip, NH3 emissions increase will be less than 1 lb/day for each engine.

[RULE 1303(b) (1)]; ~~[RULE 1402]~~

OCSD has demonstrated during pilot tests that NH3 slip can be maintained below 5 ppmv. It is also a BACT/LAER limit.

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Gaurang Rawal

From: Gaurang Rawal
Sent: Tuesday, November 19, 2013 11:23 AM
To: 'Ahn, Terry'
Cc: Kogan, Vlad
Subject: RE: CGENs with CatOx and SCR, Plant 1 & 2

Terry,

Thanks for the info.

OCSD can provide information for item 1 & 2 below, in my email, as they are available.

I believe inlet temperature to the catalyst is an important parameter to maintain control efficiency and achieve emission limit. This is generally based on manufacturer's specs and recommendation.

Gaurang

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Thursday, November 14, 2013 1:44 PM
To: Gaurang Rawal
Cc: Kogan, Vlad
Subject: RE: CGENs with CatOx and SCR, Plant 1 & 2

Hi Gaurang,

As a public works agency, OCSD is subject to a competitive bidding process so we cannot simply install the same Johnson Matthey systems that we are currently operating under the research permit on the remaining seven engines. Therefore, we won't know the details for your first two items until the construction contractor is selected and they submit the catalyst system supplier information to us. The lack of this information at this time should not keep you moving forward with the permit application processing.

or Item 3, again this information may be provided after the system supplier is selected. However, our construction specs require that the catalyst housings be designed for a maximum temperature of 1250 degree F and the normal exhaust temperature of 850 degree F. We strongly urge you not to put the inlet temperature requirement as a permit condition since it can set us up for a potential permit violation when the engine temperature spike from time to time. No

For Item 4, based on our experience with the Johnson Matthey's systems we should be okay with the 30-minute start-up and 30-minute shutdown periods during normal operation as well as with the 4-hour start-up period after the major maintenance/engine overhaul as Rule 1110.2 allows.

If you have any questions or require additional information please let me know.

Thanks,

Terry Ahn
Orange County Sanitation District |Environmental Compliance
Regulatory Specialist
(714) 593-7082

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Tuesday, November 05, 2013 2:00 PM

To: Ahn, Terry
Cc: Kogan, Vladimir
Subject: CGENs with CatOx and SCR, Plant 1 & 2

Terry,

I am near completion of CGEN applications (CatOx and SCR installations), however, the following additional information is required,

- Design basis for urea flow rate required with respect to inlet and outlet NOx (SCR- moles of ammonia: moles of NOx) and ammonia slip. Provide calculations. Urea delivery/metering system capacity and feedback system for NOx control.

- CatOx and SCR catalyst layers and volume basis.

- Temperature operating range (min. – Max.) for CatOx and SCR catalysts (Mfgr. recommendations).

- Confirm that engine start-up period not exceeding 30 minutes is adequate to reach sufficient temperatures for proper operation of emission control equipment. Shutdown period not to exceed 30 minutes. Engine start-up, after an engine overhaul, major repair or maintenance, period not to exceed four operating hrs. [See Exemptions - Rule 1110.2 (i) (10) and (11)]

Thanks,

Gaurang Rawal
AQ Engineer
South Coast AQMD
Refinery & Waste Management
Phone: (909) 396-2543
grawal@aqmd.gov

Gaurang Rawal

From: Charles Tupac
Sent: Wednesday, September 25, 2013 10:08 AM
To: Ahn, Terry
Cc: Kogan, Vlad; Gaurang Rawal
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,
We will not proceed on the cogen applications until urea applications are submitted.
Charlie

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Tuesday, September 24, 2013 2:29 PM
To: Charles Tupac
Cc: Kogan, Vlad
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

harlie,

It will save everyone's time and headache if you include the urea tanks as part of SCR equipment description. Urea has no other use except for SCRs and will be piped directly to them. It's not the money issue. I'm sorry for being stubborn, but at the end of the day, we're left with the permits and compliance burden. I'll feel so much better submitting permit application (and will do so ASAP) if you can show me some examples of other facilities with separate permits.

Terry

From: Charles Tupac [mailto:ctupac@aqmd.gov]
Sent: Tuesday, September 24, 2013 2:06 PM
To: Ahn, Terry
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,
don't have the time, and there is no exemption in 219. It's a couple of Schedule A's. Please file asap.
Charlie

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Tuesday, September 24, 2013 12:54 PM
To: Charles Tupac
Cc: Kogan, Vlad
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Wherever this power plant may be it's in AQMD's jurisdiction. Do YOU have other examples that you can use to convince me that AQMD issue separate permits for urea tanks?

From: Charles Tupac [mailto:ctupac@aqmd.gov]
Sent: Tuesday, September 24, 2013 12:48 PM
To: Ahn, Terry
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Because - we can't use a permit on an island somewhere in the pacific as an example.

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Tuesday, September 24, 2013 12:13 PM
To: Charles Tupac
Cc: Kogan, Vlad
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Charlie,

I asked for an example permit and you guys brought up the power plant operations. Now I know that the urea tank at this power plant is included in the equipment description for the SCR, I'd like to know why you require separate permits for us?

Terry

From: Charles Tupac [mailto:ctupac@aqmd.gov]
Sent: Tuesday, September 24, 2013 11:55 AM
To: Ahn, Terry
Cc: Kogan, Vladimir
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Please proceed with applying for permits to construct/operate the urea tanks.

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Tuesday, September 24, 2013 11:38 AM
To: Gaurang Rawal
Cc: Kogan, Vlad; Charles Tupac
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

You mean "anhydrous" not "aqueous." That's a whole another story and let's not go there.

I asked the consultant if the permit contained the A/N for the urea storage tank, and his answer was no. A/N's were given for SCR systems only. Obviously, the consultant could not give me a copy of the permit but he told me it's SCE power plant in Pebbly Beach, I think. Can't you get the permit and take a look at it for yourself? Who knows how long it will take me to go through AQMD's Public Records Request.

Thanks,

Terry

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Tuesday, September 24, 2013 11:18 AM
To: Ahn, Terry
Cc: Kogan, Vladimir; Charles Tupac
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,

I understand the logical argument, however, at this time as there is no exemption under Rule 219, permit applications required for Urea soln. storage tanks. Therefore, tank A/N # may have been included under Reclaim Permit (as no exemption).

It is my understanding that when tank is filled, ammonia vapors displaced is routed back to tank trailer (vapor return line) thereby no filling losses. Assume breathing loss (NH3) is minimal at ambient condition. Perhaps, this maybe the

reason for no condition OR believe that tank may have been equipped with a pressure relief valve set at desired P setting minimizing breathing loss.

We did look into this requirement for R441 permit, however, since it was for a short duration and not on a permanent basis, we included under research permit equipment description.

Gaurang
p.s. Maybe next Rule 219 amendment, OCSD may bring it to the Rule writer's consideration (NH3 ?) . As you are aware aqueous NH3 storage tank requires permit

---

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Tuesday, September 24, 2013 10:24 AM
To: Gaurang Rawal
Cc: Kogan, Vlad; Charles Tupac
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Gaurang,

I spoke with our engineering consultants who are familiar with power plants. He gave me an example of one power plant which, as expected, is a RECLAIM facility. Their facility permit includes the urea storage tank as part of the equipment description for one of their SCR systems. (i.e. the urea tank serves multiple SCR systems but the permit lists the tank in the equipment description for only one SCR system). Furthermore, there are no permit conditions specific to the urea storage tank.

Our J-79 research permit (A/N 497717) includes both catalyst systems, digester gas cleaning system, and urea storage tank all in one permit. Why can't you take that same approach?

Terry

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Friday, September 20, 2013 7:09 AM
To: Ahn, Terry
Cc: Kogan, Vladimir; Charles Tupac
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,

Here is no exemption for Urea solution storage tank under Rule 219 as it may contain free ammonia (NSR pollutant). I inquired within District and such permits are required (e.g. power plants operations with SCR). Staff have determined permit requirement. You may request permits issued by SCAQMD through Public Records Request.

Thanks.

Gaurang

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Friday, September 20, 2013 6:50 AM
To: Gaurang Rawal
Cc: Kogan, Vlad
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Gaurang,

What's your justification for requiring permits for the urea storage tanks? Can you send me sample copies of permits held by other facilities with SCR systems?

Thanks,

Terry

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Thursday, September 19, 2013 3:23 PM
To: Ahn, Terry
Cc: Kogan, Vladimir
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,

Urea solution storage tanks are required applications for permits to construct.

Gaurang

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Tuesday, August 20, 2013 2:22 PM
To: Gaurang Rawal
Cc: Kogan, Vlad
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Hi Gaurang,

The post-modification emissions data provided in the permit application were calculated based on the results of the annual compliance source test conducted on Plant 1 Engine 1 (with -79 pilot system) on Dec. 13, 2011. The attached excerpts from the source test report provide the summary of results you are looking for.

In regards to the urea storage tanks, we believe that they are exempt per Rule 219 m(21). It states that "Stationary equipment used exclusively to store and/or transfer organic compounds that do not contain VOCs." Urea is in a strictest sense is an organic compound. Please check out these hyperlinks: http://en.wikipedia.org/wiki/Urea and http://www.acdlabs.com/iupac/nomenclature/79/r79_661.htm (this is IUPAC rule for naming urea as an organic compound).

Please let me know if you need anything else.

Terry

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Friday, August 16, 2013 8:23 AM
To: Ahn, Terry
Cc: Kogan, Vladimir
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,

OCSD has provided post-modifications for CGS (DGCS, CatOx and SCR) maximum emission rates for 6 pollutants based on J-79 pilot study.
Please provide Summary of Results for the pilot study that were used for post-modification emissions rate for Plant #1 & #2, Table 2.3-1 and Table 2.3-2 submitted with application (e.g. exhaust flow rate, exhaust temperature, % H2O, %O2, , concentration for air pollutants, emission rate, engine load, etc.).

Thanks,

Gaurang Rawal

From: Gaurang Rawal
Sent: Wednesday, August 07, 2013 11:47 AM
To: 'Ahn, Terry'
Cc: 'Kogan, Vladimir'
Subject: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,

Hope you had a nice and relaxing vacation and, now busy with Back to School preparations and shopping!

We have received applications for CGS IC engine's modifications applications (Plant #1 & #2) for DG cleaning system, Catox and SCR add-on controls.

Please submit separate application for each of the Urea storage tank to be installed at both plants, with estimated daily emissions-lbs/hr, lbs/day.

Also provide greenhouse gas (GHG) and CO2e emissions for each of the engine, and total emissions (GHGs and CO2e) for the project, for plant #1 & #2.

Thanks.

Gaurang Rawal
AQ Engineer
South Coast AQMD
Refinery & Waste Management
Phone: (909) 396-2543
grawal@aqmd.gov

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	PAGES 14	PAGE 1
ENGINEERING AND COMPLIANCE DIVISION	APPL NO SEE BELOW Rvsd	DATE 01/03/2014
PERMIT APPLICATION EVALUATION AND CALCULATIONS	PROCESSED BY GCR	CHECKED BY

PERMIT TO CONSTRUCT EVALUATION

(Modifications to add DG cleaning system & addition of post-combustion controls to the CGS IC engines, POs' G2957, G2956 & G2955)

APPLICANT'S NAME: ORANGE COUNTY SANITATION DISTRICT (OCSD)

MAILING ADDRESS: 10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708
ATTN.: TERRY AHN, REGULATORY SPECIALIST

EQUIPMENT ADDRESS: WASTEWATER TREATMENT PLANT NO. 1
10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708

FACILITY ID. NO. : **17301**

CONTACT: Terry Ahn, Regulatory Specialist
Phone: (714) 593-7082 FAX: (714) 962-2591
E-mail: than@ocsd.com

EQUIPMENT DESCRIPTION:

Application No. 546360

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 1 (G2957) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS) EXPANSION, TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES FOR TWO-STAGE CONFIGURATION.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

Application No. 546361
Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 2 (G2956) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS) EXPANSION, TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES FOR TWO-STAGE CONFIGURATION.

COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

Application No. 546362
Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 3 (G2955) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS) EXPANSION, TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES FOR TWO-STAGE CONFIGURATION.

COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

Conditions: (A/Ns 546360, 546361 AND 546362)

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION. [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED. [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED. [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES. [RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED. [RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY. [RULE 204]

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING. [RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2. [RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE LIMITS OF TABLE III-B IN RULE 1110.2 (d)(1)(C) ARE MET, UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d)(1)(H). [RULE 1110.2]

13. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

14. EFFECTIVE JANUARY 1, 2016, POST-CONTROLLED EMISSIONS FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	11.2
NITROGEN OXIDES (AS NO2)	11.9
PARTICULATES (PM10)	1.28
ROG OR TNMHC (AS CH4)	0.64
SULFUR DIOXIDE	0.38

[RULE 204]

15. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

16. WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER (WITHIN 45 DAYS OF ANNIVERSARY OF INITIAL TEST), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE INLET FUEL GAS AND THE ENGINE'S EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).

B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

17. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

18. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID DISTRICT PERMIT.

EMISSIONS AND REQUIREMENTS:

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

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

Application No. 559225

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 1 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.

4. EXHAUST STACK, 2'-6" DIA. X 5'-2" H.

Applications No. 559226

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 2 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.

4. EXHAUST STACK, 2'-6" DIA. X 5'-2" H.

Applications No. 559227

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 3 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.

4. EXHAUST STACK, 2'-6" DIA. X 5'-2" H.

Conditions: (559225, 559226, 559227)

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. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

4. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. HE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

5. EXCEPT DURING STARTUP AND SHUTDOWN, THE OPERATOR SHALL MAINTAIN THE TEMPERATURE AT THE INLET TO THE CATALYST BEDS ABOVE 600 DEG. F.
[RULE 204]

6. EXCEPT DURING STARTUP AND SHUTDOWN, THE OPERATOR SHALL MAINTAIN THE TEMPERATURE AT THE OUTLET OF THE CATALYST BEDS BELOW 1250 DEG. F.
[RULE 204]

7. WHEN SELECTIVE CATALYTIC REDUCTION SYSTEM IS IN OPERATION, EXCEPT DURING STARTUP AND SHUTDOWN, THE UREA FEED CONTROL SYSTEM SHALL BE IN FULL OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION (+/- 5%) AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. THE OPERATOR SHALL CONTINUOUSLY ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1402]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

EMISSIONS AND REQUIREMENTS:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

BACKGROUND:

On January 8, 2013, Orange County Sanitation District (OCSD) submitted above applications (546360, 546361 and 546362) to add post-combustion control equipment (CatOx and SCR) and digester gas clean up system expansion for the existing three IC engines (G 2957, G2956 and G2955) at Fountain Valley (Sewage Treatment Plant #1), CA.
The proposed modification for the digester gas cleaning system (DGCS) and treatment of the engine's exhaust to further control emissions is required for regulatory compliance with new Rule 1110.2 emissions limits for CO, NOx and ROG using biogas fuel.
Although, at prescreening stage these applications were initially prescreened as control systems, two in a series for the add-on control (Schedule C), however, for simplicity of processing and with addition of few conditions for APC's, these applications are processed as modifications to existing engines' permits*, as current emissions are tied to the previous engine's permit and for simplicity of AEIS/NSR entries with respect to pre and post modifications of engine(s).
Fee will be kept same as submitted with the applications (this was based on modifications to current permits to operate for the engines).

*As per District's direction, OCSD was asked to submit new separate applications for the add-on control devices (CatOx /SCR). Therefore, on 12/20/2013, OCSD submitted 3 new applications; #559225, 559226 & 559227 for APCs.

A/Ns 557227 & 557228 for aqueous urea solution storage tanks were submitted on 10/13/2013.

A/N 546359 is also submitted for Title V de-minimis significant revision to include above permits to appropriate Title V permit section upon approval.

Note: If the equipment demonstrates compliance with the emissions limits by January 1, 2015 then their respective permit application fees to be refunded- Rule 1110.2 (d) (1) (E), amended Sept. 7, 2012.

PROCESS DESCRIPTION:

OCSD was granted a Rule 441 research permit (A/N 497717, G4633, 10/15/2009) for engine #1 that included digester gas cleaning system (DGCS) to remove mainly volatile silicon organic compounds (VSOC - Siloxanes), other impurities, some TNMOCs and total sulfur compounds from the digester gas to help improve combustion characteristics, improve engine operations and to extend engine life. Over several years, OCSD had conducted various experiments to develop

emission reduction technology that employed post combustion control equipment- catalytic oxidation (to reduce CO and VOC emissions) and Selective Catalytic reduction (SCR), using aqueous urea solution injection into the engine's exhaust prior to SCR for NOx emission reduction. OCSD had made presentations about this emission reduction technology demonstrating that engine is capable of meeting Rule 1110.2 emissions limits for CO, NOx and ROG.

Based on successful results for achieving low emissions, OCSD had decided to modify existing engine's permits (3 engines at plant #1 and 5 engines at plant #2) with add-on controls in conjunction with DGCS that helps remove siloxanes present in DG. For information purpose, typical emissions reduction results for CO, NOx and VOC are listed below (Source: A & WMA, West Coast Workshop Presentation, May 16, 2013);

Pollutant	Engine Outlet Avg. ppmv	Post-combustion Emission Avg. ppmv	Rule 1110.2 Limit ppmv (Effective January 1, 2016)
CO	452	**7.5**	250
NOx	31	**7.2**	11
VOC	97	**3.6**	30

Validated data -ppmv values at 15% O2, dry @ 15% O2, 15-minute average.

Note: Proposed DGCS is common to all three engines, supplying clean DG as fuel.
DGCS, CatOx and SCR systems for both plants are identified as **OCSD Project J-111**.

Engine:
Maximum heat input rate, design = 28.5 MMBTU/HR
Exhaust (stack) flow rate = 21,222 acfm, 500 deg. F (Form 400-PS)
Exhaust Stack = 30" Diameter x 62' above ground (Form 400-PS)

Following is the brief operation for catalytic oxidizer (CatOx) and Selective Catalytic Reduction (SCR) with urea injection.

A catalytic oxidizer (CatOx) will be installed to reduce CO and VOC emissions from the engine's exhaust. CatOx, located upstream of the SCR, will be equipped with temperature and pressure monitoring devices and controls. Operating temperature range is min. 600 to max. 850 deg F. CatOx inlet and outlet samples will be taken and analyzed for speciated VOC analysis, including Formaldehyde and other TACs. For CatOx specifications please refer to the information submitted with application. The typical chemical reaction is,

$$2\ CO + O_2 \rightarrow 2\ CO_2$$

$$CH_4 + 2\ O_2 \rightarrow CO_2 + 2\ H_2O$$

Selective Catalytic Reduction (SCR) System for NOx Control

NO and NO_2 in the engine's exhaust, at high temperature, will be reduced by the Selective Catalytic Reduction (SCR) system in presence of aqueous urea injection. The Urea reagent using an injection lance, with compressed air, is injected into the center of the exhaust piping, prior to the catalyst surface. Once the exhaust gas stream reaches the proper reactive temperature for the catalyst, the reagent automatically begins to flow. Control of the proper amount of Urea reagent required is typically done by mapping of NOx reduction performance curve based on engine operating conditions or by following a programmable NOx output based on the signal from the existing CEMS.

At temperature greater than 400 deg F, in the presence of water, the Urea hydrolyses to ammonia (NH_3) and CO2. As these molecules pass through the catalyst they react with NO_x to form N_2, H_2O, and CO_2. The chemical reaction is,

$(NH_2)_2CO + H_2O \rightarrow 2\ NH_3 + CO_2$ (Hydrolysis)
[Urea solution hydrolyzes, upon injection in the inlet duct line of SCR at >400 deg F]

$(NH_2)_2CO \rightarrow NH_3 + HNCO$ (Pyrolysis)

NH_3 OR HNCO + NOx + $O_2 \rightarrow$ N2 + H_2O + CO_2 (Catalytic Reduction).

NH3 to NOx ratio:

$4NH_3 + 4NO \rightarrow 4N2 + 6H_2O$
$6NO2 + 8NH_3 \rightarrow 7N2 + 12H_2O$

This is the molar ratio of the injected ammonia over the NOx at the catalyst inlet. SCR reactions require only one mole of NH3 to remove one mole of NOx and about 1.33 moles of NH3 to remove one mole of NO2. Depending on the fraction of NO2 in the overall NOx concentration, no more than 1.1 moles of NH3 are needed per mole of NOx for above reactions to happen. In order to control ammonia slip the uniformity of the NH3/NOx profile across the catalyst face is critical to the SCR process.

Estimated NH3 Injection Rate:

NOx emission rate in engine's exhaust (Pre-modification) = 5.1 lbs/hr, Table 2.3-1 Application submittal
= 5.1/46 =0.1108 lb. moles NOx/hr
Maximum moles of NH3 required/ mole of NOx = 1.1
NH3 required = 0.1108 x 1.1 = 0.1218 lb. moles NH3/ hr
= 0.1218 x 17 = 2.07 lbs NH3/hr
32.5% Wt. urea solution density =1.090 g/l x 8.33 = 9.08 lbs/gal. @20 deg C.
Lb. moles urea/gal = 9.08 lbs/gal x 0.325/ 60.05 MW of urea = 0.0491 lb moles urea/gal of solution.
When one mole of urea is injected in engine's exhaust, upon hydrolysis releases 2 moles of NH3.
$(NH_2)_2CO + H_2O \rightarrow 2\ NH_3 + CO_2$ (Hydrolysis)
Moles of NH3 released/gal of sol = 0.0491 x 2 = 0.0982 lb. moles NH3/ gallon of urea soln.

Urea injection rate needed = 0.1218 lb. moles of NH3 required / 0.0982 lb. moles NH3/gallon
= 1.24 gallon urea soln. /hr.

Urea dosing can change depending on the NOx reduction and other factors such as exhaust temperature, space velocity (volumetric flow of exhaust gas through the catalyst (ft/hr/ft3) and exhaust flow rate. NOx could be measured before and/or after the SCR catalyst through the use of NOx sensor. NOx concentration after SCR catalyst can be measured using CEMS. The level of ammonia slip is dependent on how NOx is being controlled. For typical NOx reduction of 90% - 95%, ammonia slip generally can vary 5-25 ppmv, measured at 15% O2, 1-hr average.

EMISSIONS:
Proposed installations will result in net emission reduction for CO, NOx and VOC. OCSD has estimated reduction in SOx and PM10 emissions based on pilot study source tests results. There will be an increase in ammonia emission- NH3 slip- (due to SCR and urea solution injection).

Following is the summary for maximum emissions reduction/engine, as provided by the OCSD for Plant No. 1 (Please refer to application submittal, Table 2.3-1).

POLLUTANT	PRE-MODIFICATION EMISSION., LBS/DAY	POST-MODIFICATION EMISSION., LBS/DAY	LBS/HR	NET CHANGE IN EMISSION, LBS/DAY
CO	440.3	11.2 (= 0.06 g/bhp-hr)	0.45	-429.1
NOx	122.7	11.9 (= 0.065 g/bhp-hr)	0.49	-110.8
PM10	12.0	1.28	0.05	-10.7
SOx	12.0	0.38	0.02	-11.6
VOC	92.0	0.64 (= 0.004 g/bhp-hr)	0.03	-91.4
NH3 SLIP*	-	3.71	0.15	+3.7

* Ammonia slip is based on 5 ppmv as the pilot project demonstrated maximum level of <5 ppmv ammonia slip. Results and Discussion of the research (pilot project), Final Report July 2011, Table 3-13, indicated free NH3 measurements at < Method Detection Limit (MDL), during 4/7/10 through 5/10/2011 at 65% to 100% engine load, whereas maximum calculated NH3 value was determined to be < 5 ppmv. Urea injection system is designed with associated automatic temperature, pressure monitoring and control devices. This can be considered as LAER for a major source.

AEIS/NSR:

Uncontrolled and controlled emissions are assigned to each IC engine (Basic Eqquipment) and respective APC (CatOx.SCR) are assigned zero emissions, except for ammonia slip.

For each engine,

Pollutant	**R1, lbs/hr**	**R2, lbs/hr**
CO	18.33	0.45
NOx	5.11	0.49
PM10	0.50	0.05
SOx	0.50	0.02
VOC	3.83	0.03

For each APC (Catox/SCR)

	R1, lbs/hr	**R2, lbs/hr**
NH3 (slip)	0.15	0.15

RULES EVALUATION

RULE 212: There is no school within 1000' of emission source. The proposed modifications to expand digester gas cleaning system and add-on post-combustion control equipment are expected to reduce emission. However, there will be an increase in ammonia emission (NH3 slip- 7.4 lbs/day) due urea solution injection for the SCR system. NO public notice is required. Compliance with this rule is expected.

stationary source does not fall under one of the 28 listed major source categories. OCSD plant is not listed on the 28 categories, therefore 250 TPY threshold applies. AER report (2012) shows CO emission of 97 TPY which is < 250 TPY threshold. Therefore OCSD plant 1 is not a major source and PSD is not applicable.

Major modification under PSD is triggered if the modification results in an increase in emissions > Significant Emission Rates (SERs) (40TPY for NOx, SOx and VOCs; 100 TPY CO, 15/25 TPY for Pm10/PM). The propose modifications would not result in emission increase greater than SERs. Therefore, this regulation does not apply.

Also, Rule 1704 specifically exempts OCSD which is classified as providers of Essential Public Services (EPS), if BACT is installed.

Rule 1714: Prevention of significant deterioration for greenhouse gases

The proposed modification of the existing source is not considered a major modification and would not result in a significant emission increase (SEI) defined in paragraph 40 CFR part 52.21(b) (11). Therefore, this rule is not applicable.

For information purpose only;
Potential to Emit (PTE) CO2e for a single engine (including biogenic CO2 in DG fuel)
= 1055.91 CO2e MTon/MMBTU/Yr x 28.5 MMBTU
= 30,093 CO2e MTon/yr
= 90,279 CO2e MTon/yr for 3 identical engines.

CONCLUSIONS/RECOMMENDATION:

The above equipment is expected to comply with all applicable District's Rules and Regulations.
Permit to construct is recommended for each IC engine and APC with subject to conditions listed above (upon completion of EPA review for the proposed Title V revision).

Digester Gas or Landfill Gas Combustion Equipment

	Design Parameters		
Design BTU Rating MMBTU/hour	28.50		
No. of engines	1.00		
Total Design Rating MMBTU/hour	28.50		
Methane % ge in Digester gas - assume all the BTU's are coming from methane	50.00		
BTU/SCF of methane - HHV (not landfill gas)	1,050.00		
SCF/min of methane - Calculated from Design MMBTU/hour	452.38		
Total Digester gas scf/min	904.76		
CO2 percentage in DIGESTER Gas Assumed	50.00		
Weight Destruction efficiency % ge for Methane	95.00		
Inlet CO2 scf/min	452.38		
Density of CH4 lb/cubic feet at SCFM conditions	0.0423		
Density of CO2 lb/cubic feet at SCFM conditions	0.1234		
Metric Tons of Methane destroyed per year	4,337.900		-
Metric Tons of CO2 generated from methane destroyed	11,929.22	Mass in Short Tons of CO2e generated from methane destroyed	13,146.00
Mass of CO2 in Metric Tons generated from CO2 present in Digester gas - Incoming CO2	13,320.81	Mass in Short Tons of CO2 Tons generated from CO2 present in landfill gas	14,679.53
Total CO2 Tons	25,250.04	Total CO2 Short Tons	27,825.54
Methane not Burned (metric ton/yr)	228.31		
Metric Ton of CO2e generated from Methane not burned	4,794.52	CO2e Short Tons	5,283.56
Metric Ton of N2O Emissions from engines using Emission Factor 6.30E-4 Kg/MMBtu	0.157		
Metric Ton of CO2e from N2O	48.759	CO2e Short Tons from N2O	53.73
New Proposed Project (annual)			
	Metric Ton of CO2e	Short Ton of CO2e	Lbs/Hour - Based on 24/7 operation
Burning Methane in Gas engines	11,929.22	13,146.00	
Methane Not Burned	4,794.52	5,283.56	
CO2 in the Landfill Gas	13,320.81	14,679.53	
N2O	48.76	53.73	
Total	30,093.31	33,162.83	7,571.42

Co2 Equivalent Per MMBTU in One year	1,055.91	1,163.61	265.6639626

Gaurang Rawal

From: Charles Tupac
Sent: Friday, December 13, 2013 5:49 PM
To: Gaurang Rawal
Subject: Emailing: 546363 (id 29110), EPA ltr, Draft TV De-minimis Sig Rev, OCSD-HB, DEC. 4, 2013.docx, 546359 (id 17301), EPA LTR, Draft TV De-Minimis Sig Rev, OCSD-FV, DEC. 4, 2013.docx, 546359, EVALN, TV DE-MIMIMIS SIG REV, OCSD-FV, NOV. 20, 2013.docx, 546363,
Attachments: 546363 (id 29110), EPA ltr, Draft TV De-minimis Sig Rev, OCSD-HB, DEC. 4, 2013.docx; 546359 (id 17301), EPA LTR, Draft TV De-Minimis Sig Rev, OCSD-FV, DEC. 4, 2013.docx; 546359, EVALN, TV DE-MIMIMIS SIG REV, OCSD-FV, NOV. 20, 2013.docx; 546363, EVALN, TV DE-MINIMIS SIG REV, OCSD-HB, NOV. 20, 2013.docx; 29110 fac, TV De-Minimis, DRACT SEC -H REV 05, OCSD-HB, DEC. 4, 2013.docx; 17301fac, TV De-Minimis, DRAFT SEC-H REV 06, OCSD FV, DEC. 4, 2013.docx

Categories: Orange Category

Gaurang,

A draft of a portion of the above revised draft Sec H for 17301 (FV) was sent to Terry and Vlad on Dec 11th. They asked us not to send to EPA until after they reviewed and were agreeable to the proposed conditions. I don't know whether you will have to finish the processing and draft permits while I am out, but in case Andrew asks you to do so - here is what I have revised in the attachments:

1. For both facilities, Section D revisions were deleted. All applications are to be PTC.
2. For both facilities, place holder application numbers are provided in the Sec H table for the additional applications (for the APC equipment) OCSD agreed to file.
3. For FV only, new/revised conditions for basic and control are separated onto the engine and APC applications.
4. For FV only, new/revised descriptions for basic and control are separated onto the engine and APC applications.
5. For both facilities, EPA letters revised accordingly.

The draft permit for 29110 (HB) does not contain the same updated conditions - please use FV as a guide.

The TV evals are not changed, you should take a look at them once more.

The equipment evals are not changed, as I did not have electronic copies. At a minimum, the proposed descriptions and conditions need to be updated. My preference is that the be omitted, as the draft permits contain the same information.

Thanks

Charlie

FV

By CT

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

This section consists of a table listing all equipment with Permits to Construct and copies of all individual Permits to Construct issued to various equipment at the facility. Each permit will list operating conditions including periodic monitoring requirements and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

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PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Construct Granted On	Equipment Description	Page Number
432418	11-18-2004	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	3
453210	10-17-2006	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	6
494460	02-09-2010	BOILER (>10 MMBTU/HR) NAT GAS & DIGESTER GAS	11
504150	05-05-2010	ODOR CONTROL UNIT	15
520793	08-16-2012	ODOR CONTROL UNIT	18
520794	08-16-2012	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	22
546360	TBD	ICE CG-1 (3471 HP) NG/DG WITH DG FUEL PRETREATMENT	28
546361	TBD	ICE CG-2 (3471 HP) NG/DG WITH DG FUEL PRETREATMENT	31
546362	TBD	ICE CG-3 (3710 HP) NG/DG WITH DG FUEL PRETREATMENT	34
557227	TBD	STORAGE TANK, AQUEOUS UREA SOLUTION	37
557228	TBD	STORAGE TANK, AQUEOUS UREA SOLUTION	38
TBD	TBD	APC SYSTEM 1, SCR/CO CATALYST	39
TBD	TBD	APC SYSTEM 2, SCR/CO CATALYST	41
TBD	TBD	APC SYSTEM 3, SCR/CO CATALYST	43

NOTE: EQUIPMENT LISTED ABOVE THAT HAVE NO CORRESPONDING PERMITS TO OPERATE NUMBER ARE ISSUED PERMITS TO CONSTRUCT. THE ISSUANCE OR DENIAL OF THEIR PERMITS TO OPERATE IS SUBJECT TO ENGINEERING FINAL REVIEW. ANY OTHER APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546360
Granted as of TBD

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 1 (G2957) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS) EXPANSION, TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES FOR TWO-STAGE CONFIGURATION.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

[RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED ~~AFTER JAN 1, 2016~~

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE LIMITS OF TABLE III-B IN RULE 1110.2 (d)(1)(C) ARE MET, UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d)(1)(H).

[RULE 1110.2]

13. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING: ~~AFTER JAN 1, 2016~~ (UNTIL JAN. 1, 2016) *

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

14. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS

* Suggest that a separate mass emissions rates condition (NSR R_2 values) be listed for engine, since APC will have 4 emissions assigned —

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

15. WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER (WITHIN 45 DAYS OF ANNIVERSARY OF INITIAL TEST), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE INLET FUEL GAS AND THE ENGINE'S EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

16 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

17. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID DISTRICT PERMIT.

Emissions And Requirements:

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

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N TBD
Granted as of TBD

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 1 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.

4. EXHAUST STACK, 2'-6" DIA. X 5'-2" H.

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. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

4. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

5. EXCEPT DURING STARTUP AND SHUTDOWN, THE OPERATOR SHALL MAINTAIN THE TEMPERATURE AT THE INLET TO THE CATALYST BEDS ABOVE 600 DEG. F.
[RULE 204]

6. EXCEPT DURING STARTUP AND SHUTDOWN, THE OPERATOR SHALL MAINTAIN THE TEMPERATURE AT THE OUTLET OF THE CATALYST BEDS BELOW 1250 DEG. F.
[RULE 204]

7. WHEN SELECTIVE CATALYTIC REDUCTION SYSTEM IS IN OPERATION, EXCEPT DURING STARTUP AND SHUTDOWN, THE UREA FEED CONTROL SYSTEM SHALL BE IN FULL OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION (+/- 5%) AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. THE OPERATOR SHALL CONTINUOUSLY ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1402]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

HB → (By CT)

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546364
Granted as of TBD

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 1 (G27394) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG1-HB), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), COMMON TO ALL ENGINES, WITH THREE VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES FOR TWO-STAGE CONFIGURATION.

Separate appln

3. CATALYTIC OXIDIZER (CATOX), JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.7 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS.

4. SELECTIVE CATALYTIC REDUCTION (SCR) CATALYST, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.3 CUBIC FOOT TOTAL VOLUME, AQUEOUS UREA SOLUTION INJECTION SYSTEM AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.

5. EXHAUST STACK, 2'-6" DIA. X 4'-11" H. (EXISTING), 26,816 CFM.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
[RULE 1110.2]

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ORANGE COUNTY SANITATION DISTRICT

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
[RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
[RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 33 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. WHEN CATALYTIC OXIDIZER IS IN OPERATION, THE OXIDIZER'S INLET AND OUTLET TEMPERATURE AND PRESSURE DROP SHALL BE CONTINUOUSLY MEASURED AND ONE-HOUR AVERAGE READINGS SHALL BE RECORDED.

12. WHEN SELECTIVE CATALYTIC REDUCTION (SCR) SYSTEM IS IN OPERATION, THE INLET AND OUTLET TEMPERATURE AND PRESSURE DROP SHALL BE CONTINUOUSLY MEASURED AND ONE-HOUR AVERAGE READINGS SHALL BE RECORDED.

13. EXCEPT DURING STARTUP AND SHUTDOWN, THE OPERATOR SHALL MAINTAIN THE TEMPERATURE AT THE INLET TO THE CATALYST BEDS BETWEEN 600 AND 850 DEG. F.

14. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING SYSTEM TO ACCURATELY INDICATE THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.

15. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION (+/- 5%) AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

16. THE OPERATOR SHALL CONTINUOUSLY ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.

17. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	600 PPMV AT 15% O2
PARTICULATES (PM10)	0.0058 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	115 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

18. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	AVERAGED OVER 15 MINUTES	OR	AVERAGED OVER 24-HR, AFTER AN INITIAL 4-MONTH DEMONSTRATION PERIOD.
CARBON MONOXIDE	250 PPMVD AT 15% O2	OR	225 PPMVD AT 15% O2
OXIDES OF NITROGEN (AS NO2)	11 PPMVD AT 15% O2	OR	9.9 PPMVD AT 15% O2
ROG OR TNMHC (AS CARBON)	30 PPMVD AT 15% O2		-

[RULE 1110.2, RULE 1303 (a) (1) – BACT FOR NH3 SLIP]

19. THE COMBINED EMISSIONS FROM THE FOUR (4) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS NO2)	828
PARTICULATES (PM10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

20. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

21. WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER (WITHIN 45 DAYS OF ANNIVERSARY OF INITIAL TEST), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT.

THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE INLET FUEL GAS AND THE ENGINE'S EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY)
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

22 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NOx: 45.4 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26), UNTIL 12/31/2015
ROG: 315 PPMV, RULE 1110.2 (WITH ECF ADJUSTMENT FACTOR = 1.26), UNTIL 12/31/2015
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.

December 3, 2013

OCSD J-111 CenGen Emission Controls Project

Basis for Urea Storage Tank Sizing, Delivery, and Metering (Consumption) Calculation:

Since NOx is a mix of NO and NO_2, the actual urea consumption would vary with the ratio of NO/NO_2 in the NOx, and hence is difficult to calculate. Therefore, the operating data from the existing pilot plant (Engine No. 1 at Plant No. 1) data was used as a basis for the design. Based on the actual operating data from October 2012 to May 2013, the correlation between Inlet NOx and Urea Flow Rate was determined as shown in the Table below. The engine loads were in the 90 to 100% range for all data. The calculated outlet NOx is within the AQMD allowable limits for all cases.

Table: Calculated values of Urea Flow Rate and Outlet NOx

Inlet NOx (ppm)	Urea Flow Rate (gph)	Outlet NOx (ppm)
50	0.9569	9.242
40	0.7539	7.487
30	0.5509	5.732
20	0.3479	3.977
10	0.1449	2.222

The new system is specified to be designed with a maximum Inlet NOx of 50 ppm which would require approximately 1 gph of urea per Table above. OCSD standard is to have a minimum of 7 days storage.

Plant 1

Design urea flow rate for each engine = 1 gph
Daily consumption for two engines at Plant 1 = 2 * 1 gph * 24 h/day = 48 gal/day
7 Day consumption at Plant 1 = 7 * 48 gal = 336 gal
2 tanks, each 1000 gal capacity are provided at Plant 1. The urea dosing pumps (2 for each engine) would have a capacity of 1 gph.

Plant 2

The ratio of the exhaust air flow rates of Plant 2 engine over Plant 1 engine is approximately 1.3. The urea flow rate would be correspondingly larger.

Design urea flow rate for each engine = 1.30 gph
Daily consumption for four engines at Plant 2 = 4 * 1.30 gph * 24 h/day = 124.8 gal/day
7 Day consumption at Plant 1 = 7 * 124.8 gal = 874 gal
2 tanks, each 2000 gal capacity are provided at Plant 2. The urea dosing pumps (2 for each engine) would have a capacity of 1.3 gph.

Basis for Urea Feedback Control System for NOx Control

The urea feed control system is specified to a proprietary system by the catalyst system supplier. The existing system on the pilot plant is a proprietary system by Johnson Matthey which is a feed forward control system based on the engine load and trimmed by the Outlet NOx. This approach was implemented at the pilot plant successfully. For this project, however, additional operating parameters such as NH_3 slip, Inlet NOx, and fuel blend will be added to the PLC as input so they are available for the catalyst system supplier to provide more enhanced system.

NH3 Slip Calculation

The NH3 slip on the current pilot engine is determined based on the following equation where CF is used as a correction factor to account for factors such as secondary reactions and limitations of the urea injection system and as a tool to adjust the calculation of total ammonia to estimate free ammonia.

NH3 = [Urea Fed – (NOx in – NOx out) /2] x CF

The CF was assumed to be equal to 1 during the pilot study. Throughout the pilot testing, differences were observed between the free ammonia measured in the field and total ammonia estimated using the calculation method. The calculated values were consistently higher than the measured values. For this project, additional testing will be conducted to determine more accurate correction factor.

Basis for CatOx and SCR Layers and Volume

Catox Units: For Johnson Matthey system, 16 whole oxidation catalyst blocks will be used for each engine. Each block will be 2 ft tall x 2 ft wide x 3 ½" thick with a volume of 1 ft^3. The blocks will be arranged in a single layer. This is consistent with the data provided in the SCAQMD Form 400-E-5 submitted with the permit application package.

SCR Catalyst Units: For Johnson Matthey system, 32 SCR catalyst blocks will be used. Each block is 2 ft wide x 2 ft tall x 3 ½" thick with a volume of 1 ft^3. The blocks will be arranged in two layers. This is consistent with the data provided in the SCAQMD Form 400-E-5 submitted with the permit application package.

Temperature Operating Range (Min. – Max.) for CatOx and SCR catalysts

The final design data may be provided after the system supplier is selected. However, our construction specs require that the catalyst housings be designed for a maximum temperature of 1250 degree F and the normal exhaust temperature of 850 degree F.

The existing Johnson Matthey system was designed based on the following temperature ranges:

- Minimum continuous operating temperature: 600º F
- Maximum continuous operating temperature: 924º F
- Maximum intermittent operating temperature: 1100ºF for max of 50 hrs.

(8) Engines operating on San Clemente Island; and engines operated by the County of Riverside for the purpose of public safety communication at Santa Rosa Peak in Riverside County, where the site is located at an elevation of higher than 7,400 feet above sea level and is without access to electric power and natural gas.

(9) Agricultural stationary engines provided that:

(A) The operator submits documentation to the Executive Officer by the applicable date in Table V when permit applications are due that the applicable electric utility has rejected an application for an electrical line extension to the location of the engines, or the Executive Officer determines that the operator does not qualify, due to no fault of the operator, for funding authorized by California Health and Safety Code Section 44229; and

(B) The operator replaces the engines, in accordance with the compliance schedule of Table IX, with engines certified by CARB to meet the Tier 4 emission standards of 40 CFR Part 1039 Section 1039.101, Table 1. These Tier 4 replacement engines shall be considered to comply with Best Available Control Technology; and

(C) The operator does not operate the Tier 4 engines in a manner that exceeds the not-to-exceed standards of 40 CFR Section 1039.101, Paragraph (e), as determined by the test methods of subdivision (g) of this rule.

TABLE IX
COMPLIANCE SCHEDULE FOR INSTALLATION OF NEW TIER 4 STATIONARY AGRICULTURAL ENGINES

Action Required	Due Date
Submit to the Executive Officer applications for permits to construct engine modifications, control equipment, or replacement engines	March 1, 2013
Initiate construction of engine modifications, control equipment, or replacement engines	September 30, 2013, or 30 days after the permit to construct is issued, whichever is later

(E) Compliance Flexibility Fee payment as calculated by the following equation:

CFF = bhp x R x Y

Where,

CFF = Compliance Flexibility Fee, $

bhp = rated brake horsepower of unit

R = Fee Rate = $47 per brake horsepower per year

Y = Number of years (up to 2 years for engines required to comply by January 1, 2016)

(3) Usage of Compliance Flexibility Fee funds

The funds collected from the Compliance Flexibility Fee will be applied to AQMD NOx reduction programs pursuant to protocols approved under District rules.

(i) Exemptions

The provisions of subdivision (d) shall not apply to:

(1) All orchard wind machines powered by an internal combustion engine.

(2) Emergency standby engines, engines used for fire-fighting and flood control, and any other emergency engines approved by the Executive Officer, which have permit conditions that limit operation to 200 hours or less per year as determined by an elapsed operating time meter, and agricultural emergency standby engines that are exempt from a District permit and operate 200 hours or less per year as determined by an elapsed operating time meter.

(3) Laboratory engines used in research and testing purposes.

(4) Engines operated for purposes of performance verification and testing of engines.

(5) Auxiliary engines used to power other engines or gas turbines during start-ups.

(6) Portable engines that are registered under the state registration program pursuant to Title 13, Article 5 of the CCR.

(7) Nonroad engines, with the exception that subparagraph (d)(2)(A) shall apply to portable generators.

TABLE IX COMPLIANCE SCHEDULE FOR INSTALLATION OF NEW TIER 4 STATIONARY AGRICULTURAL ENGINES	
Action Required	**Due Date**
Complete construction and comply with applicable requirements	January 1, 2014, or 60 days after the permit to construct is issued, whichever is later
Complete initial source testing	March 1, 2014, or 120 days after the permit to construct is issued, whichever is later

(10) An engine start-up, until sufficient operating temperatures are reached for proper operation of the emission control equipment, and an engine shutdown period. The periods shall not exceed 30 minutes, unless the Executive Officer approves a longer period not exceeding 2 hours for an engine and makes it a condition of the engine permit.

(11) An engine start-up, after an engine overhaul or major repair requiring removal of a cylinder head, for a period not to exceed four operating hours.

(12) The initial commissioning of a new engine for a period specified by permit conditions, provided the operator takes measures to reduce emissions and the duration of the commissioning to the extent possible. The commissioning period shall not exceed 150 operating hours.

- Estimated total ammonia concentration (free plus combined ammonia) calculation method using inlet and outlet NOx CEMS concentrations and the urea injection rate.

Free ammonia concentration data was collected during source testing at the stack exhaust using modified SCAQMD Method 207.1, and also routinely monitored throughout the pilot testing period using Draeger® tubes or Sensidyne® tubes at the SCR outlet. Both tests provide concentration data for free ammonia. Total ammonia was also calculated from the CEMS data based on the NOx inlet and outlet concentrations and the urea injection rate. The limitations of this total ammonia calculation are discussed in detail in a technical memorandum *OCSD Cat Ox/SCR Pilot Study: Ammonia Sampling and Calculation Methods* (Malcolm Pirnie, May 2011) found in Appendix C-2. As with the NOx data, the ammonia data presented in this section represents data collected during the pilot testing in the period from June 8, 2010 through March 31, 2011, after the urea injection rate set points were adjusted on June 8, 2010. Figure 3-3 presents the maximum total ammonia estimate for each day of the pilot test between these dates using the calculation method.

Over the course of the pilot testing period, the Draeger® tubes consistently measured free ammonia concentrations at the stack exhaust below MDL. During the same time period when the ammonia field measurements were taken, the calculated total ammonia concentration using the 15-minute block averages reported by the CEMS had a value ranging from 0 to 5 ppm of ammonia.

Estimated Total Ammonia Calculation. The calculation method for total ammonia is dependent on the NOx inlet and NOx outlet concentrations and the urea injection rate, which is continuously adjusting based on the engine load and the NOx outlet concentration. The ammonia calculation equation is shown below, where CF can be used as a correction factor to account for factors such as secondary reactions and limitations of the urea injection system, and as a tool to adjust the calculation of total ammonia to estimate free ammonia.

$$NH_3 = [\text{Urea Fed} - (\text{NOx in} - \text{NOx out})/2] \times CF$$

The CF was assumed to be equal to 1 in the present study. Throughout the pilot testing, differences were observed between the free ammonia measured in the field and total ammonia estimated using the calculation method. The calculation method assumes that the ammonia/NOx reaction is the only reaction consuming the urea. There is the potential for ammonia molecules to be consumed in other secondary reactions in the exhaust stream, such as those with sulfur compounds. Sulfur dioxide (SO_2) and sulfur trioxide (SO_3) can react with ammonia to produce ammonium sulfate (NH_4HSO_4) and ammonia bisulfate (ammonia hydrogen sulfate) ($(NH_4)_2SO_4$) which can precipitate out of the exhaust gas at low temperatures (300-450°F) as ammonium salts (combined ammonia). Ammonium salts have the potential to deposit on equipment downstream from

Table 3-13:
Ammonia Concentration Sampling Event Summary

Date	Engine Load (%)	Free NH_3 Field Measurement[1] (ppmv)	Total NH_3 Calculated Value[2] (ppmv)	Free NH_3 SCAQMD Method 207.1 (ppmv)
4/7/2010 & 4/8/2010	65	<MDL	1.66	0.12
	90			0.18
	105			0.43
4/21/2010	110	<MDL	0.09	N/A
4/29/2010	90	<MDL	0.00	N/A
5/6/2010	94	<MDL	2.18	N/A
5/19/2010	100	<MDL	2.54	N/A
6/29/2010	100	<MDL	0.97	N/A
7/28/2010	100	<MDL	0.63	N/A
8/12/2010	95	<MDL	2.50	N/A
11/4/2010	100	<MDL	4.95	N/A
1/12/2011	100	<MDL	0.32	N/A
2/24/2011	100	<MDL	0.09	N/A
5/10/2011	70	<MDL	1.12	0.37
	90		1.60	0.31
	110		3.12	0.38

Notes:
1) Free ammonia field measurements are taken using MDL to 2.5-3 ppm range and 2 to 30 ppm range Draeger® tubes.
2) Total ammonia was determined based on the theoretical calculation which uses NOx inlet and NOx outlet of the catalytic oxidizer/ SCR system and the urea injection rate. The calculated value reported is based on the 15-minute block averages from the CEMS for the time period when the exhaust gas sample was taken for the field measurement. No correction factor was applied.
3) <MDL: below Method Detection Limit.
4) N/A indicates not applicable. No data was taken using Method 207.1 during these field measurement events.

toxic compounds are reduced, non-detectable, or not changed. Emissions of aromatic hydrocarbons, precursors to formation of dioxins and furans, are significantly reduced. Emission of formaldehyde from the engine, the most significant source of risk from the facility, was reduced by 98% to below 1 ppm. This reduction is achieved by the oxidation catalyst. This combination of a gas cleanup system, oxidation catalyst and SCR will not increase emissions of air toxics and reduces the major source of risk from continued operation of these engines. The CEQA document for proposed amended rule 1110.2 provides additional information of air toxic impacts for the proposed rule.

OCSD's final report recommended a less restrictive averaging time for biogas engines as a result of the pilot study data. Staff analyzed several possible averaging times to determine an acceptable time period that would address the exceedances without affecting the mass emissions. Using OCSD's 15-minute raw data from its pilot study, several averaging times were evaluated; the results listed in Table 5. Consistent with OCSD's analysis, only validated 15-minute block average data was used (not including exceedances due to start-up, atypical operating conditions, breakdowns, and system adjustments).

Table 5. OCSD Pilot Study NOx CEMS Data

Averaging Time (hours)	Number of 15-minute periods >11 ppmv
0.25	182
1	18
2	4
3	4
4	4
6	2
8	0
10	0
12	0
16	0
24	0

Staff found that an 8 hour block-averaging time would address OCSD's exceedances above 11 ppmv. As a result of this analysis, staff is proposing for engines with controls achieving superior performance in terms of reducing emissions, a 24~~12~~ hour averaging time to be able to comfortably address NOx exceedances without affecting the overall mass emissions. This longer averaging time will be extended to CO as well in the Staff proposal. With the results obtained, the OCSD project has demonstrated that this type of control technology can prove effective for meeting the proposed Rule 1110.2 limits.

A consideration that is always taken when applying SCR technology is the potential for ammonia slip when injecting urea into any exhaust gas stream. Ammonia is a toxic compound, and careful control must be taken in order to prevent excess amounts from escaping out of the stack. A limit of 10 ppm was assigned on the project's research permit and the maximum level emitted was 5 ppm during the pilot demonstration. An important factor when adjusting urea injection rates is ensuring that sufficient amounts of urea are injected in response to the engine's load demand and/or NOx level in real time or as close to real time as possible. This is to prevent too much ammonia from escaping out of the stack while simultaneously preventing too little urea from entering the exhaust stream that can result in an increase in NOx out of the stack.

An installation that also uses an oxidation catalyst/SCR technology, but applied to a landfill, is located at the Ox Mountain Landfill in northern California (Figure 2). Ameresco is the facility operator of the biogas engines at this location. One of its six GE-Jenbacher engines on-site was outfitted with both a catalytic oxidizer and SCR system in 2009 and has been operating since. Data that has been obtained from the BAAQMD has shown that the proposed Rule 1110.2 limits are achievable. CEMS data obtained from 2010 shows a consistent performance level that is consistent with OCSD's pilot study. In addition, monthly emission data shows that the proposed emissions limits are being achieved on an average mass per brake horsepower hour basis. The engines experienced some problems soon after startup, but the catalysts have performed effectively since 2009. The oxidation catalyst employs a guard bed upstream of the catalyst to aid in protection from harmful contaminants. The SCR catalyst has not been replaced since start-up, and has yielded efficient NOx removal for over 26,000 hours. The NOx excursions above 11 ppm throughout the operation of this installation have been attributed to operational problems with the engines, the SCR urea injection system, and monitoring problems. There are many moving parts in a urea injection system and in CEMS equipment, so problems were experienced with plugged nozzles, condensation in sampling lines, sample pump failures, and NOx cell failures that led to NOx events above 11 ppmv. From Ameresco's experience at Ox Mountain, the oxidation catalyst has

40 CFR 63, Subpart ZZZZ

§ 63.6603 What emission limitations and operating limitations must I meet if I own or operate an existing stationary RICE located at an area source of HAP emissions?

Compliance with the numerical emission limitations established in this subpart is based on the results of testing the average of three 1-hour runs using the testing requirements and procedures in §63.6620 and Table 4 to this subpart.

(a) If you own or operate an existing stationary RICE located at an area source of HAP emissions, you must comply with the requirements in Table 2d to this subpart and the operating limitations in Table 1b and Table 2b to this subpart that apply to you.

(b) If you own or operate an existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the Federal Aid Highway System (FAHS) you do not have to meet the numerical CO emission limitations specified in Table 2d to this subpart. Existing stationary non-emergency CI RICE greater than 300 HP located at area sources in areas of Alaska not accessible by the FAHS must meet the management practices that are shown for stationary non-emergency CI RICE less than or equal to 300 HP in Table 2d to this subpart.

[75 FR 9675, Mar. 3, 2010, as amended at 75 FR 51589, Aug. 20, 2010; 76 FR 12866, Mar. 9, 2011]

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40 CFR 63, Subpart ZZZZ, Table 2d to Subpart ZZZZ of Part 63 - Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

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TABLE 2*D* TO SUBPART ZZZZ OF PART 63—REQUIREMENTS FOR EXISTING STATIONARY RICE LOCATED AT AREA SOURCES OF HAP EMISSIONS

As stated in §§ 63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement,except during periods of startup . . .	During periods of startup you must . . .
1. Non-Emergency, non-black start CI stationary RICE ≤ 300 HP	a. Change oil and filter every 1,000 hours of operation or annually, whichever comes first; [1]	Minimize the engine's time spent at idle and minimize the engine's startup time at startup to a period needed for appropriate and safe loading of the engine, not to exceed 30 minutes, after which time the non-startup emission limitations apply.
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first;c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
2. Non-Emergency, non-black start CI stationary RICE 300 <HP≤ 500	a. Limit concentration of CO in the stationary RICE exhaust to 49 ppmvd at 15 percent O2;or	

[1] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

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For each . . .	You must meet the following requirement,except during periods of startup . . .	During periods of startup you must . . .
	c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1] Sources have the option to utilize an oil analysis program as described in § 63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2] If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

[75 FR 51595, Aug. 20, 2010]

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40 CFR 63, Subpart ZZZZ, Table 1b to Subpart ZZZZ of Part 63 - Operating Limitations for Existing, New, and Reconstructed Spark Ignition 4SRB Stationary RICE >500 HP Located at a Major Source of HAP...Ignition 4SRB Stationary RICE >500 HP Located at an Ar

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TABLE 1*B* TO SUBPART ZZZZ OF PART 63—OPERATING LIMITATIONS FOR EXISTING, NEW, AND RECONSTRUCTED SPARK IGNITION 4SRB STATIONARY RICE >500 HP LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS AND EXISTING SPARK IGNITION 4SRB STATIONARY RICE >500 HP LOCATED AT AN AREA SOURCE OF HAP EMISSIONS

As stated in §§ 63.6600, 63.6603, 63.6630 and 63.6640, you must comply with the following operating limitations for existing, new and reconstructed 4SRB stationary RICE >500 HP located at a major source of HAP emissions and existing 4SRB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and using NSCR; or4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O*2* and using NSCR; or 4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O*2* and using NSCR. 2. 4SRB stationary RICE complying with the requirement to reduce formaldehyde emissions by 76 percent or more (or by 75 percent or more, if applicable) and not using NSCR; or4SRB stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 350 ppbvd or less at 15 percent O*2* and not using NSCR; or 4SRB stationary RICE complying with the	a. Maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst measured during the initial performance test; andb. Maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 750 °F and less than or equal to 1250 °F. Comply with any operating limitations approved by the Administrator.

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For each . . .	You must meet the following operating limitation . . .
requirement to limit the concentration of formaldehyde in the stationary RICE exhaust to 2.7 ppmvd or less at 15 percent O2 and not using NSCR.	

[76 FR 12867, Mar. 9, 2011]

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40 CFR 63, Subpart ZZZZ, Table 2b to Subpart ZZZZ of Part 63 - Operating Limitations for New and Reconstructed 2SLB and Compression Ignition Stationary RICE >500 HP Located at a Major Source of HAP...Existing 4SLB Stationary RICE >500 HP Located at an Are

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TABLE 2*B* TO SUBPART ZZZZ OF PART 63— OPERATING LIMITATIONS FOR NEW AND RECONSTRUCTED 2SLB AND COMPRESSION IGNITION STATIONARY RICE >500 HP LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS, NEW AND RECONSTRUCTED 4SLB STATIONARY RICE ≥250 HP LOCATED AT A MAJOR SOURCE OF HAP EMISSIONS, EXISTING COMPRESSION IGNITION STATIONARY RICE >500 HP, AND EXISTING 4SLB STATIONARY RICE >500 HP LOCATED AT AN AREA SOURCE OF HAP EMISSIONS

As stated in §§ 63.6600, 63.6601, 63.6603, 63.6630, and 63.6640, you must comply with the following operating limitations for new and reconstructed 2SLB and compression ignition stationary RICE located at a major source of HAP emissions; new and reconstructed 4SLB stationary RICE ≥250 HP located at a major source of HAP emissions; existing compression ignition stationary RICE >500 HP; and existing 4SLB stationary RICE >500 HP located at an area source of HAP emissions that operate more than 24 hours per calendar year:

For each . . .	You must meet the following operating limitation . . .
1. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in the stationary RICE exhaust and using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and using an oxidation catalyst	a. maintain your catalyst so that the pressure drop across the catalyst does not change by more than 2 inches of water at 100 percent load plus or minus 10 percent from the pressure drop across the catalyst that was measured during the initial performance test; andb. maintain the temperature of your stationary RICE exhaust so that the catalyst inlet temperature is greater than or equal to 450 °F and less than or equal to 1350 °F.[1]
2. 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to reduce CO emissions and not using an oxidation catalyst; or 2SLB and 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of formaldehyde in	Comply with any operating limitations approved by the Administrator.

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

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For each . . .	You must meet the following operating limitation . . .
the stationary RICE exhaust and not using an oxidation catalyst; or 4SLB stationary RICE and CI stationary RICE complying with the requirement to limit the concentration of CO in the stationary RICE exhaust and not using an oxidation catalyst	

[1] Sources can petition the Administrator pursuant to the requirements of 40 CFR 63.8(g) for a different temperature range.

[75 FR 51593, Aug. 20, 2010, as amended at 76 FR 12867, Mar. 9, 2011]

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1110.2(d)(1)(E)

The ECF is as follows:

$$ECF = \frac{9250 \text{ Btus/hp-hr}}{\text{Measured } q_a \text{ in Btus/hp-hr}}$$

Measured q_a shall be based on the lower heating value of the fuel. ECF shall not be less than 1.0.

The Executive Officer may approve the burning of more than 10% natural gas in a landfill or digester gas-fired engine, when it is necessary, if: the only alternative to limiting natural gas to 10% would be shutting down the engine and flaring more landfill or digester gas; or the engine requires more natural gas in order for a waste heat recovery boiler to provide enough thermal energy to operate a sewage treatment plant, and other boilers at the facility are unable to provide the necessary thermal energy.

(D) Notwithstanding the provisions of subparagraph (d)(1)(B), the operator of any stationary engine fired by landfill or digester gas (biogas) shall not operate the engine in a manner that exceeds the emission concentration limits of Table III.

(E) Biogas engine operators that establish to the satisfaction of the Executive Officer that they have complied with the emissions limits of Table III-B by January 1, 2015 will have their respective engine permit application fees refunded.

(F) Once an engine complies with the concentration limits as specified in Table III-B, there shall be no limit on the percentage of natural gas burned.

(G) The concentration limits effective as specified in Table III-B shall not apply to engines that operate fewer than 500 hours per year or use less than 1×10^9 Btus per year (higher heating value) of fuel.

(H) An operator of a biogas engine may determine compliance with the NOx and/or CO limits of Table III-B by utilizing a longer averaging time as set forth below, provided the operator demonstrates through CEMS data that the engine is achieving a concentration at or below 9.9 ppmv for NOx and 225 ppmv for CO (if CO is elected for averaging), each corrected to 15% O_2, over a 4 month time period. An operator may utilize a monthly fixed

PSD Applicability Criteria for New Sources – On or After July 1, 2011

PSD may apply in two ways:

1. Meets the criteria for Step 1 (Jan 2 – Jun 30, 2011)

OR

2. Source has GHG PTE equal to or greater than <u>both</u>:

≥ 100,000 tpy CO_2e means that GHGs are a regulated NSR pollutant

≥ 100/250 tpy mass basis means the source is major for GHGs

Proposed

PSD Applicability Criteria for Modified Sources - January 2, 2011 to June 30, 2011

PSD applies if all of the following are met:

1. Modification is otherwise subject to PSD for another regulated NSR pollutant, and
2. GHG emissions increase and net emissions increase are both:

≥ 75,000 tpy CO_2e means that GHGs are a regulated NSR pollutant

> 0 tpy mass basis means that the net increase is "significant"

Proposed

PSD Applicability Criteria for Modified Sources – On or After July 1, 2011

- Modification is subject to PSD under Step 1 (January 2 - June 30, 2011)

i.e., source is major for a non-GHG pollutant and net GHG increase is significant

OR BOTH

1. Source PTE for GHGs is equal to or greater than:
   - 100,000 TPY CO_2e and
   - 100/250 TPY mass basis
2. Modification GHG emissions increase and net emissions increase:
   - Equal to or greater than 75,000 TPY CO_2e, and
   - Greater than -0- TPY mass basis

i.e., source is major for GHGs and net GHG increase is significant

OR

- Modification alone has GHG emissions equal to or greater than
  - 100,000 TPY CO_2e, and
  - 100/250 TPY mass basis

i.e., modification is major for GHGs in and of itself

Proposed

ELECTRONIC CODE OF FEDERAL REGULATIONS

e-CFR Data is current as of September 13, 2013

Title 40: Protection of Environment
PART 52—APPROVAL AND PROMULGATION OF IMPLEMENTATION PLANS
Subpart A—General Provisions

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§ 52.21 Prevention of significant deterioration of air quality.

(a)(1) *Plan disapproval.* The provisions of this section are applicable to any State implementation plan which has been disapproved with respect to prevention of significant deterioration of air quality in any portion of any State where the existing air quality is better than the national ambient air quality standards. Specific disapprovals are listed where applicable, in subparts B through DDD of this part. The provisions of this section have been incorporated by reference into the applicable implementation plans for various States, as provided in subparts B through DDD of this part. Where this section is so incorporated, the provisions shall also be applicable to all lands owned by the Federal Government and Indian Reservations located in such State. No disapproval with respect to a State's failure to prevent significant deterioration of air quality shall invalidate or otherwise affect the obligations of States, emission sources, or other persons with respect to all portions of plans approved or promulgated under this part.

(2) *Applicability procedures.* (i) The requirements of this section apply to the construction of any new major stationary source (as defined in paragraph (b)(1) of this section) or any project at an existing major stationary source in an area designated as attainment or unclassifiable under sections 107(d)(1)(A)(ii) or (iii) of the Act.

(ii) The requirements of paragraphs (j) through (r) of this section apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as this section otherwise provides.

(iii) No new major stationary source or major modification to which the requirements of paragraphs (j) through (r)(5) of this section apply shall begin actual construction without a permit that states that the major stationary source or major modification will meet those requirements. The Administrator has authority to issue any such permit.

(iv) The requirements of the program will be applied in accordance with the principles set out in paragraphs (a)(2)(iv)(*a*) through (*f*) of this section.

(*a*) Except as otherwise provided in paragraphs (a)(2)(v) and (vi) of this section, and consistent with the definition of major modification contained in paragraph (b)(2) of this section, a project is a major modification for a regulated NSR pollutant if it causes two types of emissions increases—a significant emissions increase (as defined in paragraph (b)(40) of this section), and a significant net emissions increase (as defined in paragraphs (b)(3) and (b)(23) of this section). The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.

(*b*) The procedure for calculating (before beginning actual construction) whether a significant emissions increase (i.e., the first step of the process) will occur depends upon the type of emissions units being modified, according to paragraphs (a)(2)(iv)(*c*) through (*f*) of this section. The procedure for calculating (before beginning actual construction) whether a significant net emissions increase will occur at the major stationary source (i.e., the second step of the process) is contained in the definition

in paragraph (b)(3) of this section. Regardless of any such preconstruction projections, a major modification results if the project causes a significant emissions increase and a significant net emissions increase.

(*c*) *Actual-to-projected-actual applicability test for projects that only involve existing emissions units.* A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the projected actual emissions (as defined in paragraph (b)(41) of this section) and the baseline actual emissions (as defined in paragraphs (b)(48)(i) and (ii) of this section), for each existing emissions unit, equals or exceeds the significant amount for that pollutant (as defined in paragraph (b)(23) of this section).

(*d*) *Actual-to-potential test for projects that only involve construction of a new emissions unit(s).* A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the potential to emit (as defined in paragraph (b)(4) of this section) from each new emissions unit following completion of the project and the baseline actual emissions (as defined in paragraph (b)(48)(iii) of this section) of these units before the project equals or exceeds the significant amount for that pollutant (as defined in paragraph (b)(23) of this section).

(*e*) [Reserved]

(*f*) *Hybrid test for projects that involve multiple types of emissions units.* A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the method specified in paragraphs (a)(2)(iv)(*c*) through (*d*) of this section as applicable with respect to each emissions unit, for each type of emissions unit equals or exceeds the significant amount for that pollutant (as defined in paragraph (b)(23) of this section).

(v) For any major stationary source for a PAL for a regulated NSR pollutant, the major stationary source shall comply with the requirements under paragraph (aa) of this section.

(b) *Definitions.* For the purposes of this section:

(1)(i) *Major stationary source* means:

(*a*) Any of the following stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant: Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input, coal cleaning plants (with thermal dryers), kraft pulp mills, portland cement plants, primary zinc smelters, iron and steel mill plants, primary aluminum ore reduction plants (with thermal dryers), primary copper smelters, municipal incinerators capable of charging more than 250 tons of refuse per day, hydrofluoric, sulfuric, and nitric acid plants, petroleum refineries, lime plants, phosphate rock processing plants, coke oven batteries, sulfur recovery plants, carbon black plants (furnace process), primary lead smelters, fuel conversion plants, sintering plants, secondary metal production plants, chemical process plants (which does not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140), fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input, petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels, taconite ore processing plants, glass fiber processing plants, and charcoal production plants;

(*b*) Notwithstanding the stationary source size specified in paragraph (b)(1)(i) of this section, any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant; or

(*c*) Any physical change that would occur at a stationary source not otherwise qualifying under paragraph (b)(1) of this section, as a major stationary source, if the changes would constitute a major stationary source by itself.

(ii) A major source that is major for volatile organic compounds or NO_X shall be considered major for ozone.

(iii) The fugitive emissions of a stationary source shall not be included in determining for any of the purposes of this section whether it is a major stationary source, unless the source belongs to one of the following categories of stationary sources:

(*a*) Coal cleaning plants (with thermal dryers);

(*b*) Kraft pulp mills;

(*c*) Portland cement plants;

(*d*) Primary zinc smelters;

(*e*) Iron and steel mills;

(*f*) Primary aluminum ore reduction plants;

(*g*) Primary copper smelters;

(*h*) Municipal incinerators capable of charging more than 250 tons of refuse per day;

(*i*) Hydrofluoric, sulfuric, or nitric acid plants;

(*j*) Petroleum refineries;

(*k*) Lime plants;

(*l*) Phosphate rock processing plants;

(*m*) Coke oven batteries;

(*n*) Sulfur recovery plants;

(*o*) Carbon black plants (furnace process);

(*p*) Primary lead smelters;

(*q*) Fuel conversion plants;

(*r*) Sintering plants;

(*s*) Secondary metal production plants;

(*t*) Chemical process plants—The term chemical processing plant shall not include ethanol production facilities that produce ethanol by natural fermentation included in NAICS codes 325193 or 312140;

(*u*) Fossil-fuel boilers (or combination thereof) totaling more than 250 million British thermal units per hour heat input;

(*v*) Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;

(*w*) Taconite ore processing plants;

(*x*) Glass fiber processing plants;

(*y*) Charcoal production plants;

(z) Fossil fuel-fired steam electric plants of more that 250 million British thermal units per hour heat input, and

(*aa*) Any other stationary source category which, as of August 7, 1980, is being regulated under section 111 or 112 of the Act.

(2)(i) *Major modification* means any physical change in or change in the method of operation of a major stationary source that would result in: a significant emissions increase (as defined in paragraph (b)(40) of this section) of a regulated NSR pollutant (as defined in paragraph (b)(50) of this section); and a significant net emissions increase of that pollutant from the major stationary source.



(ii) Any significant emissions increase (as defined at paragraph (b)(40) of this section) from any emissions units or net emissions increase (as defined in paragraph (b)(3) of this section) at a major stationary source that is significant for volatile organic compounds or NO_X shall be considered significant for ozone.

(iii) A physical change or change in the method of operation shall not include:

(*a*) Routine maintenance, repair and replacement. Routine maintenance, repair and replacement shall include, but not be limited to, any activity(s) that meets the requirements of the equipment replacement provisions contained in paragraph (cc) of this section;

NOTE TO PARAGRAPH (b)(2)(iii)(*A*): By court order on December 24, 2003, the second sentence of this paragraph (b)(2)(iii)(a) is stayed indefinitely. The stayed provisions will become effective immediately if the court terminates the stay. At that time, EPA will publish a document in the FEDERAL REGISTER advising the public of the termination of the stay.

(*b*) Use of an alternative fuel or raw material by reason of an order under sections 2 (a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 (or any superseding legislation) or by reason of a natural gas curtailment plant pursuant to the Federal Power Act;

(*c*) Use of an alternative fuel by reason of an order or rule under section 125 of the Act;

(*d*) Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;

(*e*) Use of an alternative fuel or raw material by a stationary source which:

(*1*) The source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975 pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR subpart I or 40 CFR 51.166; or

(*2*) The source is approved to use under any permit issued under 40 CFR 52.21 or under regulations approved pursuant to 40 CFR 51.166;

(*f*) An increase in the hours of operation or in the production rate, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975, pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR subpart I or 40 CFR 51.166.

(*g*) Any change in ownership at a stationary source.

(*h*) [Reserved]

(*i*) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with:

(*1*) The State implementation plan for the State in which the project is located, and

(*2*) Other requirements necessary to attain and maintain the national ambient air quality standards during the project and after it is terminated.

Adopted November 5, 2010

RULE 1714. PREVENTION OF SIGNIFICANT DETERIORATION FOR GREENHOUSE GASES

(a) Purpose

This rule sets forth preconstruction review requirements for greenhouse gases (GHG). The provisions of this rule apply only to GHGs as defined by EPA to mean the air pollutant as an aggregate group of six GHGs: carbon dioxide, nitrous oxide, methane, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. All other attainment air contaminants, as defined in Rule 1702 subdivision (a), shall be regulated for the purpose of Prevention of Significant Deterioration (PSD) requirements pursuant to Regulation XVII, excluding Rule 1714.

(b) Applicability

The provisions of this rule shall apply to any source and the owner or operator of any source subject to any GHG requirements under 40 Code of Federal Regulations Part 52.21 as incorporated into this rule.

(c) Incorporation by Reference

Except as provided below, the provisions of Title 40 of the Code of Federal Regulations (CFR) Part 52.21, are incorporated herein by reference and made part of the Rules and Regulations of the South Coast Air Quality Management District.

(1) The following subsections of 40 CFR Part 52.21 are excluded: (a)(1), (b)(13), (b)(14), (b)(15), (b)(55-58), (c), (d), (e), (f), (g), (h), (i)(1)((i-v) and (ix-xi), (i)(6-8), (k), (l), (m), (o), (p), (q), (s), (t), (u), (v), (w), (x), (y), (z), (aa), and (cc).

(2) The following term found in 40 CFR Part 52.21(b) is revised as follows:

(A) The term "administrator" means:

(i) "federal administrator" in 40 CFR 52.21(b)(17), (b)(37)(i), (b)(43), (b)(48)(ii)(c), (b)(50)(i), and (b)(51); and

(ii) Executive Officer elsewhere, as defined in Rule 102.

(d) Requirements

(1) An owner or operator must obtain a PSD permit pursuant to this rule before beginning actual construction, as defined in 40 CFR 52.21 (b)(11), of a new major stationary source or major modification to an existing major source as defined in 40 CFR 52.21 (b)(1) and (b)(2), respectively.

(2) Not withstanding the provisions of any other District Rule or Regulation, the Executive Officer shall require compliance with this rule, if applicable, prior to issuing a PSD permit for GHG emissions as required by CAA Section 165

(e) Public Participation

For major stationary sources subject to Rule 1714, after receipt of a complete application, the Executive Officer shall:

(1) Make a preliminary determination whether construction shall be approved, approved with conditions, or disapproved;

(2) Make available for public review a copy of materials the applicant submitted, a copy of the preliminary determination, a copy of the proposed permit, and a copy or summary of other materials, if any, considered in making the preliminary determination. The confidentiality of trade secrets shall be considered in accordance with Section 6254.7 of the Government Code;

(3) Notify the public, by advertisement in a newspaper of general circulation in the District, of the application, the preliminary determination, the degree of increment consumption that is expected from the source or modification, whether an alternative to an EPA approved model was used, and of the opportunity for written public comment. The applicant shall be responsible for the distribution of the public notice to each address within a 1/4-mile radius of the project or such other greater area as determined appropriate by the Executive Officer. The applicant shall provide verification to the Executive Officer that the public notice has been distributed as required by this Section. The notice shall provide 30 days from date of publication for the public to submit written comments;

(4) Send a copy of the notice of public comment to the applicant, the EPA Administrator, and to officials and agencies having cognizance over the location where the proposed construction would occur as follows: any other state or local air pollution control agencies, the chief executives of the city and county where the source would be located, any comprehensive regional land use planning agency, and any State or Federal Land Manager, or Indian Governing body whose lands may be affected by emissions from the source or modification;

(5) Provide opportunity for a public hearing for interested persons to appear and submit written or oral comments on the air quality impact of the source, alternatives to it, the control technology required, and other appropriate considerations;

(6) Consider all written comments submitted within a time specified in the notice of public comment and all comments received at any public hearing(s) in making a final decision on the approvability of the application. The Executive Officer shall make all comments available for public inspection in the same locations where the Executive Officer made available preconstruction information relating to the proposed source or modification.

(7) Make a final determination whether construction should be approved, approved with conditions, or disapproved; and

(8) Notify the applicant in writing of the final determination and make such notification available for public inspection at the same location where the Executive Officer made available preconstruction information and public comments relating to the source.

Table – 1A
Screening Emission Levels

THESE ARE NOT EMISSION LIMITS. Exceedances of these levels indicate that a screening risk assessment should be performed.

Original Listing			Toxic Air Contaminant	CAS NO	Screening Emission Level					
					25 Meter		50 Meter		100 Meter	
Cancer	Chronic	Acute			Cancer / Chronic (lbs/yr)	Acute (lbs/hr)	Cancer / Chronic (lbs/yr)	Acute (lbs/hr)	Cancer / Chronic (lbs/yr)	Acute (lbs/hr)
12/07/90	09/08/98	09/10/10	Acetaldehyde	75-07-0	1.14E+01	2.35E-01	2.99E+01	4.70E-01	8.92E+01	1.26E+00
01/08/99			Acetamide	60-35-5	1.63E+00		4.28E+00		1.27E+01	
	06/15/01	08/13/99	Acrolein	107-02-8	1.16E+01	1.25E-03	3.03E+01	2.50E-03	9.04E+01	6.69E-03
12/07/90			Acrylamide (or propenamide)	79-06-1	2.54E-02		6.65E-02		1.98E-01	
		08/13/99	Acrylic acid	79-10-7		3.00E+00		6.00E+00		1.61E+01
12/07/90	05/03/02		Acrylonitrile (or vinyl cyanide)	107-13-1	1.14E-01		2.99E-01		8.92E-01	
01/08/99			Allyl chloride*	107-05-1	5.44E+00		1.43E+01		4.25E+01	
01/08/99			Aminoanthraquinone, 2-	117-79-3	3.46E+00		9.07E+00		2.70E+01	
	08/18/00	08/13/99	Ammonia	7664-41-7	6.61E+03	1.60E+00	1.73E+04	3.20E+00	5.17E+04	8.57E+00
			Ammonium sulfate*							
01/08/99			Aniline	62-53-3	2.00E+01		5.25E+01		1.57E+02	
			Antimony trioxide*							
12/07/90	06/15/01	08/13/99	Arsenic and arsenic compounds (inorganic)	7440-38-2	1.99E-03	1.00E-04	5.22E-03	2.00E-04	1.55E-02	5.35E-04
			Arsenic compounds (other than inorganic)*							
	09/10/10	08/13/99	Arsine	7784-42-1	1.24E-02	1.00E-04	3.25E-02	2.00E-04	9.68E-02	5.35E-04
06/01/90			Asbestos	1332-21-4	5.19E-04		1.36E-03		4.06E-03	
06/01/90	08/18/00	08/13/99	Benzene (including benzene from gasoline)	71-43-2	1.14E+00	7.39E-01	2.99E+00	1.48E+00	8.92E+00	3.96E+00
12/07/90			Benzidine (and its salts)	92-87-5	2.28E-04		5.99E-04		1.78E-03	
09/08/98		08/13/99	Benzyl chloride	100-44-7	6.72E-01	1.20E-01	1.76E+00	2.40E-01	5.25E+00	6.43E-01
//90	05/03/02		Beryllium (and beryllium compounds)	7440-41-7	1.36E-02		3.56E-02		1.06E-01	
12/07/90			Bis(2-chloroethyl)ether (DCEE)	111-44-4	4.57E-02		1.20E-01		3.57E-01	
12/07/90			Bis(chloromethyl)ether	542-88-1	2.48E-03		6.51E-03		1.94E-02	
09/08/98			Bis(2-ethylhexyl)phthalate (DEHP)	117-81-7	2.28E+00		5.97E+00		1.78E+01	
			Bromine pentafluoride*							
12/07/90	06/15/01		Butadiene, 1,3-	106-99-0	1.90E-01		4.99E-01		1.49E+00	
06/01/90	06/15/01		Cadmium and cadmium compounds	7440-43-9	7.61E-03		2.00E-02		5.95E-02	
	05/03/02	08/13/99	Carbon disulfide	75-15-0	2.65E+04	3.52E+00	6.94E+04	7.04E+00	2.07E+05	1.89E+01
06/01/90	06/15/01	08/13/99	Carbon tetrachloride (Tetrachloromethane)	56-23-5	7.61E-01	1.08E+00	2.00E+00	2.16E+00	5.95E+00	5.78E+00
	08/18/00	08/13/99	Chlorine	7782-50-5	6.61E+00	1.05E-01	1.73E+01	2.10E-01	5.17E+01	5.62E-01
	06/15/01		Chlorine dioxide	10049-04-4	1.98E+01		5.20E+01		1.55E+02	
			Chloroacetophenone, 2-*							
	06/15/01		Chlorobenzene	108-90-7	3.31E+04		8.67E+04		2.58E+05	
			Chlorofluorocarbons							
			Dichlorodifluoromethane (CFC-12)*							
			Trichlorofluoromethane (CFC-11)*							
			Trichlorotrifluoroethane (CFC-113)*							
			Chlorodifluoromethane (HCFC-22)*							
01/08/99			Chloro-o-phenylenediamine, 4-	95-83-0	7.14E+00		1.87E+01		5.58E+01	

installation of the replacement engine, will be counted toward the consecutive time period; or

(B) the engine remains or will reside at a location for less than 12 consecutive months where such a period represents the full length of normal annual source operations such as a seasonal source; or

(C) the engine is removed from one location for a period and then it or its equivalent is returned to the same location thereby circumventing the portable engine residence time requirements.

The period during which the engine is maintained at a designated storage facility shall be excluded from the residency time determination.

(15) RATED BRAKE HORSEPOWER (bhp) is the rating specified by the manufacturer, without regard to any derating, and listed on the engine nameplate.

(16) RICH-BURN ENGINE WITH A THREE-WAY CATALYST means an engine designed to operate near stoichiometric conditions with a catalytic control device that simultaneously reduces emissions of NOx, CO and VOC.

(17) STATIONARY ENGINE is an engine which is either attached to a foundation or if not so attached, does not meet the definition of a portable or non-road engine and is not a motor vehicle as defined in Section 415 of the California Vehicle Code.

(18) TIER 2 AND TIER 3 DIESEL ENGINES mean engines certified by CARB to meet Tier 2 or Tier 3 emission standards in accordance with Title 13, Chapter 9, Article 4 of the CCR.

(19) USEFUL HEAT RECOVERED means the waste heat recovered from the engine exhaust and/or cooling system that is put to productive use. The waste heat recovered may be assumed to be 100% useful unless the hot water, steam or other medium is vented to the atmosphere, or sent directly to a cooling tower or other unproductive use.

(20) VOLATILE ORGANIC COMPOUND (VOC) is as defined in Rule 102.

(d) Requirements

(1) Stationary Engines:

(A) Operators of stationary engines with an amended Rule 1110.1 Emission Control Plan submitted by July 1, 1991, or an Approved Emission Control Plan, designating the permanent removal of

engines or the replacement of engines with electric motors, in accordance with subparagraph (d)(1)(B), shall do so by December 31, 1999, or not operate the engines on or after December 31, 1999 in a manner that exceeds the emission concentration limits listed in Table I:

TABLE I ALTERNATIVE TO ELECTRIFICATION CONCENTRATION LIMITS		
NO_x	VOC	CO
(ppmvd)[1]	(ppmvd)[2]	(ppmvd)[1]
11	30	70

[1] Parts per million by volume, corrected to 15% oxygen on a dry basis and averaged over 15 minutes.

[2] Parts per million by volume, measured as carbon, corrected to 15% oxygen on a dry basis and averaged over the sampling time required by the test method.

(B) The operator of any stationary engine not covered by (d)(1)(A) and not exempt from this rule shall

(i) Remove such engine permanently from service or replace the engine with an electric motor, or

(ii) Not operate the engine in a manner that exceeds the applicable emission concentration limits listed in either Table II or Table III-A or B.

TABLE II CONCENTRATION LIMITS		
NO_x (ppmvd)[1]	VOC (ppmvd)[2]	CO (ppmvd)[1]
bhp ≥ 500: 36 bhp < 500: 45	250	2000
CONCENTRATION LIMITS EFFECTIVE JULY 1, 2010		
NO_x (ppmvd)[1]	VOC (ppmvd)[2]	CO (ppmvd)[1]
bhp ≥ 500: 11 bhp < 500: 45	bhp ≥ 500: 30 bhp < 500: 250	bhp ≥ 500: 250 bhp < 500: 2000

CONCENTRATION LIMITS EFFECTIVE JULY 1, 2011		
NO_x (ppmvd)[1]	VOC (ppmvd)[2]	CO (ppmvd)[1]
11	30	250

[1] Parts per million by volume, corrected to 15% oxygen on a dry basis and averaged over 15 minutes.

[2] Parts per million by volume, measured as carbon, corrected to 15% oxygen on a dry basis and averaged over the sampling time required by the test method.

The concentration limits effective on and after July 1, 2010 shall not apply to engines that operate less than 500 hours per year or use less than 1 x 10^9 British Thermal Units (Btus) per year (higher heating value) of fuel.

If the operator of a two-stroke engine equipped with an oxidation catalyst and insulated exhaust ducts and catalyst housing demonstrates that the CO and VOC limits effective on and after July 1, 2010 are not achievable, then the Executive Officer may, with United States Environmental Protection Agency (EPA) approval, establish technologically achievable, case-by-case CO and VOC limits in place of the concentration limits effective on and after July 1, 2010. The case-by-case limits shall not exceed 250 ppmvd VOC and 2000 ppmvd CO.

If the operator of an engine that uses non-pipeline quality natural gas demonstrates that due to the varying heating value of the gas a longer averaging time is necessary, the Executive Officer may establish for the engine a longer averaging time, not to exceed six hours, for any of the concentration limits of Table II. Non-pipeline quality natural gas is a gas that does not meet the gas specifications of the local gas utility and is not supplied to the local gas utility.

(C) The operator of any stationary engine fired by landfill or digester gas (biogas) shall not operate the engine in a manner that exceeds the emission concentration limits of Table III-A, provided that the facility monthly average biogas usage by the biogas engines is

90% or more, based on the higher heating value of the fuels used. The calculation of the monthly facility biogas use percentage may exclude natural gas fired during: any electrical outage at the facility; a Stage 2 or higher electrical emergencies called by the California Independent System Operator Corporation; and when a sewage treatment plant activates an Emergency Operations Center or Incident Command System, as part of an emergency response plan, because of either high influent flows caused by precipitation or a disaster.

TABLE III-A CONCENTRATION LIMITS FOR LANDFILL AND DIGESTER GAS (BIOGAS)-FIRED ENGINES		
NO_x (ppmvd)[1]	VOC (ppmvd)[2]	CO (ppmvd)[1]
bhp ≥ 500: 36 x ECF[3] bhp < 500: 45 x ECF[3]	Landfill Gas: 40 Digester Gas: 250 x ECF[3]	2000
TABLE III-B CONCENTRATION LIMITS EFFECTIVE JANUARY 1, 2016		
NOx (ppmvd)[1]	VOC (ppmvd)[2]	CO (ppmvd)[1]
11	30	250

1 Parts per million by volume, corrected to 15% oxygen on a dry basis and averaged over 15 minutes.

2 Parts per million by volume, measured as carbon, corrected to 15% oxygen on a dry basis and averaged over the sampling time required by the test method.

3 ECF is the efficiency correction factor.

The ECF shall be 1.0 unless:

(i) The engine operator has measured the engine's net specific energy consumption (q_a), in compliance with ASME Performance Test Code PTC 17 -1973, at the average load of the engine; and

(ii) The ECF-corrected emission limit is made a condition of the engine's permit to operate.

The ECF is as follows:

$$ECF = \frac{9250 \text{ Btus/hp-hr}}{\text{Measured } q_a \text{ in Btus/hp-hr}}$$

Measured q_a shall be based on the lower heating value of the fuel. ECF shall not be less than 1.0.

The Executive Officer may approve the burning of more than 10% natural gas in a landfill or digester gas-fired engine, when it is necessary, if: the only alternative to limiting natural gas to 10% would be shutting down the engine and flaring more landfill or digester gas; or the engine requires more natural gas in order for a waste heat recovery boiler to provide enough thermal energy to operate a sewage treatment plant, and other boilers at the facility are unable to provide the necessary thermal energy.

(D) Notwithstanding the provisions of subparagraph (d)(1)(B), the operator of any stationary engine fired by landfill or digester gas (biogas) shall not operate the engine in a manner that exceeds the emission concentration limits of Table III.

(E) Biogas engine operators that establish to the satisfaction of the Executive Officer that they have complied with the emissions limits of Table III-B by January 1, 2015 will have their respective engine permit application fees refunded.

(F) Once an engine complies with the concentration limits as specified in Table III-B, there shall be no limit on the percentage of natural gas burned.

(G) The concentration limits effective as specified in Table III-B shall not apply to engines that operate fewer than 500 hours per year or use less than 1×10^9 Btus per year (higher heating value) of fuel.

(H) An operator of a biogas engine may determine compliance with the NOx and/or CO limits of Table III-B by utilizing a longer averaging time as set forth below, provided the operator demonstrates through CEMS data that the engine is achieving a concentration at or below 9.9 ppmv for NOx and 225 ppmv for CO (if CO is elected for averaging), each corrected to 15% O_2, over a 4 month time period. An operator may utilize a monthly fixed

Gaurang Rawal

From: Gaurang Rawal
Sent: Thursday, September 19, 2013 3:23 PM
To: 'Ahn, Terry'
Cc: Kogan, Vlad
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,

Urea solution storage tanks are required applications for permits to construct.

Gaurang

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Tuesday, August 20, 2013 2:22 PM
To: Gaurang Rawal
Cc: Kogan, Vlad
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Hi Gaurang,

The post-modification emissions data provided in the permit application were calculated based on the results of the annual compliance source test conducted on Plant 1 Engine 1 (with -79 pilot system) on Dec. 13, 2011. The attached excerpts from the source test report provide the summary of results you are looking for.

In regards to the urea storage tanks, we believe that they are exempt per Rule 219 m(21). It states that "Stationary equipment used exclusively to store and/or transfer organic compounds that do not contain VOCs." Urea is in a strictest sense is an organic compound. Please check out these hyperlinks: http://en.wikipedia.org/wiki/Urea and http://www.acdlabs.com/iupac/nomenclature/79/r79_661.htm (this is IUPAC rule for naming urea as an organic compound).

Please let me know if you need anything else.

Terry

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Friday, August 16, 2013 8:23 AM
To: Ahn, Terry
Cc: Kogan, Vladimir
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,

OCSD has provided post-modifications for CGS (DGCS, CatOx and SCR) maximum emission rates for 6 pollutants based on J-79 pilot study.
Please provide Summary of Results for the pilot study that were used for post-modification emissions rate for Plant #1 & #2, Table 2.3-1 and Table 2.3-2 submitted with application (e.g. exhaust flow rate, exhaust temperature, % H2O, %O2, , concentration for air pollutants, emission rate, engine load, etc.).

Thanks,

Gaurang Rawal

From: Gaurang Rawal
Sent: Wednesday, August 07, 2013 11:47 AM
To: 'Ahn, Terry'
Cc: 'Kogan, Vladimir'
Subject: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,

Hope you had a nice and relaxing vacation and, now busy with Back to School preparations and shopping!

We have received applications for CGS IC engine's modifications applications (Plant #1 & #2) for DG cleaning system, Catox and SCR add-on controls.

Please submit separate application for each of the Urea storage tank to be installed at both plants, with estimated daily emissions-lbs/hr, lbs/day.

Also provide greenhouse gas (GHG) and CO2e emissions for each of the engine, and total emissions (GHGs and CO2e) for the project, for plant #1 & #2.

Thanks.

Gaurang Rawal
AQ Engineer
South Coast AQMD
Refinery & Waste Management
Phone: (909) 396-2543
grawal@aqmd.gov

Gaurang Rawal

From: Ahn, Terry [tahn@ocsd.com]
Sent: Tuesday, August 20, 2013 2:22 PM
To: Gaurang Rawal
Cc: Kogan, Vlad
Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2
Attachments: Dec132011_P1E1_Page 2.pdf; Dec132011_P1E1_Page A-52.pdf

Hi Gaurang,

The post-modification emissions data provided in the permit application were calculated based on the results of the annual compliance source test conducted on Plant 1 Engine 1 (with -79 pilot system) on Dec. 13, 2011. The attached excerpts from the source test report provide the summary of results you are looking for.

In regards to the urea storage tanks, we believe that they are exempt per Rule 219 m(21). It states that "Stationary equipment used exclusively to store and/or transfer organic compounds that do not contain VOCs." Urea is in a strictest sense is an organic compound. Please check out these hyperlinks: http://en.wikipedia.org/wiki/Urea and http://www.acdlabs.com/iupac/nomenclature/79/r79_661.htm (this is IUPAC rule for naming urea as an organic compound).

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To: Ahn, Terry
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Subject: RE: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,

OCSD has provided post-modifications for CGS (DGCS, CatOx and SCR) maximum emission rates for 6 pollutants based on J-79 pilot study.
Please provide Summary of Results for the pilot study that were used for post-modification emissions rate for Plant #1 & #2, Table 2.3-1 and Table 2.3-2 submitted with application (e.g. exhaust flow rate, exhaust temperature, % H2O, %O2, , concentration for air pollutants, emission rate, engine load, etc.).

Thanks,

Gaurang Rawal

From: Gaurang Rawal
Sent: Wednesday, August 07, 2013 11:47 AM
To: 'Ahn, Terry'
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Please submit separate application for each of the Urea storage tank to be installed at both plants, with estimated daily emissions-lbs/hr, lbs/day.

Also provide greenhouse gas (GHG) and CO2e emissions for each of the engine, and total emissions (GHGs and CO2e) for the project, for plant #1 & #2.

Thanks.

Gaurang Rawal
AQ Engineer
South Coast AQMD
Refinery & Waste Management
Phone: (909) 396-2543
grawal@aqmd.gov

1.0 Executive Summary and Results (Continued)

TABLE 1.1
SUMMARY OF RESULTS SCAQMD RULE 1110.2 8760 HOUR TEST & PERMIT COMPLIANCE
OCSD PLANT 1
ENGINE #1
December 13, 2011

Parameter	Units	Normal Load	High Load	Low Load	Average	Rule 1110.2 Limit
NO_x	ppmvd	6.9	6.7	6.1	6.6	-
	ppmvd @ 15% O_2	4.6	4.7	3.9	4.4	45
	lb/mmBtu	0.018	0.019	0.016	0.018	-
	Lb/Hr	0.41	0.49	0.29	0.39	-
	lbs/MMcf	11.36	11.49	9.69	10.85	-
CO	ppmvd	9.0	10.4	8.7	9.4	-
	ppmvd @ 15% O_2	6.0	7.3	5.6	6.3	590
	lb/mmBtu	0.015	0.018	0.014	0.015	-
	Lb/Hr	0.32	0.46	0.25	0.35	-
	lbs/MMcf	9.00	10.89	8.44	9.44	-
TGNMNEO	ppmv	1.00	-	-	1.00	-
	ppmvd @ 15% O_2	0.67	-	-	0.67	209
	lb/mmBtu	0.001	-	-	0.001	-
	Lb/Hr as CH_4	0.02	-	-	0.02	-
	lbs/MMcf	0.57	-	-	0.57	-
PM	gr/DSCF	0.0005	-	-	0.0005	0.0087
	Lb/Hr	0.04	-	-	0.04	-
O_2	%	12.04	12.45	11.78	12.09	-
CO_2	%	7.73	7.41	7.95	7.70	-
Inlet TRS	ppmv	<0.5	-	-	<0.5	-
	Exhaust Lb/Hr as SO_2	<0.003	<0.003	<0.002	<0.003	-
Fuel Heating Value	BTU/SCF	609	-	-	609	-
F-Factor	DSCF/MMBTU	9,397	-	-	9,397	-
Fuel Flow	SCFM	578.00	700.00	523.00	600.33	
Load	KW	1,870.0	2,467.0	1,577.0	1,971.3	-
Volume Flow [1]	DSCFM	8,017	10,011	6,506	8,178	-

[1] Calculated based on SCAQMD Methods 1-4.

SUMMARY OF VOLUME FLOW SOURCE TEST DATA AND CALCULATIONS

Facility:	OCSD PLANT 1
Source ID:	ENGINE #1

MEASURED SOURCE PARAMETERS	SYMBOL	UNITS	AVERAGE LOAD	HIGH LOAD	LOW LOAD	AVERAGE
DATE			12/13/11	12/13/11	12/13/11	
TIME			1227-1327	1106-1121	1136-1151	
STACK DIAMETER	Ds	IN	30.00	30.00	30.00	30.00
STACK AREA	Ds	FT^2	4.91	4.91	4.91	4.91
BAROMETERIC PRESSURE	Pbar	IN. Hg	29.94	29.94	29.94	29.94
STATIC PRESSURE	Pstat	IN. H2O	-0.38	-0.68	-0.23	-0.43
STACK PRESSURE	Ps	IN. Hg	29.91	29.89	29.92	29.91
AVERAGE STACK TEMPERATURE	Ts	DEG. F	424.5	461.6	415.0	433.7
AVERAGE SQ. ROOT VELOCITY PRESSURE	dP	IN. H2O	0.6995	0.8915	0.5647	0.7186
SAMPLING PARAMETERS						
STANDARD TEMPERATURE	Tstd	DEG. F	60.0	60.0	60.0	60.0
STANDARD PRESSURE	Pstd	IN. Hg	29.92	29.92	29.92	29.92
PERCENT CARBON DIOXIDE	CO2	%	7.73	7.41	7.95	7.70
PERCENT OXYGEN	O2	%	12.04	12.45	11.78	12.09
PITOT CORRECTION FACTOR	Cp		0.840	0.840	0.840	0.840
SAMPLING TIME	t	MIN.	72.0	15.0	15.0	34.0
GAS VOLUME SAMPLED	Vm	DCF	51.698	51.698	51.698	51.698
WATER VAPOR COLLECTED	Vlc	GRAMS	109.0	109.0	109.0	109.0
DRY GAS METER CORRECTION FACTOR	Y		0.9800	0.9800	0.9800	0.9800
DRY GAS METER TEMPERATURE	Tm	DEG. F	74.2	74.2	74.2	74.2
ORIFICE PRESSURE	dH	IN. H2O	1.557	1.557	1.557	1.557
CALCULATED RESULTS						
CORRECTED GAS VOLUME SAMPLED	Vmstd	DSCF	49.540	49.540	49.540	49.540
VOLUME OF WATER CONDENSED	Vwstd	SCF	5.07	5.07	5.07	5.07
MOISTURE CONTENT OF FLUE GAS	Bws	%	9.28	9.28	9.28	9.28
DRY MOLECULAR WEIGHT OF FLUE GAS	MWdry	lb/lb-mol	29.72	29.68	29.74	29.72
WET MOLECULAR WEIGHT OF FLUE GAS	MWwet	lb/lb-mol	28.63	28.60	28.65	28.63
FLUE GAS VELOCITY	Vs	ft/sec	51.05	66.47	40.97	52.83
FLUE GAS FLOW RATE (ACTUAL CONDITIONS)	ACFM	ACFM	15,034	19,577	12,066	15,559
FLUE GAS FLOW RATE (STD. CONDITIONS)	SDCFM	SDCFM	8,017	10,011	6,506	8,178
PERCENT EXCESS AIR	%EA	%	131.8	143.0	125.1	133.3

Facility INformation Detail (FIND)

Search Again | Search Results | Facility Details | Equipment List | Compliance | Emissions | Hearing Board | Transportation

Emissions

Facility ID	17301
Company Name	ORANGE COUNTY SANITATION DISTRICT
Address	10844 ELLIS AVE
	FOUNTAIN VALLEY, CA 92708

Select AER Year: 2012

Criteria Pollutants (Tons per Year):

Pollutant ID	Pollutant Description	Annual Emissions
CO	Carbon Monoxide	96.786
NOX	Nitrogen Oxides	25.584
ROG	Reactive Organic Gases	22.493
SOX	Sulfur Oxides	0.981
TSP	Total Suspended Particulates	3.044

Toxic Pollutants (Pounds per Year):

Pollutant ID	Pollutant Description	Annual Emissions
106990	1,3-Butadiene	6.501
91576	2-Methyl naphthalene [PAH, POM]	0.571
83329	ACENAPHTHENE	0.021
208968	ACENAPHTHYLENE	0.095
7664417	Ammonia	8561.749
7440382	Arsenic	0.020
191242	B[GHI] PERYLENE	0.007
71432	Benzene	60.694
205992	Benzo[b]fluoranthene	0.002
192972	Benzo[e]pyrene [PAH, POM]	0.007
7440439	Cadmium	0.019
56235	Carbon tetrachloride	4.688
18540299	Chromium (VI)	0.000
218019	Chrysene	0.011
106934	Ethylene dibromide	0.761
107062	Ethylene dichloride	0.412
206440	FLUORANTHENE	0.019
86737	FLUORENE	0.097
50000	Formaldehyde	14392.726
7439921	Lead (inorganic)	0.079
71556	Methyl chloroform	4.867
75092	Methylene chloride	39.000
91203	Naphthalene	1.455
7440020	Nickel	0.040
1151	PAHs, total, with components not reported	4.323
85018	PHENANTHRENE	0.178
129000	PYRENE	0.023
127184	Perchloroethylene	104.297
79016	Trichloroethylene	3.652

75014	Vinyl chloride	7.557

Note - Data for 2007 represents the six-month transitional period, July through December 2007, when the rules requiring annual emissions reporting changed from a fiscal year to a calendar year basis.

Gaurang Rawal

From: Kogan, Vladimir [VKOGAN@OCSD.COM]
Sent: Wednesday, August 14, 2013 2:57 PM
To: Gaurang Rawal
Cc: Colston, Jim; Rothbart, Lisa; Ahn, Terry; AbuShaban, Randa
Subject: FW: CGS ICEs' Modifications Applications, Plant #1 & #2
Attachments: GHG Summary Report_Plant1.pdf; 2011_GHG Summary Report_Plant2.pdf

Gaurang,
Per your request enclosed please find our 2011 Calendar Year GHG report for both plants. I believe that it contains all the information you have asked. We already have 2012 report but its verification is not completed and should be available by the end of this month. By the way, the engines 2012 GHG emission appeared to be even lower than in 2011. In any case, it is well below the Tailoring rule (40CFR 52.21) limits.
We are sending this material in order not to delay your review of the CGS reconstruction permit application. We need this permit as soon as possible in order to advertise the bids for the construction. It is our and other parties opinion that the EPA deferral of applicability of the Tailoring rule to the biogas processes is still valid despite the Circuit Court decision. As you know, the EPA decisions are becoming official only after their publishing in the Federal Register. In any case we firmly believe that this correspondence shouldn't result in any additional modeling, GHG BACT installation, etc. As you know we are undergoing this complex and costly project in order to reduce the engines emissions, including the emissions of greenhouse gases.
Your question regarding the urea tank will be addressed separately.
Thanks
VK

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Wednesday, August 07, 2013 11:47 AM
To: Ahn, Terry
Cc: Kogan, Vladimir
Subject: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,

Hope you had a nice and relaxing vacation and, now busy with Back to School preparations and shopping!

We have received applications for CGS IC engine's modifications applications (Plant #1 & #2) for DG cleaning system, Catox and SCR add-on controls.

Please submit separate application for each of the Urea storage tank to be installed at both plants, with estimated daily emissions-lbs/hr, lbs/day.

Also provide greenhouse gas (GHG) and CO2e emissions for each of the engine, and total emissions (GHGs and CO2e) for the project, for plant #1 & #2.

Thanks.

Gaurang Rawal
AQ Engineer
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Refinery & Waste Management
Phone: (909) 396-2543
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Natural Gas Purchases/Acquisitions:

Natural Gas Provider Name	Provider's ARB ID/Customer Number	Purchases/Acquisitions (MMBtu)
The Gas Company	10261095938	7002.43
The Gas Company	10471095009	44443.7

Subpart C: General Stationary Fuel Combustion

Gas Information Details

Gas Name	Other Gas Name	Gas Quantity	Override	Override Explanation
Methane		1.39 (Metric Tons)		
Nitrous Oxide		0.269 (Metric Tons)		
Carbon Dioxide		2244 (Metric Tons)		
Exempt Biogenic Carbon dioxide		21808 (Metric Tons)		

Unit Details:

Unit Name : Generator CGS - 3
Unit Type : RICE (Reciprocating internal combustion engine)
Unit Description : Internal Combustion Engine , Cooper Bessmer, Model No. LSVB-12-SGC, 3471 HP, 2500 KW Electric Generator, 5008500 BTU/Hr capacity.

Individual Unit Details:

Maximum Rated Heat Input Capacity: 5.0085

Electricity Generation Capacity:

Does this configuration have the capacity to generate electricity? Y
Nameplate Generating Capacity: 2.5 (MW)
Prime Mover Technology: Internal Combustion Engine
Type of Thermal Energy Generation: Cogeneration Topping Cycle
Gross Generation: 16115.504 (MWh)
Net Generation: 15376.275 (MWh)
Total Gross Thermal Output (for Congeneration or Bigeneration): 25662.094 (MMBtu)
Other Steam Used for Electricity Generation: ()
Supplemental Fuel Type: Biogas (Captured methane)
Annual Mass or Volume of Fuel Combusted: 254370000
Geothermal Steam Utilized:
Hydrogen Fuel Cell Fuel Utilized:

Emission Details: Configuration-Level Summary (User entered values):

Annual Sorbent based CO2 Emissions (metric tons): 0.0
Annual Exempt Biogenic CO2 Emissions (metric tons): 8344.5

Tier Fuel Details:

Fuel : Natural Gas (Weighted U.S. Average) (Natural Gas)
Tier Name : Tier 2 (Equation C-2a)
Tier Methodology Start Date : 2011-01-01-00:08
Tier Methodology End Date : 2011-12-31-00:08
Frequency of HHV determinations : Monthly

Tier 2 HHV Substitute Data Information. Identify each month for which the monthly HHV value is calculated using one or more substitute data values:

January	February	March	April	May	June	July	August	September	October	November	December
N	N	N	N	N	N	N	N	N	N	N	N

Fuel Emission Details:

Total CO2 emissions	Total CH4 emissions	Total N2O emissions	Total CH4 emissions CO2e	Total N2O emissions CO2e
308.0(Calculated Value Overridden)	0.01(Calculated Value Overridden)	0.001(Calculated Value Overridden)	0.1 (Metric	0.3 (Metric

(Metric Tons)	(Metric Tons)	(Metric Tons)	Tons)	Tons)

Equation Inputs:

Mass or Volume of Fuel Combusted per Year	Annual Average High Heat Value	Fuel Specific CO2 Emissions Factor	Fuel Specific CH4 Emissions Factor	Fuel Specific N2O Emissions Factor
5710000 (scf)	0.001017 (mmBtu/scf)	53.02 (kg CO2/MMBtu)	0.001 (kg CH4/MMBtu)	0.0001 (kg N2O/MMBtu)

Fuel : Biogas (Captured methane) (Biomass-Derived Fuels - Gaseous)
Tier Name : Tier 2 (Equation C-2a)
Tier Methodology Start Date : 2011-01-01-00:08
Tier Methodology End Date : 2011-12-31-00:08
Frequency of HHV determinations : Monthly

Tier 2 HHV Substitute Data Information. Identify each month for which the monthly *HHV value is calculated using one or more substitute data values*:

January	February	March	April	May	June	July	August	September	October	November	December
N	N	N	N	N	N	N	N	N	N	N	N

Fuel Emission Details:

Total CO2 emissions	Total CH4 emissions	Total N2O emissions	Total CH4 emissions CO2e	Total N2O emissions CO2e
8344.5(Calculated Value Overridden) (Metric Tons)	0.51(Calculated Value Overridden) (Metric Tons)	0.101(Calculated Value Overridden) (Metric Tons)	10.8 (Metric Tons)	31.3 (Metric Tons)

Equation Inputs:

Mass or Volume of Fuel Combusted per Year	Annual Average High Heat Value	Fuel Specific CO2 Emissions Factor	Fuel Specific CH4 Emissions Factor	Fuel Specific N2O Emissions Factor
254370000 (scf)	0.000630 (mmBtu/scf)	52.07 (kg CO2/MMBtu)	0.0032 (kg CH4/MMBtu)	0.00063 (kg N2O/MMBtu)

Unit Name : Generator CGS - 1
Unit Type : RICE (Reciprocating internal combustion engine)
Unit Description : Internal Combustion Engine , Cooper Bessmer, Model No. LSVB-12-SGC, 3471 HP, 2500 KW Electric Generator, 5008500 BTU/Hr capacity.

Individual Unit Details:
Maximum Rated Heat Input Capacity: 5.0085
Electricity Generation Capacity:
Does this configuration have the capacity to generate electricity? Y
Nameplate Generating Capacity: 2.5 (MW)
Prime Mover Technology: Internal Combustion Engine
Type of Thermal Energy Generation: Cogeneration Topping Cycle
Gross Generation: 13696.241 (MWh)
Net Generation: 12957.012 (MWh)
Total Gross Thermal Output (for Congeneration or Bigeneration): 25662.09 (MMBtu)
Other Steam Used for Electricity Generation: ()
Supplemental Fuel Type: Biogas (Captured methane)
Annual Mass or Volume of Fuel Combusted: 204300000
Geothermal Steam Utilized:
Hydrogen Fuel Cell Fuel Utilized:

Emission Details: Configuration-Level Summary (User entered values):
Annual Sorbent based CO2 Emissions (metric tons): 0.0
Annual Exempt Biogenic CO2 Emissions (metric tons): 6686.6

Tier Fuel Details:
Fuel : Natural Gas (Weighted U.S. Average) (Natural Gas)

Emission Details: Configuration-Level Summary (User entered values):
Annual Sorbent based CO2 Emissions (metric tons): 0.0
Annual Exempt Biogenic CO2 Emissions (metric tons): 6769.9

Tier Fuel Details:

Fuel : Biogas (Captured methane) (Biomass-Derived Fuels - Gaseous)
Tier Name : Tier 2 (Equation C-2a)
Tier Methodology Start Date : 2011-01-01-00:08
Tier Methodology End Date : 2011-12-31-00:08
Frequency of HHV determinations : Monthly

Tier 2 HHV Substitute Data Information. Identify each month for which the monthly HHV value is calculated using one or more substitute data values:

January	February	March	April	May	June	July	August	September	October	November	December
N	N	N	N	N	N	N	N	N	N	N	N

Fuel Emission Details:

Total CO2 emissions	Total CH4 emissions	Total N2O emissions	Total CH4 emissions CO2e	Total N2O emissions CO2e
6769.9(Calculated Value Overridden) (Metric Tons)	0.42(Calculated Value Overridden) (Metric Tons)	0.082(Calculated Value Overridden) (Metric Tons)	8.7 (Metric Tons)	25.4 (Metric Tons)

Equation Inputs:

Mass or Volume of Fuel Combusted per Year	Annual Average High Heat Value	Fuel Specific CO2 Emissions Factor	Fuel Specific CH4 Emissions Factor	Fuel Specific N2O Emissions Factor
206316000 (scf)	0.000630 (mmBtu/scf)	52.07 (kg CO2/MMBtu)	0.0032 (kg CH4/MMBtu)	0.00063 (kg N2O/MMBtu)

Fuel : Natural Gas (Weighted U.S. Average) (Natural Gas)
Tier Name : Tier 2 (Equation C-2a)
Tier Methodology Start Date : 2011-01-01-00:08
Tier Methodology End Date : 2011-12-31-00:08
Frequency of HHV determinations : Monthly

Tier 2 HHV Substitute Data Information. Identify each month for which the monthly HHV value is calculated using one or more substitute data values:

January	February	March	April	May	June	July	August	September	October	November	December
N	N	N	N	N	N	N	N	N	N	N	N

Fuel Emission Details:

Total CO2 emissions	Total CH4 emissions	Total N2O emissions	Total CH4 emissions CO2e	Total N2O emissions CO2e
215.2(Calculated Value Overridden) (Metric Tons)	0.00(Calculated Value Overridden) (Metric Tons)	0.000(Calculated Value Overridden) (Metric Tons)	0.1 (Metric Tons)	0.0 (Metric Tons)

Equation Inputs:

Mass or Volume of Fuel Combusted per Year	Annual Average High Heat Value	Fuel Specific CO2 Emissions Factor	Fuel Specific CH4 Emissions Factor	Fuel Specific N2O Emissions Factor
3986000 (scf)	0.001018 (mmBtu/scf)	53.02 (kg CO2/MMBtu)	0.001 (kg CH4/MMBtu)	0.0001 (kg N2O/MMBtu)

Unit Name : Boiler
Unit Type : OB (Boiler, other)

Unit Description : Boiler, Cleaver Brooks, Model No. NCB-700-150, 6.28MMBTU/Hr.

Individual Unit Details:

Maximum Rated Heat Input Capacity: 6.28

Electricity Generation Capacity:

Does this configuration have the capacity to generate electricity? N

Nameplate Generating Capacity: ()

Prime Mover Technology:

Type of Thermal Energy Generation:

Gross Generation: ()

Net Generation: ()

Total Gross Thermal Output (for Congeneration or Bigeneration): ()

Other Steam Used for Electricity Generation: ()

Supplemental Fuel Type:

Annual Mass or Volume of Fuel Combusted:

Geothermal Steam Utilized:

Hydrogen Fuel Cell Fuel Utilized:

Emission Details: Configuration-Level Summary (User entered values):

Annual Sorbent based CO2 Emissions (metric tons): 0.0

Annual Exempt Biogenic CO2 Emissions (metric tons): 6.0

Tier Fuel Details:

Fuel : Biogas (Captured methane) (Biomass-Derived Fuels - Gaseous)

Tier Name : Tier 2 (Equation C-2a)

Tier Methodology Start Date : 2011-01-01-00:08

Tier Methodology End Date : 2011-12-31-00:08

Frequency of HHV determinations : Monthly

Tier 2 HHV Substitute Data Information. Identify each month for which the monthly HHV value is calculated using one or more substitute data values:

January	February	March	April	May	June	July	August	September	October	November	December
N	N	N	N	N	N	N	N	N	N	N	N

Fuel Emission Details:

Total CO2 emissions	Total CH4 emissions	Total N2O emissions	Total CH4 emissions CO2e	Total N2O emissions CO2e
6.0(Calculated Value Overridden) (Metric Tons)	0.00(Calculated Value Overridden) (Metric Tons)	0.000(Calculated Value Overridden) (Metric Tons)	0.0 (Metric Tons)	0.0 (Metric Tons)

Equation Inputs:

Mass or Volume of Fuel Combusted per Year	Annual Average High Heat Value	Fuel Specific CO2 Emissions Factor	Fuel Specific CH4 Emissions Factor	Fuel Specific N2O Emissions Factor
181222 (scf)	0.000636 (mmBtu/scf)	52.07 (kg CO2/MMBtu)	0.0032 (kg CH4/MMBtu)	0.00063 (kg N2O/MMBtu)

Time And Date Report Generated: 08/30/2012 11:50

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Reference Current Permit

Permit No. G2957
A/N 486793

B Cat. 036057 Sub-D

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 1 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
   [RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
   [RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
   [RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321/3 = 440.3
NITROGEN OXIDES (AS NO2)	368 = 1221
PARTICULATES (PM10)	36 = 12.0
ROG OR TNMHC (AS CH4)	276 = 92
SULFUR DIOXIDE	36 = 12

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

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ORANGE COUNTY SANITATION DISTRICT

E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

Gaurang Rawal

From: Gaurang Rawal
Sent: Wednesday, August 07, 2013 11:47 AM
To: 'Ahn, Terry'
Cc: 'Kogan, Vladimir'
Subject: CGS ICEs' Modifications Applications, Plant #1 & #2

Terry,

Hope you had a nice and relaxing vacation and, now busy with Back to School preparations and shopping!

We have received applications for CGS IC engine's modifications applications (Plant #1 & #2) for DG cleaning system, Catox and SCR add-on controls.

Please submit separate application for each of the Urea storage tank to be installed at both plants, with estimated daily emissions-lbs/hr, lbs/day.

..lso provide greenhouse gas (GHG) and CO2e emissions for each of the engine, and total emissions (GHGs and CO2e) for the project, for plant #1 & #2.

Thanks.

Gaurang Rawal
AQ Engineer
South Coast AQMD
Refinery & Waste Management
Phone: (909) 396-2543
grawal@aqmd.gov

E- 28 | C

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Midway City Sanitary District
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Orange County Sanitation District
10844 Ellis Avenue, Fountain Valley, CA 92708
(714) 962-2411 www.ocsewers.com

December 12, 2012

Charles Tupac
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

SUBJECT: Application for Title V Permit Revision: Central Power Generation Systems Engines at Orange County Sanitation District for SCAQMD Rule 1110.2 Compliance

Please find the enclosed Title V permit revision application for the Central Power Generation Systems (CGS) located at Orange County Sanitation District's two wastewater treatment plants. The CGS at each plant consists of lean-burn internal combustion engines, fueled primarily with digester gas and supplemented with small amounts of natural gas.

The purpose of this application is to modify the existing CGS engine permits to retrofit each engine with the catalytic oxidation and selective catalytic reduction systems in order to comply with the emission limits established in recently amended SCAQMD Rule 1110.2, The following Permits-to-Operate will be modified as a result of the enclosed permit application:

- Plant No. 1 (SCAQMD Facility ID. No. 17301) CGS Engines: Permit Nos. G2957; G2956; and G2955
- Plant No. 2 (SCAQMD Facility ID. No. 29110) CGS Engines: Permit Nos. G2958; G2959; G2964; G2966; and G2967

Enclosed with this letter are:

- For Plant No. 1 (SCAQMD Facility ID. No. 17301)
  - (4) SCAQMD Form 400-A: Application for Permit or Plan Approval
  - (1) SCAQMD Form 500-A2: Title V Application Certification
  - (1) SCAQMD Form 500-C1: Title V Compliance Status Report
  - (1) SCAQMD Form 400-CEQA
  - (3) SCAQMD Form 400-E-5: SCR System, Oxidation Catalyst, and Ammonia Catalyst
  - (3) SCAQMD Form 400-PS: Plot Plan And Stack Information
  - A check in the amount of $10,390.27 for the processing fee ($894.55 for Title V Permit Revision; $4747.86 for the first engine and $4747.86 for remaining two engines)
- For Plant No. 2 (SCAQMD Facility ID. No. 29110)
  - (6) SCAQMD Form 400-A: Application for Permit or Plan Approval
  - (1) SCAQMD Form 500-A2: Title V Application Certification
  - (1) SCAQMD Form 500-C1: Title V Compliance Status Report
  - (1) SCAQMD Form 400-CEQA
  - (5) SCAQMD Form 400-E-5: SCR System, Oxidation Catalyst, and Ammonia Catalyst
  - (5) SCAQMD Form 400-PS: Plot Plan And Stack Information
  - A check in the amount of $15,138.13 for the processing fee ($894.55 for Title V Permit Revision; $4747.86 for the first engine and $9495.72 for remaining four engines)
- Supplemental Information for both plants

If you have any questions or require further information, please contact Ms. Terry Ahn at (714) 593-7082 or tahn@ocsd.com.

James Colston
Environmental Compliance Manager

TA:JC:jb
H:\dept\eng\790\Groups\Compliance\Staff\ahn\Compliance\CGS\Permits\P2 CGS Permit Mod June 2012\CGS_Dec2012_J-111_ApplCvr.doc

Enclosure(s)
cc: Gaurang Rawal (SCAQMD)

South Coast Air Quality Management District

Form 400-CEQA

California Environmental Quality Act (CEQA) Applicability

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.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[1] has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].[2] Refer to the attached instructions for guidance in completing this form.[3] 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 Permit Services at (909) 396-3385 or (909) 396-2668.

Section A - Facility Information

1. Facility Name (Business Name of Operator To Appear On The Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 17301

3. Project Description:

Installation of a catalytic oxidizer/selective catalytic reduction system on each of the Central Power Generation System engines. Expansion of the existing common digester gas cleaning system. (OCSD Job No. J-111)

Section B - Review For Exemption From Further CEQA Action

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
1.	◉	○	**A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project?** If yes, attach a copy of the signed Notice of Determination to this form.
2.	○	◉	**A request for a change of permittee only (without equipment modifications)?**
3.	○	◉	**A functionally identical permit unit replacement with no increase in rating or emissions?**
4.	○	◉	**A change of daily VOC permit limit to a monthly VOC permit limit?**
5.	○	◉	**Equipment damaged as a result of a disaster during state of emergency?**
6.	○	◉	**A Title V** (i.e., Regulation XXX) **permit renewal (without equipment modifications)?**
7.	○	◉	**A Title V administrative permit revision?**
8.	○	◉	**The conversion of an existing permit into an initial Title V permit?**

If "**Yes**" is checked for any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on page 2 and sign and date this form.

Section C - Review of Impacts Which May Trigger CEQA

Complete Parts 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	Part I - General
1.	○	○	**Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project?** 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.
2.	○	○	**Is this project part of a larger project?** If yes, attach a separate sheet to briefly describe the larger project.
			Part II - Air Quality
3.	○	○	**Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?**
4.	○	○	**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.

[1] 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.

[2] To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

[3] To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

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Section C - Review of Impacts Which May Trigger CEQA (cont.)			
	Yes	No	**Part II - Air Quality (cont.)**
5.	○	○	**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.	○	○	**Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?**
7.	○	○	**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?**[4]
			Part III – Water Resources
8.	○	○	**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.	○	○	**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.
			Part IV – Transportation/Circulation
10.			**Will the project result in** (Check all that apply):
	○	○	**a. the need for more than 350 new employees?**
	○	○	**b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?**
	○	○	**c. increase customer traffic by more than 700 visits per day?**
			Part V – Noise
11.	○	○	**Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?**
			Part VI – Public Services
12.			**Will the project create a permanent need for new or additional public services in any of the following areas** (Check all that apply):
	○	○	**a. Solid waste disposal?** Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	○	○	**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" response in Section C, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.***

Section D - Signatures

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.

1. Signature of Responsible Official of Firm:		2. Title of Responsible Official of Firm:
James D. Ruth		General Manager
3. Print Name of Responsible Official of Firm:		4. Date Signed:
James D. Ruth		12-5-12
5. Phone # of Responsible Official of Firm:	6. Fax # of Responsible Official of Firm:	7. Email of Responsible Official of Firm:
(714) 593-7110	(714) 968-4389	jruth@ocsd.com
8. Signature of Preparer, (If prepared by person other than responsible official of firm):		9. Title of Preparer:
		Regulatory Specialist
10. Print Name of Preparer:		11. Date Signed:
Terry Ahn		12/5/12
12. Phone # of Preparer:	13. Fax # of Preparer:	14. Email of Preparer:
(714) 593-7082	(714) 962-2591	tahn@ocsd.com

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

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

© South Coast Air Quality Management District, Form 400-CEQA (2009.04)

Print Form

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: Orange
12 Civic Center Plaza, Room 101
Santa Ana, CA 92701

APPLICANT:
From: (Public Agency): Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708-7018
(Address)

Project Title: Cengen Emissions Control Project (J-111)

Project Applicant: Orange County Sanitation District

Project Location - Specific: 10844 Ellis Avenue, Fountain Valley, CA 92708
OCSD - Plant No. 1(Fountain Valley) and Plant No. 2 (Huntington Beach) 22212 Brookhurst St H.B. CA 926

Project Location - City: Fount.Valley/Hunt. Bch Project Location - County: Orange

Description of Nature, Purpose and Beneficiaries of Project:
This project will install equipment at each plant to control the Central Generation emissions and comply with existing and proposed regulatory limits. The Central Generation System (CGS) engines provide both electricity and heat to our treatment plants and are permitted to operate by the South Coast Air Quality Mgmt. District.

Name of Public Agency Approving Project: Orange County Sanitation District

Name of Person or Agency Carrying Out Project: Orange County Sanitation District

Exempt Status: **(check one):**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: 15329. Cogeneration Projects at Existing
- ☐ Statutory Exemptions. State code number:

Reasons why project is exempt:
Class 29 consists of the installation of cogeneration equipment with a capacity of 50 megawatts or less at existing facilities meeting the conditions described in this section.(1)Result in no net increases in air emissions from the industrial facility, or will produce emissions lower than the amount that would require review under the new source review rules applicable in the county, and 2)complies with all state, federal, local air quality law

Lead Agency Contact Person: James Burror Area Code/Telephone/Extension: 714.593.7335

If filed by applicant:
1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project? ☒ Yes ☐ No

Signature: _____ Date: 9/20/12 Title: ENGINEERING SUPERVISOR

☒ Signed by Lead Agency ☐ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR: _____

FILED
SEP 24 2012
TOM DALY, CLERK-RECORDER
By _____ DEPUTY

POSTED
SEP 24 2012
TOM DALY, CLERK-RECORDER
By _____ DEPUTY

Recorded in Official Records, Orange County
Tom Daly, County Recorder
NO FEE
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214 OR03 Z01
0.00 50.00 0.00 0.00 0.00 0.00 0.00 0.00

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): Orange County Sanitation District

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Address 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): 10844 Ellis Avenue, Fountain Valley, CA 92708-7018

(●) Fixed Location ( ) Various Locations

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst

Manufacturer: Johnson Matthey Inc. or Equal — Catalyst Active Material: Vanadium Pentoxide

Model Number: 79449 or Equal — Type: Metallic Substrate

Size of Each Layer or Module: L: 8 ft. ____ in. W: ____ ft. 3.50 in. H: 8 ft. ____ in.

No. of Layers or Modules: 2 — Total Volume: 37.33 cu. ft. — Total Weight: 1600 lbs.

Reducing Agent

(●) Urea ( ) Anhydrous Ammonia ( ) Aqueous Ammonia ____ %

Injection Rate: 0.700 lb/hr

Reducing Agent Storage*

See Section 2.2.3 in Supplemental Information.

Diameter: ____ ft. ____ in. Height: ____ ft. ____ in. Capacity: ____ gal

Pressure Setting: ____ psia

* A separate permit may be needed for the storage equipment.

Space Velocity

Gas Flow Rate/Catalyst Volume: 44289.0 per hour

Area Velocity

Gas Flow Rate/Wetted Catalyst Surface Area: ____ ft/hr

Manufacturer's Guarantee

NOx: 11.0 ppm $\%O_2$: 15.00 — NOx: ____ gm/bhp-hr — Ammonia Slip: 5 ppm @ 15.00 $\%O_2$

Catalyst Life

2 years (expected)

Cost

Capital Cost: ____ Installation Cost: ____ Catalyst Replacement Cost: ____

Oxidation Catalyst

Oxidation Catalyst

Manufacturer: Johnson Matthey Inc. or Equal — Catalyst Active Material: Aluminum Oxide or Platinum

Model Number: 91449 or Equal — Type: 200 cpsi oxidation catalyst or Equal

Size of Each Layer or Module: L: 8 ft. ____ in. W: ____ ft. 3.3 in. H: 8 ft. ____ in.

No. of Layers or Modules: 1 — Total Volume: 18.67 cu. ft. — Total Weight: 800.00 lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: 88554.0 per hour

Manufacturer's Guarantee

VOC: 30 ppm VOC: ____ gm/bhp-hr $\%O_2$: 15.00

CO: 250 ppm CO: ____ gm/bhp-hr $\%O_2$: 15.00

Catalyst Life

2 years (expected)

Cost

Capital Cost: ____ Installation Cost: ____ Catalyst Replacement Cost: ____

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South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)

Ammonia Catalyst

Ammonia Catalyst

Manufacturer:_____ Catalyst Active Material:_____

Model Number:_____ Type:_____

Size of Each Layer or Module: L:_____ ft._____ in. W:_____ ft._____ in. H:_____ ft._____ in.

No. of Layers or Modules:_____ Total Volume:_____ cu. ft. Total Weight:_____ lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume:_____ per hour

Manufacturer's Guarantee

NH_3:_____ ppm $\%O_2$:_____

Catalyst Life

_____ years (expected)

Cost

Capital Cost:_____ Installation Cost:_____ Catalyst Replacement Cost:_____

Section C - Operation Information

Operating Temperature

Minimum Inlet Temperature: 600 °F (from cold start) Maximum Temperature: 850 °F

Warm-up Time: 2 hr. _____ min. (maximum)

Operating Schedule

Normal: 24 hours/day 7 days/week 52 weeks/yr

Maximum: 24 hours/day 7 days/week 52 weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info

Signature: _____ Date: 12/5/12

Title: Regulatory Specialist Company Name: OCSD

Name: Terry Ahn

Phone #: (714) 593-7082 Fax #: _____

Email: tahn@ocsd.com

Contact Info

Name: Terry Ahn

Title: Regulatory Specialist Company Name: OCSD

Phone #: 7145937082 Fax #: _____

Email: tahn@ocsd.com

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Form 400-PS

Plot Plan And Stack Information Form

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

CG1 - FV
G2957

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator To Appears On The Permit): Orange County Sanitation District

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Address 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): 10844 Ellis Avenue, Fountain Valley, CA 92708-7018

(●) Fixed Location ( ) Various Locations

Section B - Location Data

Plot Plan

Please attach a site map for the project with distances and scales. Identify and locate the proposed equipment on the map. A copy of the appropriate Thomas Brothers page, a web-based map, or a sketch that shows the major streets and location of the equipment is acceptable.

Location of Schools Nearby

Is the facility located within a 1/4 mile radius (1,320 feet) of the outer boundary of a school? ( ) Yes (●) No

If yes, please provide name(s) of school(s) below:

School Name: _____ **School Name:** _____

School Address: _____ **School Address:** _____

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

CA Health & Safety Code 42301.9: "School" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.

Population Density

(●) Urban ( ) Rural (<50% of land within 3 km radius accounted for by urban land use categories, i.e., multi-family dwelling or industrial.)

Zoning Classification

(●) Mixed Use Residential Commercial Zone (M-U) ( ) Service and Professional Zone (C-S) ( ) Medium Commercial (C-3)

( ) Heavy Commercial (C-4) ( ) Commercial Manufacturing (C-M)

Section C - Emission Release Parameters - Stacks, Vents

Stack Data

Stack Height: 62.00 feet (above ground level) **What is the height of the closest building nearest the stack?** 47 feet

Stack Inside Diameter: 30.00 inches **Stack Flow:** 21,222 acfm **Stack Temperature:** 500 °F

Rain Cap Present: ( ) Yes (●) No **Stack Orientation:** (●) Vertical ( ) Horizontal

If the stack height is less than 2.5 times the closest building height (H), please provide information on any building within 5xH distance from the stack (attach additional sheet if necessary):

Building #/Name: See Attached Sheet for Details **Building #/Name:** See Attached Sheet for Details

Building Height: _____ feet (above ground level) **Building Height:** _____ feet (above ground level)

Building Width: _____ feet **Building Width:** _____ feet

Building Length: _____ feet **Building Length:** _____ feet

Receptor Distance From Equipment Stack or Roof Vents/Openings

Distance to nearest residence: 1,017 feet **Distance to nearest business:** 853 feet

Building Information

Are the emissions released from vents and/or openings from a building? ( ) Yes (●) No

If yes, please provide:

Building #/Name: _____ **Building Width:** _____ feet

Building Height: _____ feet (above ground level) **Building Length:** _____ feet

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South Coast Air Quality Management District

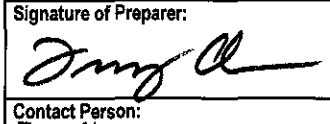
Form 400-PS

Plot Plan And Stack Information Form

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

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submittfgfed with this application is true and correct.

Signature of Preparer:	Title of Preparer:	Preparer's Phone #: (714) 593-7082 Preparer's Email: tahn@ocsd.com
	Regulatory Specialist	

Contact Person: Terry Ahn	Contact's Phone#: (714) 593-7082	Date Signed: 12/5/12
Contact's Email: tahn@ocsd.com	Contact's Fax#: (714) 593-7785	

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Check here if you claim that this form or its attachments contain confidential trade secret information: ☐

Supplement to SCAQMD Form 400-PS:

Section C Stack Data for Plant 1 Engine 1

The stack height of Engine 1 at Plant No. 1 is less than 2.5 times the closest building height (H), therefore buildings heights and distances surrounding the stack were analyzed to see if they are within the 5xH distance from the stack. The following tables provide the name, height, width, and length of buildings within the 5xH distance from the stack.

Plant No. 1 Dimension Information for Buildings within 5xHeight of Engine 1 Stack

BUILDING NAME	BUILDING HEIGHT (FT)	BUILDING WIDTH (FT)	BUILDING LENGTH (FT)
Primary Clarifier No. 5	23.95	73.8 ft (radius)[1]	
Digester No. 6	45.6	46.9 ft (radius)[1]	
Digester No. 5	45.6	46.9 ft (radius)[1]	
Gas Compression Bldg	33.14	31.6	21.4

Notes:

1) Digesters and clarifiers near the stack for Engine 1 are circular in shape. A radius of these structures is provided in lieu of a length and width for rectangular buildings.

SUPPLEMENTAL INFORMATION

APPLICATION FOR PERMITS-TO-CONSTRUCT FOR OCSD JOB NO. J-111

Orange County Sanitation District

Fountain Valley Reclamation Plant No. 1

Huntington Beach Treatment Plant No. 2

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1.0 Introduction

1.1 BACKGROUND

Orange County Sanitation District (OCSD) operates a Central Power Generation System (CGS) at each of its two wastewater treatment plants to produce electrical power and process heat for plant operations. The CGS at Reclamation Plant No. 1 located in Fountain Valley consists of three lean-burn 3,471 hp internal combustion engines each driving a 2.5 megawatt (MW) generator. The CGS at Treatment Plant No. 2 located in Huntington Beach consists of five lean-burn 4,166 hp internal combustion engines each driving a 3.0 MW generator. The CGS engines are fueled primarily with digester gas and supplemented with small amounts of natural gas.

In April 2008, OCSD conducted an emission reduction technology evaluation of the CGS engines in order to identify technologies for reducing NO_x, CO, and VOC emissions and meet the new Rule 1110.2 emission limits. After a detailed review of different technologies, OCSD determined that the post-combustion technology of catalytic oxidation/selective catalytic reduction (CatOx/SCR) system with digester gas cleaning system (DGCS) using carbon adsorption had the most potential for meeting the emission limits. Subsequently, OCSD embarked upon a full-scale pilot study (Project J-79) on April 1, 2010 CatOx/SCR system on Engine No. 1 at Plant No. 1 to determine if the digester gas-fired internal combustion engines could meet the future Rule 1110.2 requirements. The pilot study was completed on March 31, 2011. It was demonstrated that the CatOx/SCR system would meet the new Rule 1110.2 requirements.

1.2 PROJECT OVERVIEW

The purpose of the subject permit application is to obtain permits to construct the CatOx/SCR system on the remaining two CGS engines at Plant No. 1 and five CGS engines at Plant No. 2. Depending on the final engineering design which is expected in August of 2013, a modification may be required on the existing CatOx system on Engine No. 1 at Plant No. 1. In addition, new digester gas cleaning system (DGCS) and urea feed system will be constructed to serve all five engines at Plant No. 2. The existing digester gas cleaning system and the urea feed system will be expanded at Plant No. 1. This project is hereinafter known as. Project J-111.

The Project J-111 will result in a significant reduction in Nitrogen Oxides (NO_x,) Volatile Organic Compounds (VOCs), Carbon Monoxide (CO), and Toxic Air Contaminants (TACs) such as Formaldehyde at both Plant Nos. 1 and 2. Collateral reductions of Sulfur Oxides (SO_x) and Particulate Matter ($PM_{10}/PM_{2.5}$) will also be realized. The Project J-111 will require a de minimis significant permit revision to Plants No. 1 and No. 2 under SCAQMD Title V operating permitting rules. Additionally the Project J-111 will not trigger a need to obtain emission offsets since the CGS engines are being modified solely to comply with Rule 1110.2 as stipulated by SCAQMD Rule 1304(c)(4). After the Project J-111 is implemented the CGS engines at Plant Nos. 1 and 2 will continue to operate under the current combined daily mass emission limits stipulated in the Title V Permit. A tiered analysis was performed as part of the HRA requirements under SCAQMD Rule 1401. The HRA indicates that the Project J-111 will not cause any adverse impacts on nearby residential and other sensitive receptors.

1.3 APPLICATION OVERVIEW

The following sections in this air permit to construct and operate application contain a project characterization, discussion of baseline and projected criteria and TAC emissions, Health Risk Assessment (HRA), Best Available Control Technology Assessment (BACT), and discussion of federal, state, and local air quality requirements designed to provide a basis for the SCAQMD approval of a Permit to Construct (PTC) and Operate for the Project. In addition, the following Appendices are provided:

- ~~Appendix A: Proposed Equipment Description and Permit Conditions~~
- Appendix B: Preliminary Project Drawings, Diagrams, and Schematics
- Appendix C: Emission Calculation Spreadsheets for Criteria Pollutants
- Appendix D: Emission Calculation Spreadsheets for Health Risk Analysis

2.0 Project Characterization

The following sections briefly characterize the Project including a general description of the location, facility, and modified emission units, and a summary of the estimated emissions.

2.1 PROJECT LOCATION

The CGS engines for the Project are located within the property boundary of the existing Plant No. 1 facility in Fountain Valley, California and the existing Plant No. 2 facility in Huntington Beach, California. The three CGS engines at Plant No. 1 are housed inside the existing Cogeneration building, while at Plant No. 2 the five CGS engines are house inside the existing Central Power Generation Building. The location of Plant Nos. 1 and 2 are illustrated in Figures 2-1 and 2-2, respectively.

Air emissions from the CGS engines will be exhausted through the three existing vertical stacks for each engine at Plant No. 1 and the five existing vertical stacks at Plant No. 2. The modifications for the Project at each facility will cause minimal changes to the existing layout of structures surrounding the stacks.

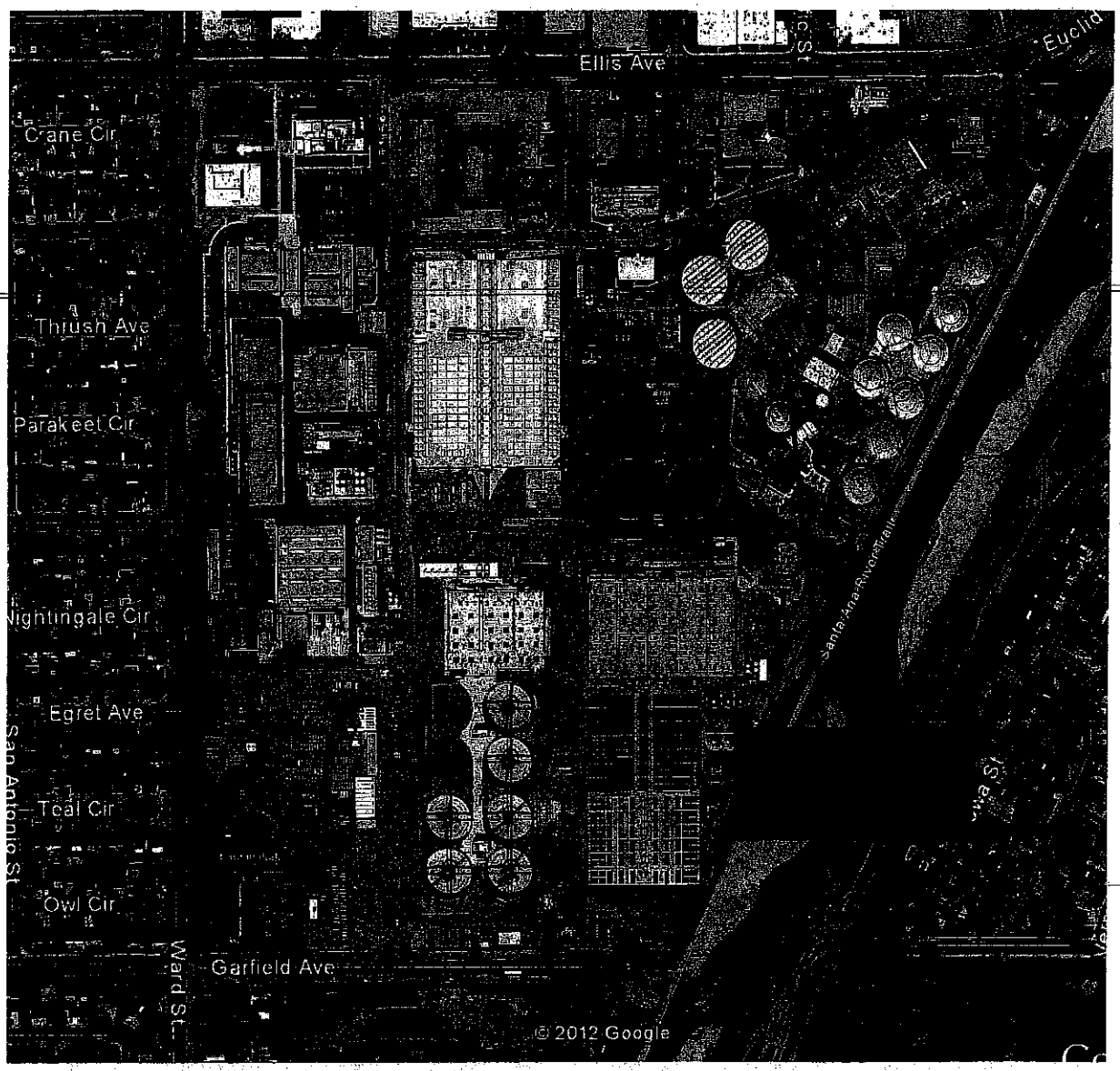

Figure 2-1 Plant 1 Area Map and Project Location



Figure 2-2 Plant 2 Area Map and Project Location

2.2 PROJECT DESCRIPTION

The CGS engines at Plant Nos. 1 and 2 are lean-burn, spark-ignited IC engines. Plant No. 1 has three 2.5 MW IC engines and Plant No. 2 has five 3 MW IC engines, fueled primarily by digester gas and supplemented by small amounts of natural gas. The CGS engines will be capable of combusting all of the digester gas produced by Plant Nos. 1 and 2 at current and at future digester gas production rates.

The digester gas at Plant Nos. 1 and 2 is generated during the anaerobic digestion of the sewage sludge produced during the wastewater treatment process. This biogas contains contaminants such as hydrogen sulfides (H_2S), VOCs, and low concentrations of volatile siloxane compounds. During combustion, the siloxanes convert to silica, sand-like particulate that deposit on the surfaces of combustion equipment contributing to a rapid degradation of engines, gas turbines, and boilers, along with media of any post-combustion control equipment. The digester gas at Plants No. 1 and 2 will pass through the Digester Gas Cleaning System (DGCS) prior to being supplied for combustion in the CGS engines. The DGCS is successful in removing contaminants such as siloxanes, H_2S, and VOCs from the digester gas, and extending the economic equipment life, as well as extending the catalyst performance life. Natural gas will be provided from an existing pipeline. The gases will be compressed and mixed in the fuel gas feeding system, which will supply the blended gas to each of the CGS engines.

After the digester gas has been cleaned by the DGCS and combusted in the CGS engines, the combustion source air emissions will pass through a CatOx/SCR, followed by SCR system prior to exhausting through a vertical stack. Each engine at Plant Nos. 1 and 2 have a dedicated exhaust stack. Continuous emissions monitoring system (CEMS) equipment for NO_x, CO and O_2 is currently installed on each exhaust stack.

The layout of the project within the existing buildings is presented in Appendix C-1 and C-2 for each facility. The design specifications for the existing CGS engines will not change as a result of the Project J-111. The major systems that have direct influence on the air emissions generated from the project are described in the following subsections.

2.2.1 Digester Gas Cleaning System

The DGCS is designed to remove siloxane compounds, H_2S, and VOCs from the digester gas prior to combustion in the engines. The ultimate goal of the system is to reduce the siloxane levels in the digester gas to a level that will not interfere with the operation of the CGS engines and the associated CatOx/SCR systems.

The J-79 pilot study installed and operated at Plant No. 1 a single vessel system containing 9,900 lbs of polymorphous graphite media (SAGTM) manufactured by Applied Filter Technology. At Plant No. 1 this system will be upgraded with the addition of a second digester gas cleaning vessel of the same design, size, and capacity adjacent to the existing vessel. The new system will be designed to scrub a maximum 2,100 scfm of digester gas for three-engine operation using a two stage arrangement consisting of a primary scrubbing vessel followed by a secondary polishing vessel. The valve and piping system will be configured such that the either vessel can function as the primary or secondary stage. This will be accomplished by using a header system connected with three port ball valves on the inlet and outlet of each vessel. The new vessel will be equipped with a bottom nozzle to facilitate the removal of the spent media and an inlet diffuser to improve the gas distribution. The existing vessel will be retrofitted with this same nozzle and diffuser.

At Plant No. 2 the Project J-111 will install three vessels of the same design, size, and capacity as the Plant No. 1 system. The new system will be designed to scrub a maximum 2,100 scfm (three engine operation) of digester gas using a two stage arrangement consisting of a primary scrubbing vessel followed by a secondary polishing vessel. The valve and piping system will be configured such that the either vessel can function as the primary or secondary stage. This will be accomplished by using a header system connected three port ball valves on the inlet and outlet of each vessel. The new vessel will be equipped with a bottom nozzle to facilitate the removal of the spent media and an inlet diffuser to improve the gas distribution. The existing vessel will be retrofitted with this same nozzle and diffuser.

2.2.2 Catalytic Oxidation and Selective Catalytic Reduction System

The J-79 pilot study installed and tested a CatOx/SCR system manufactured by Johnson Matthey on Plant No. 1, Engine 1. This system successfully reduced the NO_x, CO and VOCs below the guarantee levels during the study period. New oxidation and reduction catalyst systems of the same design, capacity, and arrangement will be added to engine 2 and engine 3 at Plant No. 1 and to the five CGS engines at Plant No. 2 to reduce the NO_x, CO and VOCs to levels below the limits set forth in the SCAQMD Rule 1110.2. These systems will consist of new exhaust ductwork from the engine manifold to the CatOx followed by the SCR catalyst and then new ductwork back to the inlet of the Heat Recovery Steam Generator (HRSG). The system will use precious metal/base metal oxidation and reduction catalysts technology on a metallic or ceramic honeycomb substrate monolith.

Urea will be injected upstream of the SCR to provide the ammonia required for the NO_x reduction reaction. Control of the urea feed rate will be maintained to keep the NO_x outlet levels within the permitted level while keeping ammonia slip to a minimum.

2.2.3 Urea Feed System

Urea will be injected into the engine exhaust gas flow upstream of the HRSGs as the reducing agent that, in the environment of the catalyst, reduces the amount of NO_x emitted. The urea feed system used in the J-79 study for Plant No. 1, Engine 1 consisted of a 1,000 gallon storage tank and automated feed system. The Project J-111 will add one new 1,000 gallon urea tank adjacent to the existing tank at Plant No. 1. The Plant No. 2 Urea Feed system will consist of two new 2,000 gallon urea tanks located below the oxidation and reduction catalyst system platform. Piping and valves will be designed so that either tank can supply all three and five SCRs at Plant Nos. 1 and 2, respectively. The urea feed systems installed at each facility will be of similar design as applied on the Plant No. 1 Engine 1 pilot study.

2.3 PROJECT J-111 EMISSIONS

The expansion of the existing DGCS and addition of CatOx/SCR systems to the existing CGS engines will impact the air emissions from the engines. As previously discussed, the Project J-111 will result in a significant reduction in NO_x, VOCs, CO, and volatile TACs such as Formaldehyde. Collateral reductions of SO_x and $PM_{10}/PM_{2.5}$ will also be realized as indicated by the stack tests conducted during the J-79 pilot study. Baseline and projected emissions of criteria pollutants, as well as the net change in emissions estimated because of the Project J-111 for each CGS Engine at Plant Nos. 1 and 2 are provided in Tables 2.3-1 and 2.3-2, respectively. The following subsections summarize the method of calculating the baseline and projected maximum hourly, daily, and annual emissions of criteria pollutants and TACs. Detailed emission calculation spreadsheets supporting

the subsections below are provided in Appendix C for criteria air pollutants and Appendix D for toxic air contaminants.

Table 2.3-1 Plant No. 1 Maximum Hourly, Daily, and Annual Baseline and Post Project Emissions Per CGS Engine

TYPE OF EMISSIONS	POLLUTANT	MAXIMUM HOURLY EMISSION RATE (LB/HR)	MAXIMUM DAILY EMISSION RATE (LB/DAY)	MAXIMUM ANNUAL EMISSION RATE (TON/YEAR)
Baseline Emissions	NO_x	5.1	122.7	22.4
	CO	18.3	440.3	80.4
	VOC	3.8	92.0	16.8
	PM_{10}	0.5	12.0	2.2
	SO_2	0.5	12.0	2.2
	NH_3 Slip	--	--	--
Post Project Emissions	NO_x	0.497	11.9	2.17
	CO	0.466	11.2	2.04
	VOC	0.027	0.64	0.12
	PM_{10}	0.054	1.28	0.23
	SO_2	0.016	0.38	0.07
	NH_3 Slip	0.309	7.42	1.35
Net Change of Emissions	NO_x	-4.6	-110.8	-20.2
	CO	-17.8	-429.1	-78.4
	VOC	-3.8	-91.4	-16.7
	PM_{10}	-0.45	-10.7	-1.97
	SO_2	-0.48	-11.6	-2.1
Calculated @ 5 ppmv	NH_3 Slip *	0.31	7.4	1.4

Sample Calculations:

- Using the equation below in Section 2.3.1, the baseline maximum hourly emission rate is calculated as:

  E_h (NO_x) = [(368 lb/day)/(3 engines)] x (1 day/24 hours) = 5.11 lb/hour

- Using the equation below in Section 2.3.1, the projected maximum hourly emission rate is calculated as:

  E_h (VOC) = (0.0264 lb/hr) x (2500 kw/2467 kw) = 0.02675 lb/hour

- Using the equation below in Section 2.3.1, the baseline maximum daily emission rate is calculated as:

  E_d (SO_2) = (0.5 lb/hr) x 24 hours/day = 12.0 lb/day

- Using the equation below in Section 2.3.1, the baseline maximum annual emission rate is calculated as:

  E_a (PM_{10}) = 12.0 lb/day x 365 days/year x 1 ton/2000 lbs = 2.19 tons/year

* BACT = 5 ppmv
For Base Load 91% (4.74005, -3.008) NH_3 slip = 5 ppmv Limit

Table 2.3-2 Plant No. 2 Maximum Hourly, Daily, and Annual Baseline and Post Project Emissions Per CGS Engine

TYPE OF EMISSIONS	POLLUTANT	MAXIMUM HOURLY EMISSION RATE (LB/HR)	MAXIMUM DAILY EMISSION RATE (LB/DAY)	MAXIMUM ANNUAL EMISSION RATE (TON/YEAR)
	NO_x	11.5	276.0	50.4
	~~CO~~	~~36.7~~	~~881.3~~	~~160.8~~
Baseline Emissions	VOC	5.2	124.0	22.6
	PM_{10}	1.0	24.0	4.38
	SO_2	1.2	28.0	5.11
	NH_3 Slip	--	--	--
Post Project Emissions	NO_x	0.596	14.3	2.61
	CO	0.559	13.4	2.45
	VOC	0.032	0.77	0.14
	PM_{10}	0.064	1.5	0.28
	SO_2	0.018	0.44	0.80
	NH_3 Slip	0.354	8.5	1.55
Net Change of Emissions	NO_x	-10.9	-261.7	-47.76
	CO	-36.1	-868	-158.4
	VOC	-5.2	-123.2	-22.49
	PM_{10}	-0.94	-22.46	-4.099
	SO_2	-1.18	-27.564	-5.0304
	NH_3 Slip	0.35	8.5	1.6

Sample Calculations:

- Using the equation below in Section 2.3.1, the baseline maximum hourly emission rate is calculated as:

  E_h (NO_x) = [(828 lb/day)/(3 engines)] x (1 day/24 hours) = 11.5 lb/hour

- Using the equation below in Section 2.3.1, the projected maximum hourly emission rate is calculated as:

  E_h (VOC) = (0.0264 lb/hr) x (3000 kw/2467 kw) = 0.0321 lb/hour

- Using the equation below in Section 2.3.1, the projected maximum daily emission rate is calculated as:

  E_d (SO_2) = (0.01818 lb/hr) x 24 hours/day = 0.436 lb/day

- Using the equation below in Section 2.3.1, the projected maximum annual emission rate is calculated as:

  E_a (PM_{10}) = 1.54 lb/day x 365 days/year x 1 ton/2000 lbs = 0.281 tons/year

2.3.1 Criteria Pollutants

Maximum Hourly – Baseline and Projected Emissions

Baseline Emissions

The maximum hourly baseline emissions of criteria pollutants from each of the CGS engines for Plant Nos. 1 and 2 are provided above in Tables 2.3-1 and 2.3-2, respectively. The baseline emissions were derived using the permitted emission rates listed in the Title V for each plant in accordance with SCAQMD Rule 1306(d)(2), which stipulates that for determining if a modified existing source needs offsets or install BACT, the baseline emissions can be based on the permitted pre-modification potential to emit. For Plant No. 1 the emission limits in the Title V permit were divided by three since there are three CGS engines. For Plant No. 2 the emission limits in the Title V permit were divided by three even though there are five engines. This is because the permit currently allows only three engines to operate simultaneously.

The following equation is used for calculating all criteria pollutant baseline emissions for Plant Nos. 1 and 2:

$$E_h = (\frac{EL}{N}) \times \frac{1\ day}{24\ hours}$$

Where, E_h = Hourly baseline emission rate (lbs/hour)
EL = Emission limit from Title V permit (lb/day)
N = Number of engines that can operate simultaneously

Projected Emissions

The maximum hourly emissions of criteria pollutants from each of the CGS engines at Plant Nos. 1 and 2 are provided above in Tables 2.3-1 and 2.3-2, respectively. The projected maximum hourly emissions for all pollutants except SO_2 at Plant Nos. 1 and 2 were developed using computed emissions factors based on Plant No. 1 Engine 1 post air quality control system stack test data. Projected SO_2 emissions were developed using the respective fuel flow rate at high load for each Plant and the maximum H_2S concentration as provided in DGCS test data from the J-79 project. Projected maximum hourly ammonia slip emissions for each Plant are based on the maximum expected NH_3 concentration (10 ppmvd) in the exhaust flow and the plant-specific exhaust conditions (temperature and maximum exhaust flow rate).

NO_x, CO, VOC, and PM_{10} Emissions for Plant Nos. 1 and 2:

$$E_h = (ER_{st}/L_{st}) \times L_m$$

Where, E_h = Hourly projected emission rate (lbs/hour)
ER_{st} = Emission rate from annual source test for Plant 1, Engine 1 dated 12/13/2011.
L_{st} = Engine rating associated with ER_{st}
L_m = Maximum rating of CGS Engine

SO_2 emissions from Plant Nos. 1 and 2:

$$E_h = (ppmv \times MW_{H2S} \times Q_{sd} \times C_1 \times \frac{MW_{SO2}}{MW_{H2S}}) \times \frac{L_{st}}{L_m}$$

Where, E_h = Hourly projected SO_2 emission rate (lbs/hour)
ppmv = DGCS outlet H_2S concentration from OCSD Project No. J-79 Final Report, Table 3-5.

Table 2.3-4 Plant No. 2 Maximum Hourly, Daily, and Annual Post Project Toxic Air Contaminant Emissions Per CGS Engine

POLLUTANT	MAXIMUM HOURLY EMISSION RATE (LB/HR)	MAXIMUM DAILY EMISSION RATE (LB/DAY)	MAXIMUM ANNUAL EMISSION RATE (TON/YEAR)
Formaldehyde	0.032	0.760	0.139
Acetaldehyde	8.11E-04	0.0195	3.55E-03
Vinyl Chloride	1.01E-04	2.42E-03	4.41E-04
Dichloromethane	1.71E-04	4.11E-03	7.51E-04
Chloroform	1.93E-04	4.63E-03	8.45E-04
1,2-dichloroethane	1.99E-04	4.77E-03	8.71E-04
1,1,1-trichloroethane	2.15E-04	5.15E-03	9.40E-04
Benzene	1.26E-04	3.02E-03	5.51E-04
Carbon Tetrachloride	2.48E-04	5.95E-03	1.09E-03
Trichloroethene	2.12E-04	5.08E-03	9.27E-04
Toluene	1.86E-04	4.46E-03	8.14E-04
Perchloroethene	2.68E-04	6.43E-03	1.17E-03
Chlorobenzene	2.28E-04	5.46E-03	9.97E-04
Xylenes (Total)	2.15E-04	5.15E-03	9.40E-04
Dichlorobenzene (Total)	5.92E-04	0.014	2.59E-03

3.0 Federal, State, and Local Air Quality Requirements

This section presents a summary of the applicability of current, proposed and future federal and SCAQMD regulations to the Project J-111 that will be implemented on the CGS engines at Plant Nos. 1 and 2.

3.1 REGULATION II – PERMITS

3.1.1 Rule 201 – Permit to Construct

Rule 201 requires that the Project obtain written authorization for the construction of new and modified sources of air contaminants. This application is being provided in support of the permit to construct application (as required under Rule 210 – Applications) to authorize the installation of the equipment being added as part of the Project J-111. This document provides the necessary information for completing the PTC application.

3.1.2 Rule 212 – Standards for Approving Permits

The Project J-111 will result in a net decrease in all short-term (lb/day) emissions, except for ammonia (See Appendix D). Ammonia emissions will occur as a byproduct of the reaction between urea and NO_x in the SCR and will be released as ammonia slip. Ammonia emissions will increase on a short-term and long-term (tons per year (tpy)) basis.

For pollutants other than ammonia, assuming 100 percent utilization of all the engines (year long, 24 x 7 operation), The Project J-111 will result in a net reduction in long-term emissions on all engines based on current emission limits in each plants' Title V permit.

Ammonia emissions have been identified by the SCAQMD as having a potential to cause chronic and acute health effects. The Project J-111 will need to demonstrate compliance with the air toxic requirements of Rule 1401 and Rule 212 (c) (3)(A) for Plant Nos. 1 and 2. Compliance with these requirements is discussed in Section 5.0 and Appendix E. The public notification requirements are applicable dependent on the distance of the nearest school to the CGS engine stacks.

For Plant No. 1, the nearest outer boundary of the Robert Gisler School is located 2,500 feet from the CGS engine stacks. The Project J-111 will also not result in emission increases beyond the daily maximum thresholds outlined in Rule 212(g). Therefore, the Project J-111 at Plant No. 1 will not be subject to the public notice requirements of Rule 212 and Rule 1401.1.

As far as Plant No. 2 is concerned, there are no schools located within 1,000 feet of the CGS engine stacks. The Project J-111 will also not result in emission increases beyond the daily maximum thresholds outlined in Rule 212(g). The Project J-111 at Plant No. 2 will not be subject to the public notice requirements.

3.1.3 Rule 218 – Continuous Emission Monitoring

Each of the CGS engines at Plant Nos. 1 and 2 have NO_x and CO CEMS to verify that the emissions do not exceed the emission limits. OCSD will continue to comply with this regulation after the implementation of the Project J-111.

3.1.4 Rule 218.1 – Continuous Emission Monitoring Performance Specifications

Each of the CGS engines at Plant Nos. 1 and 2 have NO_x and CO CEMS to verify that the emissions do not exceed the emission limits. A new Rule 218.1 was proposed in May 2012 to align the provisions

for CEMS calibration on non-operating days with the provisions in RECLAIM. OCSD will continue to comply with this regulation after the implementation of the Project J-111.

3.2 REGULATION IV – PROHIBITIONS

3.2.1 Rule 401 – Visible Emissions

Rule 401 establishes limits upon visible emissions from any single source of emissions. Visible emissions as dark or darker than No. 1 on the Ringelmann Chart for a period or periods aggregating more than 3 minutes in any 1 hour are prohibited. OCSD will continue to demonstrate compliance with Rule 401 post Project J-111 since visible emissions are not expected under normal operations due to the use of low sulfur digester gas and natural gas.

3.2.2 Rule 402 – Nuisance

Rule 402 prohibits discharge from any single source of emissions that contain quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to the public or which endanger the health or safety of a member of the public, or cause damage to business or property. The Project J-111 will demonstrate compliance with Rule 402, since nuisance problems are not expected under normal operating conditions.

3.2.3 Rule 403 – Fugitive Dust

Rule 403 is designed to reduce the amount of particulate matter entrained in the ambient air as a result of man-made fugitive dust sources. The rule requires the use of best available control measures to minimize fugitive dust formation from "active operations" including, but not limited to, earth moving, construction, and vehicular movement. The rule prohibits visible emissions that extend beyond the facility's fenceline. OCSD plans to use the best available control measures during construction.

3.2.4 Rule 404 – Particulate Matter Concentration

This rule limits the concentration of PM in CGS engine stacks. The concentration limits are dependent upon the stack gas volume discharged through each of the stacks (standard conditions and dry basis). A concentration table is provided in the rule. The engines are currently in compliance and will remain in compliance post Project J-111.

3.2.5 Rule 431.1 – Sulfur Content of Gaseous Fuels

Rule 431.1 limits SO_x emissions from the burning of gaseous fuels (including natural gas and digester gas) in stationary equipment requiring a permit to operate. The rule limits the sulfur content of natural gas (calculated as H_2S) to less than 16 ppmv. The rule limits the sulfur content of digester gas (calculated as H_2S) to less 40 ppmv on a daily basis or 40 ppmv on a monthly basis and 500 ppmv on a 15 minute basis. The digester gas currently used at Plant 1 and Plant 2, prior to being combusted, has sulfur content less than the requirements of this rule. Additionally, the proposed sulfur removal system for the Project J-111 will further reduce sulfur prior to combustion in the CGS engines. Therefore, continued compliance with Rule 431.1 is expected post the Project J-111.

3.2.6 Rule 474 – Fuel Burning Equipment – Nitrogen Oxides

Compliance with Rule 1110.2 will ensure compliance with this regulation as well.

3.3 REGULATION IX – STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES

Regulation IX incorporates by reference the federal New Source Performance Standards (NSPS) codified under 40 CFR Part 60. NSPS Subpart JJJJ Standards of Performance for Spark Ignition Engines is applicable to new, modified or reconstructed spark ignition engines. Modification under NSPS is defined as "any physical change in, or change in the method of operation of, an existing facility which increases the amount of any air pollutant (to which a standard applies) emitted into the atmosphere by that facility or which results in the emission of any air pollutant (to which a standard applies) into the atmosphere not previously emitted". The pollutants to which the standard applies for digester gas fired non-emergency engines include CO, VOCs and NO_x. Regulation IX is currently not applicable to the CGS engines at Plants No. 1 and No. 2. The Project J-111 will not result in an increase in the rated capacities of each of the CGS engines or an increase in the hourly emission rates of CO, VOC and NO_x. Therefore, Regulation IX will continue to be not applicable after Project J-111 has been implemented.

3.4 REGULATION X – NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS

Regulation X incorporates by reference the federal Maximum Achievable Control Technology (MACT) standards codified under 40 CFR Part 63. 40 CFR Part 63 Subpart ZZZZ National Emissions Standards for Hazardous Air Pollutants for Stationary Reciprocating Internal Combustion Engines is applicable to the CGS Engines. Plant Nos. 1 and 2 are classified as area sources of hazardous air pollutants (HAPs), i.e., sources with a potential to emit less than 10 tons per year of an individual HAP or 25 tons per year of a combination of HAPs. Existing digester gas fired non-emergency engines at area sources of HAPs do not have to meet any emission limitations but rather have to meet work practice standards.

The Project J-111 will not result in any new MACT requirements since the existing CGS engines will continue to be classified as existing units located at an area source of HAPs after the Project J-111 has been implemented.

3.5 REGULATION XI – SOURCE-SPECIFIC STANDARDS

3.5.1 Rule 1110.2 Emissions from Gaseous and Liquid Fueled Engines

While the CGS engines comply with the current Rule 1110.2, the recently adopted Rule 1110.2 is the driver for the Project J-111 and stipulates stringent emission limits for NO_x, VOCs and CO emissions. Rule 1110.2 is applicable for IC engines rated greater than 50 brake horse power (bhp).

The September 7, 2012 adopted rule:

- Re-establishes the effectiveness of the previously adopted 2012 limits and provides a compliance option with a longer averaging time to engine operators that can demonstrate through CEMS systems data that mass emission levels are at least 10 percent lower than allowable under the rule's proposed concentration limits for NO_x and CO.[1]
- Limits the OCSD Plant Nos. 1 and 2 CGS engine emissions to the following levels:

[1] The feasibility of the lower mass emissions was demonstrated by the recently completed pilot study by OCSD, which indicated that lower NO_x mass emissions can be achieved in conjunction with longer averaging times.

- NO_x: 11 ppmvd at 15% O_2, averaged over 15 minutes OR 9.9 ppmvd @ 15% O_2, averaged over 24-hour period, after an initial 4-month demonstration period.
- CO: 250 ppmvd at 15% O_2, averaged over 15 minutes OR 225 ppmvd @ 15% O_2, averaged over 24-hour period, after an initial 4-month demonstration period.
- VOC: 30 ppmvd at 15% O_2, averaged over 15 minutes

- Allows biogas engine operators three and a half more years to comply with the 2012 emission limits. The new effective date will be January 1, 2016 for all biogas engines.
- Provides an alternate compliance option to give operators under long term fixed price power purchase agreements entered into prior to the February 1, 2008 amendments and extending beyond the January 1, 2016 compliance date additional time (up to two years beyond the compliance date) to comply with the emission limits with the payment of a compliance flexibility fee.
- Biogas engines achieving early compliance (i.e., January 1, 2015) will have their permit application fees refunded.

3.6 REGULATION XIII – NEW SOURCE REVIEW

The NSR regulation sets forth preconstruction review requirements for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the ambient air quality standards (AAQS), and that future economic growth within the district is not unnecessarily restricted.

3.6.1 Rule 1302 – Definitions

According to Rule 1302, Plant Nos. 1 and 2 are existing major polluting facilities, because the emissions from the facilities exceeds one or more of the Major Source emission thresholds listed in the rule. Any changes to the facility will be seen as modifications, and the new or modified facilities will be subject to the NSR major modification requirements if they result in:

- An increase of one pound per day or more, of the facility's potential to emit NO_x or VOCs, or
- An increase of 40 tons per year or more, of the facility's potential to emit SO_x, or
- An increase of 15 tons per year or more, of the facility's potential to emit PM_{10};
- An increase of 50 tons per year or more, of the facility's potential to emit CO.

As shown in Tables 3.6-1 and 3.6-2 emissions of CO, NO_x, VOC, $PM_{10}/PM_{2.5}$, and SO_x are not expected to exceed the NSR major modification thresholds at Plant Nos. 1 and 2, and as such, the pollutants will not be subject to the requirements of Regulation XIII – New Source Review. However, as discussed later, ammonia emissions will be subject to Rule 1303(a) requirements for BACT. Appendix D contains the detailed emission spreadsheets for criteria pollutants.

Table 3.6-1 Plant Nos. 1 and 2 Change in Pound per Day Emissions Due to Project J-111 Modifications

POLLUTANT	BASELINE EMISSIONS (LB/DAY)		PROJECTED EMISSIONS (LB/DAY)		CHANGE IN EMISSIONS (LB/DAY)	
	Plant 1, Per CGS Engine	Plant 2, Per CGS Engine	Plant 1, Per CGS Engine	Plant 2, Per CGS Engine	Plant 1, Per CGS Engine	Plant 2, Per CGS Engine
NO_x	122.7	276.0	11.9	14.3	-110.75	-261.7
CO	440.3	881.3	11.2	13.4	-429.15	-868
VOC	92.0	124.0	0.642	0.77	-91.36	-123.2
PM_{10}	12.0	24.0	1.28	1.54	-10.72	-22.46
SO_2	12.0	24.0	0.376	0.436	-11.62	-27.56
Ammonia Slip	0.0	0.00	7.42	8.5	7.42	8.5

Table 3.6-2 Plant Nos. 1 and 2 Change in SO_x, PM_{10}, and CO Emissions Due to Project J-111 Modifications

POLLUTANT	BASELINE EMISSIONS (TON/YR)		PROJECTED EMISSIONS (TON/YR)		CHANGE IN EMISSIONS (TON/YR)	
	Plant 1, Per CGS Engine	Plant 2, Per CGS Engine	Plant 1, Per CGS Engine	Plant 2, Per CGS Engine	Plant 1, Per CGS Engine	Plant 2, Per CGS Engine
CO	80.4	160.8	2.04	2.45	-78.4	-158.4
PM_{10}	2.2	4.38	0.234	0.281	-1.97	-4.10
SO_2	2.2	5.11	0.069	0.80	-2.12	-5.03

3.6.2 Rule 1303(a) – Best Available Control Technology

BACT is applicable for any new or modified source that has emission increases of greater than 1 pound/day of CO, NO_x, VOC, PM_{10}, SO_x, lead, ammonia and ozone depleting compounds. BACT is defined in Rule 1303 – Definitions as the most stringent emission limitation or control technique which:

- Has been achieved in practice for such category or class of source.
- Is contained in any SIP approved by the USEPA for such category or class of source. A specific limitation or control technique shall not apply if the owner or operator of the proposed source demonstrates to the satisfaction of the Executive Officer or designee that such limitation or control technique is not presently achievable.
- Is any other emission limitation or control technique, found by the Executive Officer or designee to be technologically feasible for such class or category of sources or for a specific

source, and cost-effective as compared to measures as listed in the AQMP or rules adopted by the District Governing Board.

In addition, BACT for sources located at major polluting facilities, such as the OCSD Plant Nos. 1 and 2, shall be at least as stringent as the LAER as defined in the federal CAA Section 171(3).

As shown in Table 3.6-1, the implementation of the Project J-111 will result in a net decrease in pounds per day of emissions of CO, NO_x, VOC, PM_{10}, and SO_x. Consequently, BACT for these pollutants is not triggered. Due to the proposed installation of a SCR system, ammonia slip greater than 1 lb/day will occur from each CGS engine at Plant Nos. 1 and 2, thereby subjecting the engines to the BACT requirements of Rule 1303(a). OCSD proposes that a new emission limitation be added for ammonia emissions restricting ammonia slip to no greater than 10 ppmvd at 15% O_2. See section 4.0 for further discussion on BACT.

3.6.3 Rule 1303(b)(1) – Modeling

This rule requires a demonstration via air dispersion modeling analyses that new facilities or modifications will not cause a violation, or make significantly worse an existing violation of any state or national AAQS at any receptor location in the District. The Project J-111 will result in a reduction in emissions at both Plant Nos. 1 and 2, i.e., the modification will not result in an emission increase greater than Table A-1 modeling screening thresholds (see Appendix D) in the rule (on an engine-by-engine basis). Therefore, the Project J-111 will comply with the modeling requirements of Rule 1303(b)(1).

3.6.4 Rule 1303(b)(2) – Emission Offsets

This rule requires that increases in emissions be offset. The CGS engines at Plant Nos. 1 and 2 are being modified solely to comply with Rule 1110.2 which exempts each engine from needing to obtaining offsets per Rule 1304(c)(4). Additionally, on an engine by engine basis, there are no emission increases of pollutants subject to this rule beyond the trigger thresholds (4 tpy for VOCs, SO_x, PM_{10} and NO_x; and 29 tpy for CO) stipulated by Rule 1304(d)(2). Emission offsets will not be required for the Project J-111.

3.6.5 Rule 1303(b)(4) – Facility Compliance

This rule requires that the subject facility complies with all applicable rules and regulations of the district. The existing OCSD Plant Nos. 1 and 2 are currently in compliance with all applicable rules and regulations and the Project J-111 will not change this.

3.6.6 Rule 1303(b)(5) – Major Polluting Facilities

Rule 1303(b)(5) requires that any new major polluting facility or major modification at an existing major facility comply with the following requirements perform an alternative analysis, verify statewide compliance and protect visibility at nearby Class I Areas. The Project J-111 will not result in a major modification thus this regulation is not applicable.

3.7 REGULATION XIV – TOXICS

3.7.1 Rule 1401 – New Source Review of Toxic Air Contaminants

Rule 1401 requires the determination of MICR, cancer burden, and noncancer AHI and CHI associated with the operation of new sources which emit toxic air contaminants listed in Table 1 of the rule. The Project J-111, though an AQCS project, will result in new emissions of ammonia and

thus will be subject to Rule 1401 requirements. Rule 1401requirements for new sources include the following:

- MICR: 1 in 1 million without T-BACT or 10 in 1 million with T-BACT on any receptor location.
- Cancer burden cannot be greater than 0.5.
- Chronic and acute HI for any target organ cannot be greater than 1.

A HRA was performed in accordance with Rule 1401 and is presented in Appendix E. The HRA followed the tiered analysis methodology on an engine by engine basis and shows that Project J-111 will comply with Rule 1401 requirements.

3.8 REGULATION XVII – PREVENTION OF SIGNIFICANT DETERIORATION

Regulation XVII incorporates the federal Prevention of Significant Deterioration (PSD) regulations and states that the PSD review applies to major sources and major modifications of major sources located in attainment areas.

A major stationary source is defined as any one of the listed major source categories which emits, or has the PTE, 100 tpy or more of any regulated pollutant, or 250 tpy or more of any regulated pollutant if the stationary source does not fall under one of the 28 listed major source categories. Both Plant Nos. 1 and 2 are not on the listed 100 tpy major source categories; therefore the applicable major source threshold is 250 tpy. A review of Plant Nos. 1 and 2 Annual Emission Reports (AER) indicates that each plant has historically reported actual emissions of CO pretty close to (for Plant No. 1) or greater (for Plant No. 2) than 250 tpy. This means that the PTE of at least one PSD pollutant, CO in this case, is greater than the major source threshold (PTE > 250 tpy) for Plant No. 2 and it is reasonable to expect that this would likely be the case with Plant No. 1 also. Consequently, for the purposes of this application, both Plant Nos. 1 and 2 are considered existing major PSD sources.

Major modification under PSD is triggered if the modification results in an increase in emissions greater than the significant emission rates (SERs: 40 tpy for NO_x, SO_x, and VOCs; 100 tpy for CO, 15/25 tpy for PM_{10}/PM). As stated previously, the proposed Project J-111 will not result in an emission increase (on a tpy basis) greater than the SERs. Therefore, this regulation is not applicable. For similar reasons, Class I Area analysis will also not be triggered. It should also be noted here that even if there was a major modification, Rule 1704 specifically exempts facilities such as OCSD, which are classified as providers of essential public services, if BACT is installed.

3.9 REGULATION XXX – TITLE V PERMITS

The Title V Permit system is the air pollution control permit system required to implement the federal Operating Permit Program, as required by Title V of the federal CAA as amended in 1990. Plant Nos. 1 and 2 have existing Title V permits (Plant No. 1 Facility I.D. 017301, Plant No. 2 Facility I.D. 029110). This rule prohibits the construction and operation of a Title V facility or modification to a Title V facility without first obtaining a Title V permit that allows such construction or operation. This air permit application package will also serve as an application for modifying the Title V permit to operate to incorporate the Project J-111 into the Title V Permit. As such, compliance with Regulation XXX is expected.

3.10 COMPLIANCE ASSURANCE MONITORING PLAN

The Compliance Assurance Monitoring (CAM) rule under 40 CFR Part 64 took effect on November 21, 1997. CAM applies to each pollutant specific emission unit (PSEU) that meets the three conditions below. The PSEU must:

- Be subject to an emission limitation or standard, and
- Use a control device to achieve compliance, and
- Have pre-control emissions that exceed or are equivalent to the major source threshold.

The following PSEUs are excluded from the CAM rule:

- Those subject to Clean Air Act Section 111 or 112 standards promulgated after 11/15/90, since those standards have been and will be designed with monitoring that provides a reasonable assurance of compliance;
- Those subject to the acid rain program, emissions trading programs such as the acid rain program, emissions caps, or continuous compliance determination methods, i.e., where a regulatory requirement specifies a monitoring method for compliance, because CAM is believed to be redundant for these units;
- Certain municipally-owned utility units, as defined in 40 CFR 72.2, that produce electricity during periods of peak electrical demand or emergency situations since these periods or situations are infrequent.

3.10.1 Plant No. 1

The CGS engines at Plant No. 1 have emission limitations in their Title V permit for the criteria pollutants NO_x, CO, SO_2, VOC, and PM_{10}. The project will use air pollution control devices only for NO_x, CO, and VOC emissions, thus eliminating SO_2 and PM_{10} from the need for a CAM plan. For determining the PTE for NOx, CO, and VOC Note 4 of SCAQMD's Instructions for Determining Applicability to the CAM Rule (SCAQMD Form 500-H) indicates for Title V significant permit revision applications submitted after April 20, 1998, to use the post-control device PTE emissions to determine CAM applicability. Table 2.3-1 provides the projected maximum annual post-control emissions from each engine at Plant No. 1. The maximum annual post-control emissions for NO_x, CO, and VOC are below the CAM PTE emission thresholds (i.e., 10 tpy or NO_x, 50 tpy for CO, and 10 tpy for VOC) for individual emission units at a Title V facility in the South Coast Air Basin (SCAB). Additionally, the Project will install and operate CO and NO_x CEMS on each unit to monitor the emissions for these pollutants. CAM is therefore not applicable to the CGS engines at Plant No. 1.

3.10.2 Plant No. 2

The CGS engines at Plant No. 2 have emission limitations in their Title V permit for the criteria pollutants NO_x, CO, SO_2, VOC, and PM_{10}. The project will use air pollution control devices only for NO_x, CO, and VOC emissions, thus eliminating SO_2 and PM_{10} from the need for a CAM plan. For determining the PTE for NOx, CO, and VOC Note 4 of SCAQMD's Instructions for Determining Applicability to the CAM Rule (SCAQMD Form 500-H) indicates for Title V significant permit revision applications submitted after April 20, 1998, to use the post-control device PTE emissions to determine CAM applicability. Table 2.3-2 provides the projected maximum annual post-control emissions from each engine at Plant No. 2. The maximum annual post-control emissions for NO_x, CO, and VOC are below the CAM PTE emission thresholds (i.e., 10 tpy or NO_x, 50 tpy for CO, and 10

tpy for VOC) for individual emission units at a Title V facility in the South Coast Air Basin (SCAB). Additionally, the Project will install and operate CO and NO_x CEMS on each unit to monitor the emissions for these pollutants. CAM is therefore not applicable to the CGS engines at Plant No. 2.

4.0 Best Available Control Technology Assessment

BACT is applicable for any new or modified source that has emission increases of greater than 1 pound/day of CO, NO_x, VOC, PM_{10}, SO_x, lead, ammonia and ozone depleting compounds. BACT is defined in Rule 1303 – Definitions as the most stringent emission limitation or control technique which:

- Has been achieved in practice for such category or class of source.
- Is contained in any state implementation plan (SIP) approved by the USEPA for such category or class of source. A specific limitation or control technique shall not apply if the owner or operator of the proposed source demonstrates to the satisfaction of the Executive Officer or designee that such limitation or control technique is not presently achievable.
- Is any other emission limitation or control technique, found by the Executive Officer or designee to be technologically feasible for such class or category of sources or for a specific source, and cost-effective as compared to measures as listed in the Air Quality Management Plan (AQMP) or rules adopted by the District Governing Board.

In addition, BACT for sources located at major polluting facilities such as the OCSD Plant Nos. 1 and 2 shall be at least as stringent as the lowest achievable emissions rate (LAER) as defined in the federal CAA Section 171(3).

As indicated in Tables 3.6-1 and 3.6-2, the implementation of the Project J-111 will result in a net decrease in pounds per day of emissions of CO, NO_x, VOC, PM_{10}, and SO_x at Plant Nos. 1 and 2. Consequently, BACT for these pollutants is not triggered. Due to the proposed installation of a SCR system, ammonia slip greater than 1 lb/day will occur from each engine, thereby subjecting the engines to the BACT requirements of Rule 1303(a). OCSD proposes that a new emission limitation be added for ammonia emissions restricting ammonia slip to no greater than 10 ppmvd at 15% O_2.

tpy for VOC) for individual emission units at a Title V facility in the South Coast Air Basin (SCAB). Additionally, the Project will install and operate CO and NO_x CEMS on each unit to monitor the emissions for these pollutants. CAM is therefore not applicable to the CGS engines at Plant No. 2.

4.0 Best Available Control Technology Assessment

BACT is applicable for any new or modified source that has emission increases of greater than 1 pound/day of CO, NO_x, VOC, PM_{10}, SO_x, lead, ammonia and ozone depleting compounds. BACT is defined in Rule 1303 – Definitions as the most stringent emission limitation or control technique which:

- Has been achieved in practice for such category or class of source.
- Is contained in any state implementation plan (SIP) approved by the USEPA for such category or class of source. A specific limitation or control technique shall not apply if the owner or operator of the proposed source demonstrates to the satisfaction of the Executive Officer or designee that such limitation or control technique is not presently achievable.
- Is any other emission limitation or control technique, found by the Executive Officer or designee to be technologically feasible for such class or category of sources or for a specific source, and cost-effective as compared to measures as listed in the Air Quality Management Plan (AQMP) or rules adopted by the District Governing Board.

In addition, BACT for sources located at major polluting facilities such as the OCSD Plant Nos. 1 and 2 shall be at least as stringent as the lowest achievable emissions rate (LAER) as defined in the federal CAA Section 171(3).

As indicated in Tables 3.6-1 and 3.6-2, the implementation of the Project J-111 will result in a net decrease in pounds per day of emissions of CO, NO_x, VOC, PM_{10}, and SO_x at Plant Nos. 1 and 2. Consequently, BACT for these pollutants is not triggered. Due to the proposed installation of a SCR system, ammonia slip greater than 1 lb/day will occur from each engine, thereby subjecting the engines to the BACT requirements of Rule 1303(a). OCSD proposes that a new emission limitation be added for ammonia emissions restricting ammonia slip to no greater than 10 ppmvd at 15% O_2.

5.0 Toxic Air Contaminant Risk Analysis

A HRA was conducted to predict the concentration of compounds dispersed from the Plant Nos. 1 and 2 CGS engines into the environment and evaluate the risk to human health resulting from exposure to those concentrations. The HRA looks at the potential for exposure of human populations to the emissions and attempts to quantify the individual and population-wide health effects associated with exposure. The following sections discuss the HRA performed to evaluate the TAC impacts for the Project J-111.

5.1 BACKGROUND

The permitting process mandates compliance with stringent public health requirements set forth in SCAQMD Rule 1401 – New Source Review of Toxic Air Contaminants. As such, the analysis performed for the Project J-111 includes a Tier 2 Screening Risk Assessment in accordance with Version 7.0 of the *SCAQMD Risk Assessment Procedures for Rules 1041 and 212, July 1, 2005* utilizing the latest Attachment L which contains factors for calculating the carcinogenic and noncarcinogenic risks for applications deemed complete on or after July 1, 2005 (revised September 10, 2010).

According to the documentation, the *SCAQMD Risk Assessment Procedures* are based on *The Air Toxics hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* finalized by the state Office of Environmental Health Hazard Assessment (OEHHA) in August 2003 and the California *Air Resources Board (CARB) Recommended Interim Risk Management Policy of Inhalation-Based Residential Cancer Risk* issued on October 9, 2003.

5.2 HEALTH RISK ANALYSIS RESULTS

Adverse health effects from exposure to compounds are divided into two broad categories, carcinogenic and noncarcinogenic, based upon their end point of toxicity. Toxicity is quantified differently for these two categories. Carcinogenic compounds are those that may cause or induce cancer. They may also produce adverse health effects other than cancer. These noncarcinogenic (noncancer) effects include a variety of adverse impacts on health. Adverse health effects may be caused by long-term exposure to low concentrations (chronic) or short-term exposures to high concentrations (acute). In addition, noncancer health effects may occur in a specific organ, such as the liver or kidney, and result in disease or damage, or they may affect an entire system, resulting in central nervous system disorders, respiratory system distress, etc.

5.2.1 Carcinogenic Risks

Using the Tier 2 Screening Risk Analysis procedures and the projected toxic air contaminant emissions for Plant Nos. 1 and 2 provided in Tables 2.4-3 and 2.4-4, maximum individual cancer risk (MICR) was calculated for the nearest worker and residential receptor. Appendix E contains the spreadsheets that provide the MICR calculations for the nearest worker and residential receptor. The results for the calculation indicate that the MICR for the worker and residential receptor are less than the threshold risk of one in one million indicating the facilities will not pose a significant health risk. Since the maximum cancer risk is below one in one million, an analysis of cancer burden was not performed. Furthermore, since MICR for the worker and resident are below the risk threshold, a more detailed Tier 3 or Tier 4 risk assessment is not necessary.

5.2.2 Non-carcinogenic Risks (Chronic and Acute Hazards)

Using the Tier 2 Screening Risk Analysis procedures and the projected toxic air contaminant emissions for Plant Nos. 1 and 2 provided in Tables 2.4-3 and 2.4-4, respectively, noncancer risk

(also known as the chronic and acute hazard indices) have been estimated for the nearest worker and residential receptor. Appendix E contains the spreadsheets that provide the noncarcinogenic risks calculations for the nearest worker and residential receptor. The results for the calculation indicate that the chronic hazard index (CHI) and the acute hazard index (AHI) for the worker and residential receptors are less than the recommended threshold risk of 1.0 indicating the facilities will not pose a significant health risk. Furthermore, since the CHI and AHI for the worker and residential receptor are below the risk threshold, a more detailed Tier 3 or Tier 4 risk assessment is not necessary.

Appendix A Proposed Equipment Description and Permit Conditions

Proposed Equipment Description – Plant No. 1

INTERNAL COMBUSION ENGINE, COOPER BESSEMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED EQUIPPED WITH CATALYTIC OXIDATION AND SELECTIVE CATALYTIC REDUCTION SYSTEM ON THE ENGINE EXHAUST AND COMMON INLET DIGESTER GAS CLEANING SYSTEM.

Proposed Equipment Description – Plant No. 2

INTERNAL COMBUSTION ENGINE, COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-16 TYPE, MODEL NO. LSVB-16-SGC, 4166 HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 3000 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 6,010,200 BTU/HR CAPACITY, UNFIRED EQUIPPED WITH CATALYTIC OXIDATION AND SELECTIVE CATALYTIC REDUCTION SYSTEM ON THE ENGINE EXHAUST AND COMMON INLET DIGESTER GAS CLEANING SYSTEM.

Proposed Permit Conditions

For Plant Nos. 1 and 2

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% 02
PARTICULATES (PM 10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15%02

THE ABOVE EMISSION LIMITS IN PERMIT CONDITION 11 ARE APPLICABLE FOR EACH CGS ENGINE THROUGH DECEMBER 31, 2015. STARTING ON JANUARY 1, 2016 EACH CGS ENGINE WHEN IN OPERATION MUST COMPLY WITH THE FOLLOWING REVISED EMISSION LIMITS STATED IN THE AMENDED RULE 1110.2 ADOPTED ON SEPTEMBER 7, 2012:

NOX: 11 PPMVD AT 15% 02, AVERAGED OVER 15 MINUTES OR 9.9 PPMVD @ 15% 02, AVERAGED OVER 24-HOUR PERIOD, AFTER AN INITIAL 4-MONTH DEMONSTRATION PERIOD, RULE 1110.2

CO: 250 PPMVD AT 15% 02, AVERAGED OVER 15 MINUTES OR 225 PPMVD @ 15% 02, AVERAGED OVER 24-HOUR PERIOD, AFTER AN INITIAL 4-MONTH DEMONSTRATION PERIOD, RULE 1110.2

VOC: 30 PPMVD AT 15% 02, AVERAGED OVER 15 MINUTES, RULE 1110.2

THE OPERATOR SHALL MAINTAIN THE AMMONIA SLIP AT 10 PPMVD @ 15% 02, 3-RUN AVERAGE. THE OPERATOR SHALL USE BEST MANAGEMENT PRACTICES TO CONTROL UREA INJECTION TO MEET THIS EMISSION LIMIT. THE OPERATOR SHALL CONDUCT ANNUAL TESTS AS PART OF THE ANNUAL SOURCE TEST REQUIRED BY CONDITION NO. 14 USING SCAQMD METHOD 207.1 OR OTHER METHOD AS APPROVED BY THE SCAQMD.

For Plant No. 2 Only

12. THE COMBINED EMISSIONS FROM THE ~~THREE (3)~~ FIVE (5) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	2,644
NITROGEN OXIDES (AS N02)	828
PARTICULATES (PM 10)	72
ROG OR TNMHC (AS CH4)	372
SULFUR DIOXIDE	84

Appendix B Preliminary Project Drawings, Diagrams, and Schematics – Plant Nos. 1 and 2

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Project J-111

Tier II Screening Risk Assessment - Plant 1 and Plant 2 Acute and Chronic Hazard Index Calculations[1,2]

Notes [ ]

Calculations follow the methodology for Tier II Acute and Chronic Hazard Index Calculation outlined in SCAQMD Risk Assessment Procedures For Rules 1401 & 212, Version 7.0, dated July 1, 2005.
Acute and Chronic Hazard Indices are equal for all 3 Plant 1 Engines and all 5 Plant 2 Engines.
Plant 1 and Plant 2 Emission Rates were calculated using data from Annual Source Test Results for Plant 1, Engine 1 dated 12/13/2011 . An Emission Factor was calculated from the Source Test TAC Emission Rates and Engine Load. The Emission Factors were then applied to Maximum Load (2500KW for Plant 1 & 3000KW for Plant 2) to obtain the maximum emission rates for the Engines. This applies to all TACs except for Ammonia. See note [9] for the methodology used to calculate the Ammonia emission rates.
Conservatively used X/Q value for a distance of 200 m for both commercial (worker) and residential receptors.
Conservatively used X/Q value for a distance of 300 m for both commercial (worker) and residential receptors.
Stack heights for Plants 1 & 2 Engines obtained from Orange County Sanitation District Air Toxic Emission Reduction Strategic Plan, November 2004; Tables 4-4 & 4-5.
Calculations assume that all 3 Engines at Plant 1 and 5 Engines at Plant 2 will be operating 24 hrs/day, 365 days/year.
Multi-Pathway Factor (MP) is 1 for all TACs in the HIC calculations, and is therefore not displayed in the table.
Ammonia slip calculated using a 10ppmvd concentration and the maximum design flow rate for the Plant 1 and Plant 2 Engines. A 10ppmvd ammonia concentration is being proposed as a permit limit by OCSD. Maximum design flow rate for the engines obtained from Orange County Sanitation District Air Toxic Emission Reduction Strategic Plan, November 2004. Tables 4-4 & 4-5.

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Project J-111

Projected Emissions Calculation

Ammonia Emission Rates for Plants 1 & 2

Plant 1

$$M_p = \frac{P\ V\ M}{RT}$$

$$V = EFM \times ppmv$$

Where:

M_p	=	Emission Rate (lb/hr)	
M	=	Molecular Weight of NH_3 (lb/lb-mol)	= 17.031
EFM	=	Maximum Rated Exhaust Flow Rate (ft^3/min)[1]	= 21222
ppmvd	=	NH_3 Concentration in the Exhaust[2]	= 10
P	=	Standard Pressure (atm)	= 1
R	=	Gas Constant (atm)(ft^3)/lb-mole)(°R)	= 0.7302
T	=	Temperature (°R)[3]	= 960

M_p = 0.309 lb/hr

Plant 2

$$M_p = \frac{P\ V\ M}{RT}$$

$$V = EFM \times ppmv$$

Where:

M_p	=	Emission Rate (lb/hr)	
M	=	Molecular Weight of NH_3 (lb/lb-mol)	= 17.031
EFM	=	Maximum Rated Exhaust Flow Rate (ft^3/min)[1]	= 26816
ppmvd	=	NH_3 Concentration in the Exhaust[2]	= 10
P	=	Standard Pressure (atm)	= 1
R	=	Gas Constant (atm)(ft^3)/lb-mole)(°R)	= 0.7302
T	=	Temperature (°R)[3]	= 1060

M_p = 0.354 lb/hr

Notes [ ]

1. Maximum Design Flow Rate for the engines obtained from Orange County Sanitation District Air Toxic Emission Reduction Strategic Plan, November 2004. Tables 4-4 & 4-5.
2. Ammonia Concentration of 10ppmvd is being proposed by OCSD as a permit limit.
3. Exhaust Temperature at Maximum Design Flow Rate obtained from Orange County Sanitation District Air Toxic Emission Reduction Strategic Plan, November 2004. Tables 4-4 & 4-5. The temperature is 500°F for the Plant 1 Engines and 600°F for the Plant 2 Engines.

Appendix C Emission Calculation Spreadsheets for Criteria Pollutants – Plant Nos. 1 and 2

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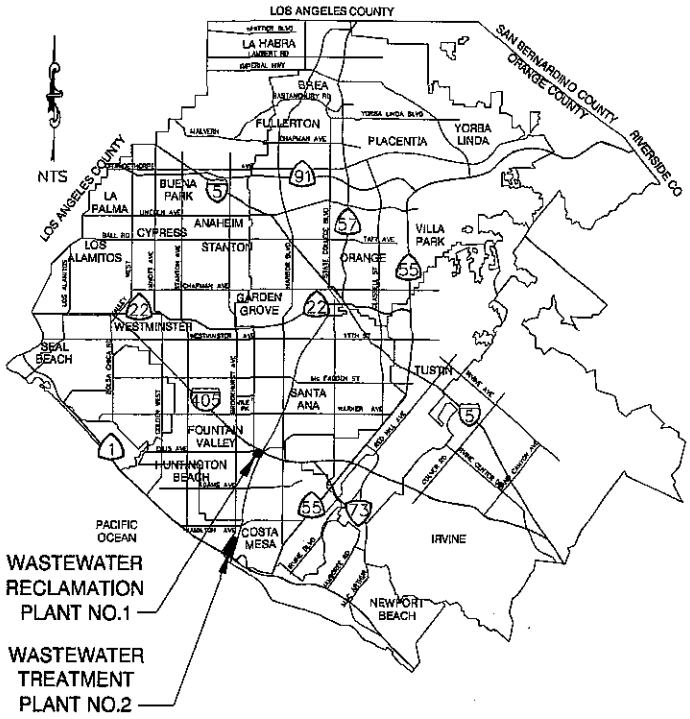

VICINITY MAP

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: RATTO, V.
DRAWN BY: HO, S.
CHECKED BY: CHOW, B.

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(IF NOT 2"--SCALE ACCORDINGLY)

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Irvine, California

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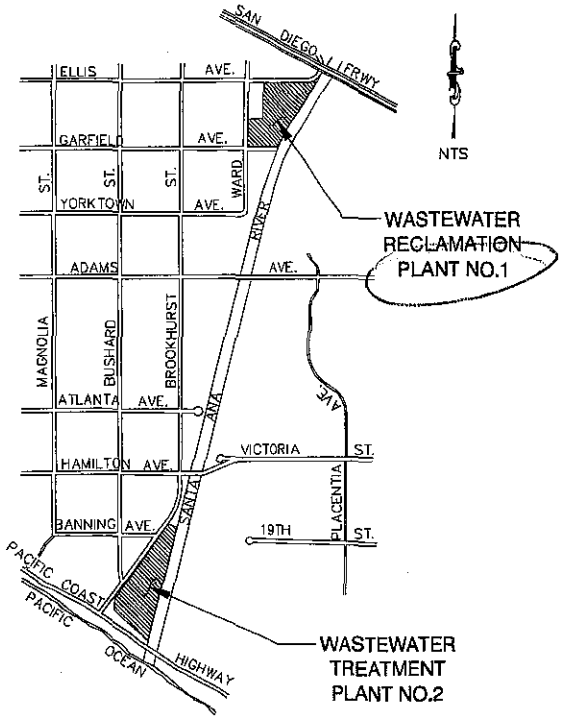

LOCATION MAP

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ORANGE COUNTY SANITATION DISTRICT

CENTRAL GENERATION EMISSIONS CONTROL

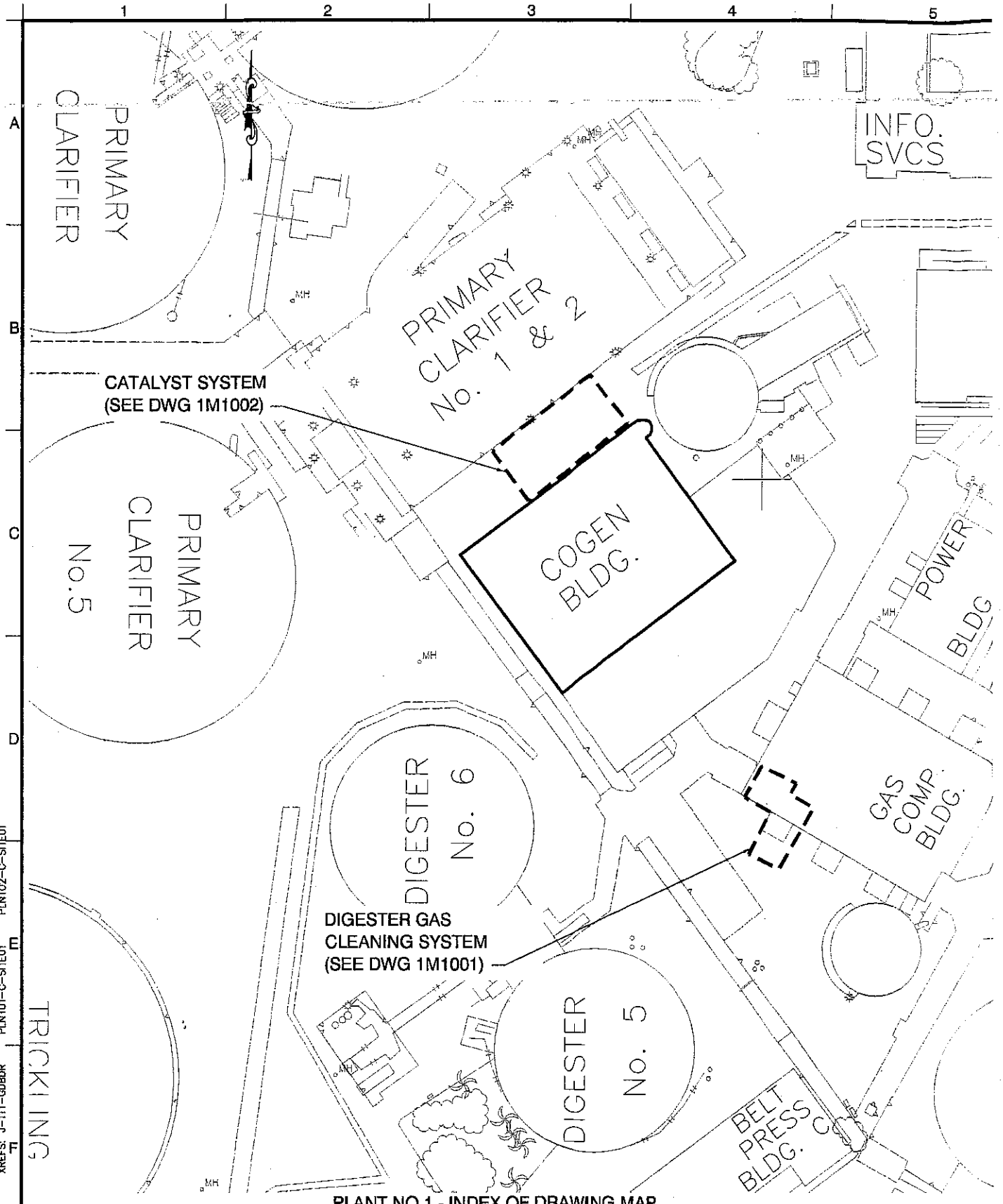
COVER SHEET

PROJECT NO. J-111

DRAWING NO. 0G0001

OF

PROJECT #J-111



PLANT NO.1 - INDEX OF DRAWING MAP

SCALE: 1"=30'

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: PERRY, JOHN
DRAWN BY: SANTOS, CHRISTOPHER
CHECKED BY: MORTELLORO, JEAN

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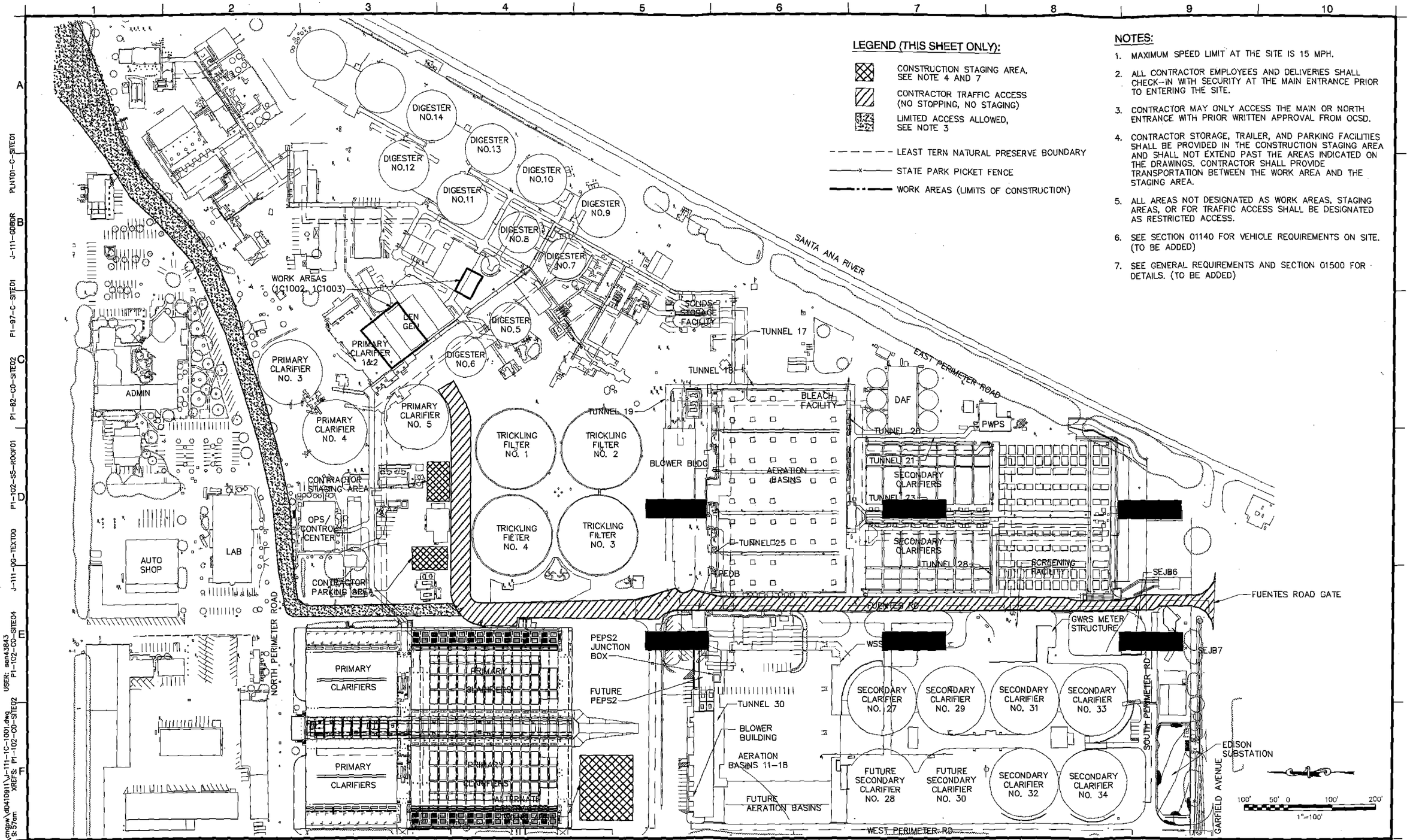
PLNT02-C-SITE01



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F1-97-C-SITE01
P1-82-C0-SITE02
J-111-0G-TEXT00
P1-102-S5-ROOF01
PLNT01-C-SITE01

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: RATTO, VALERIE
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CHECKED BY: STANTON, ANDY
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CENTRAL GENERATION EMISSIONS CONTROL

PLANT NO. 1 SITE PLAN AND STAGING AREA

PROJECT NO. J-111

DRAWING NO. 1C1001

OF

UREA STORAGE

CEMS NOx, CO O_2 NEW OUTLET PROBE

AIR FROM ATMOSPHERE INTO ENGINE

NATURAL GAS INTO ENGINE

CGS ENGINE #3

ENGINE EXHAUST

CATALYTIC OXIDIZER #3 (CATOX)

UREA FEED SYSTEM #3

CATALYTIC OXIDIZER #3 (SCR)

HEAT CONVERT UNIT

HEAT RECOVERY UNIT #3

STACK EXHAUST SAMPLE PORTS

STACK EXHAUST

TO ENGINES (TYP)

CEMS NOx, CO O_2 NEW OUTLET PROBE

AIR FROM ATMOSPHERE INTO ENGINE

NATURAL GAS INTO ENGINE

CGS ENGINE #2

ENGINE EXHAUST

CATALYTIC OXIDIZER #2 (CATOX)

UREA FEED SYSTEM #2

CATALYTIC OXIDIZER #2 (SCR)

HEAT CONVERT UNIT

HEAT RECOVERY UNIT #2

STACK EXHAUST SAMPLE PORTS

STACK EXHAUST

TO ENGINES (TYP)

CEMS NOx, CO O_2 NEW OUTLET PROBE

AIR FROM ATMOSPHERE INTO ENGINE

NATURAL GAS INTO ENGINE

CGS ENGINE #1

ENGINE EXHAUST

CATALYTIC OXIDIZER #1 (CATOX)

UREA FEED SYSTEM #1

CATALYTIC OXIDIZER #1 (SCR)

HEAT CONVERT UNIT

HEAT RECOVERY UNIT #1

STACK EXHAUST SAMPLE PORTS

STACK EXHAUST

TO ENGINES (TYP)

DGCS VESSEL #1

DGCS VESSEL #2

BY-PASS

TO POLISHING VESSEL

DIGESTER GAS FROM INTER PLANT GAS LINE

2P6003

DIGESTER GAS FROM GAS COMPRESSORS

LEGEND:

EXISTING

NEW

NOTES:

1. CATALYTIC OXIDIZER AND SELECTIVE CATALYTIC OXIDIZER IS EXISTING ON ENGINE #1 AND NEW ON ENGINES #2 & #3.

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USER: sm43843
XREFS: J-111-GDBDR

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DRAWN BY: SANTOS, CHRISTOPHER
CHECKED BY: MORTELLORO, JEAN

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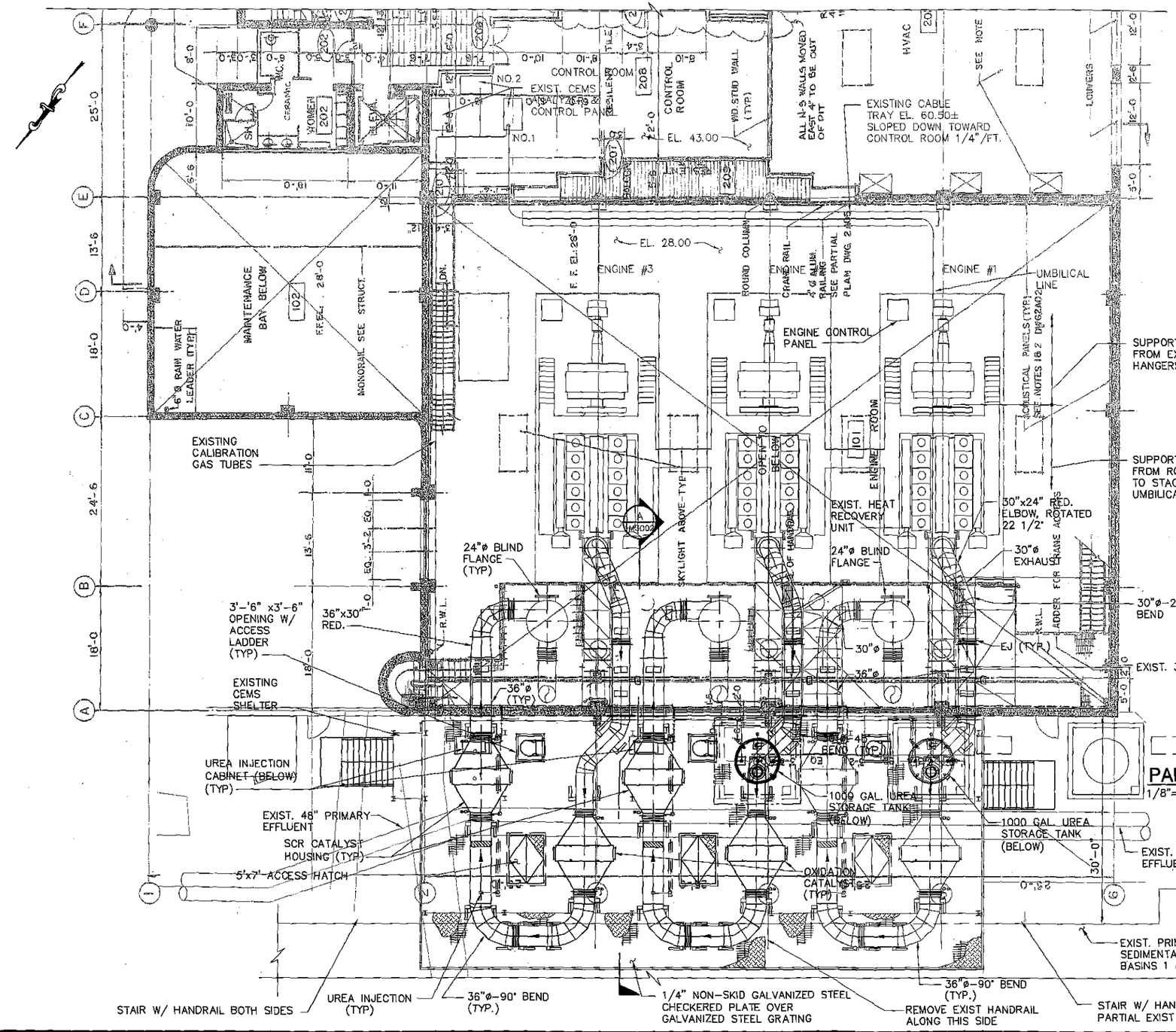
CENTRAL GENERATION EMISSIONS CONTROL

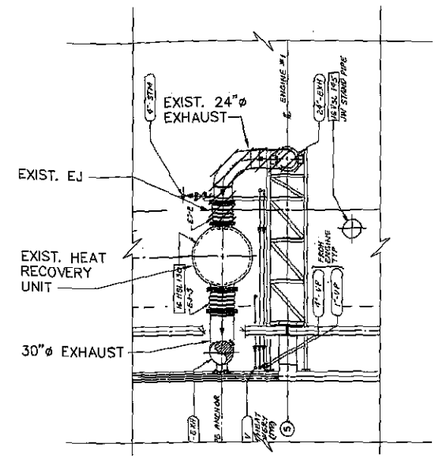
PROJECT NO. J-111

PLANT NO. 1
EMISSIONS PROCESS SCHEMATIC

DRAWING NO. 1P6001

OF





PARTIAL PLAN AT EL. 42.56 (DEMOLITION)
1/8"=1'-0"

PARTIAL PLAN AT EL. 42.56
1/8"=1'-0"

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USER: sen43843
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DRAWN BY: SANTOS, CHRISTOPHER
CHECKED BY: MORTELLORO, JEAN
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(IF NOT 2"-SCALE ACCORDINGLY)

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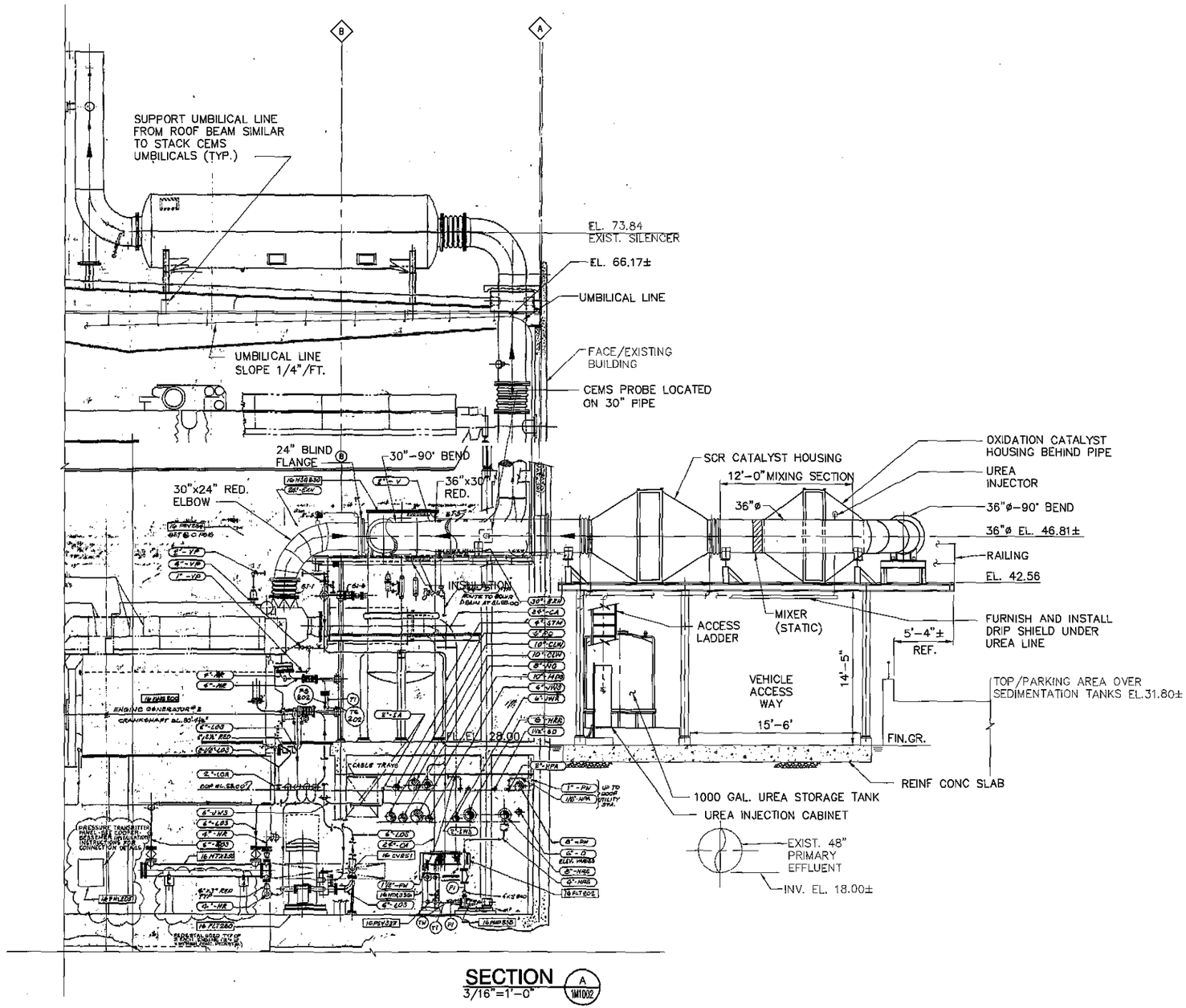
CENTRAL GENERATION EMISSIONS CONTROL

PLANT NO. 1 - CENTRAL GENERATION BUILDING - CATALYST SYSTEM - PLAN

PROJECT NO. J-111

DRAWING NO. 1M1002

OF



SECTION A 1M1002
3/16"=1'-0"

6' 4' 2' 0 5' 10'
3/16"=1'-0"

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: PERRY, JOHN
DRAWN BY: SANTOS, CHRISTOPHER
CHECKED BY: MORTELLORO, JEAN

LINE IS 2 INCHES AT FULL SIZE
(IF NOT 2"-SCALE ACCORDINGLY)

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CENTRAL GENERATION EMISSIONS CONTROL

PLANT NO. 1 - CENTRAL GENERATION BUILDING - CATALYST SYSTEM - SECTION

PROJECT NO. J-111
DRAWING NO. 1M3002
OF

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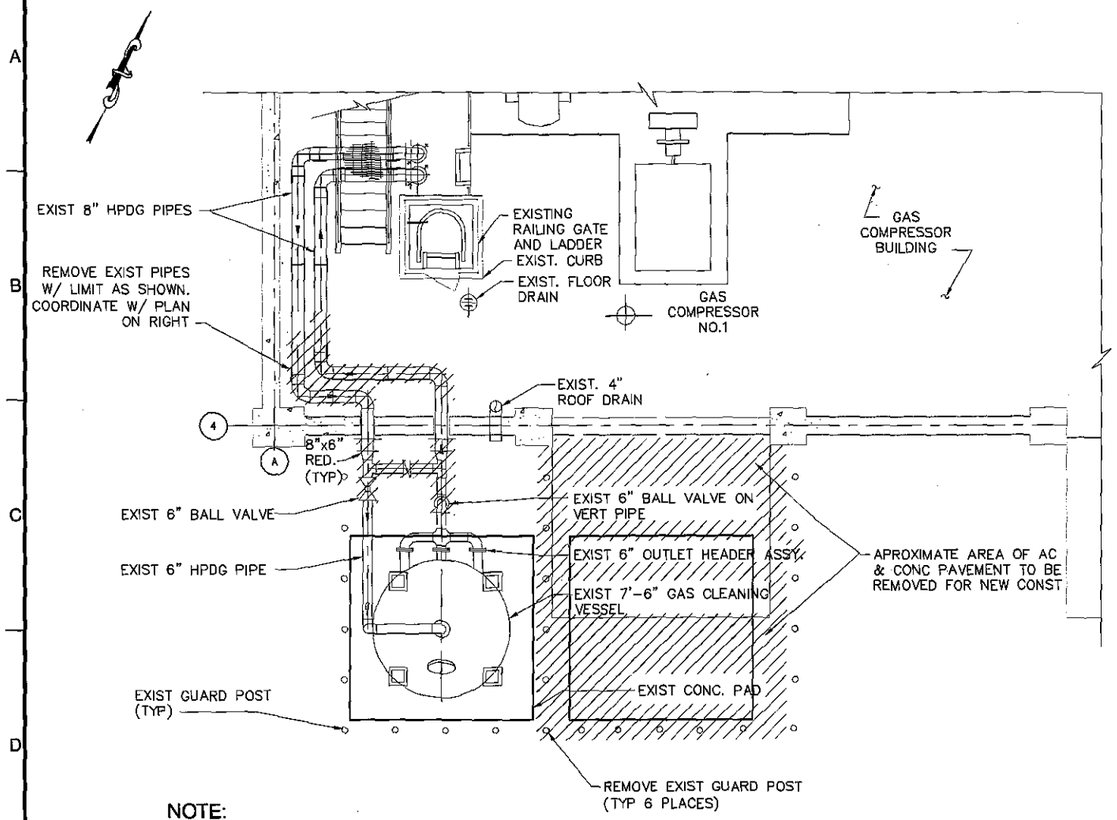
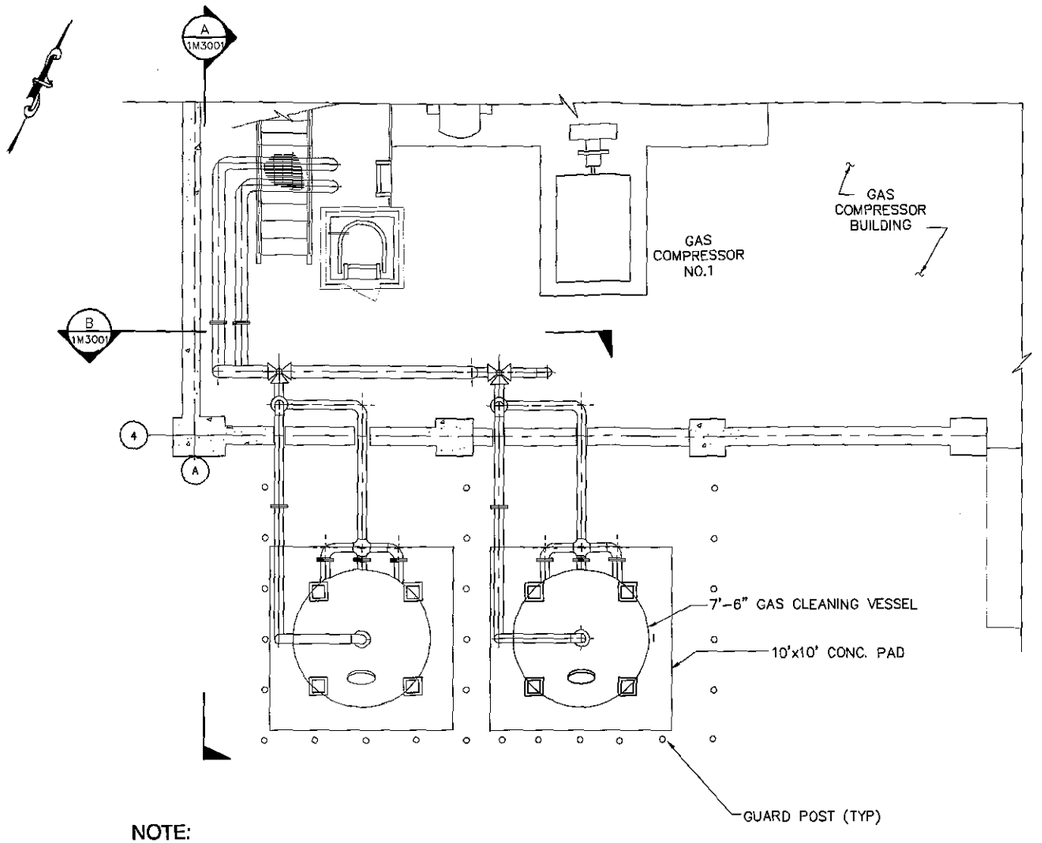


NOTE:

1. VERIFY ALL DIMENSIONS OF EXISTING ITEMS AS REQUIRED.

DIGESTER GAS CLEANING SYSTEM - PARTIAL PLAN - DEMOLITION

1/4"=1'-0"



NOTE:

FOR INFO OF EXISTING ITEMS, SEE PLAN ON LEFT.

DIGESTER GAS CLEANING SYSTEM - PARTIAL PLAN - PROPOSED LAYOUT

1/4"=1'-0"

4' 2' 0 4' 8'

1/4"=1'-0"

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USER: san43843 J-111-GDBDR

MARK	DESCRIPTION	DATE	APPR

DESIGNED BY: PERRY, JOHN
DRAWN BY: SANTOS, CHRISTOPHER
CHECKED BY: MORTELLORO, JEAN

LINE IS 2 INCHES AT FULL SIZE
(IF NOT 2"-SCALE ACCORDINGLY)

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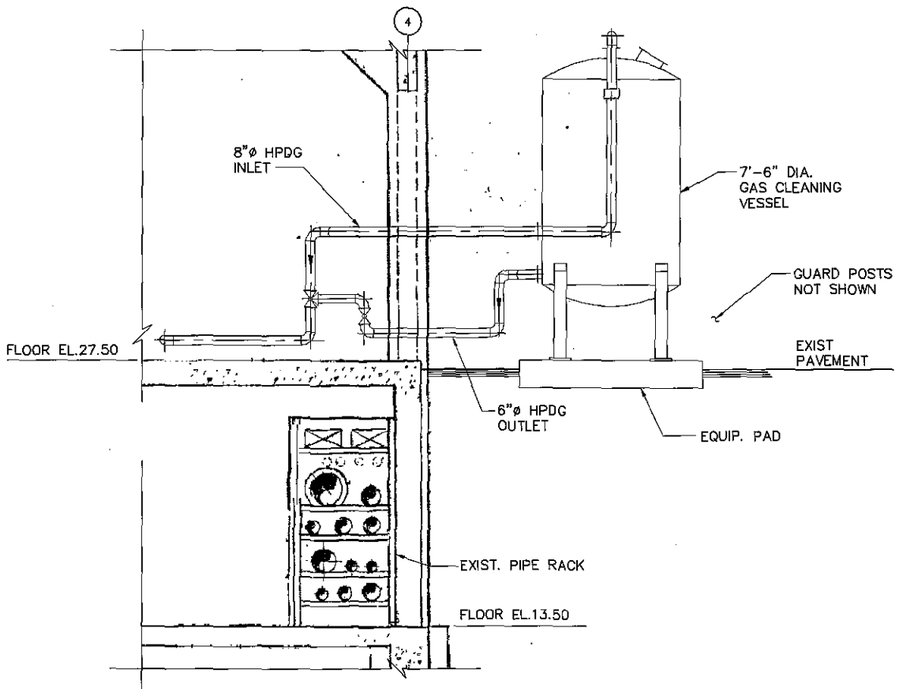
CENTRAL GENERATION EMISSIONS CONTROL

PLANT NO. 1
DIGESTER GAS CLEANING SYSTEM PLAN

PROJECT NO. J-111

DRAWING NO. 1M1001

OF



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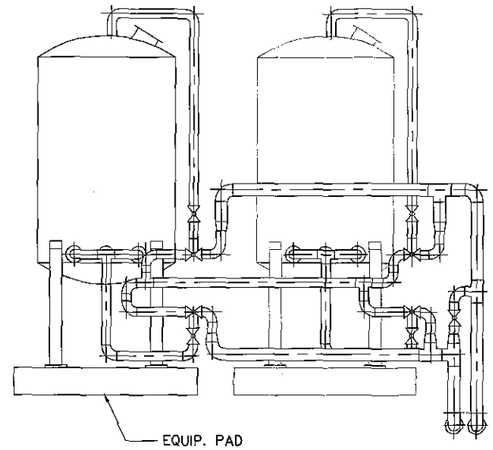

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rking\cngpw\d0410911\J-111-1M-3001.dwg 2012 1:56pm
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USER: san43843
J-111-M-GAS01

DESIGNED BY: FERRY, JOHN
DRAWN BY: SANTOS, CHRISTOPHER

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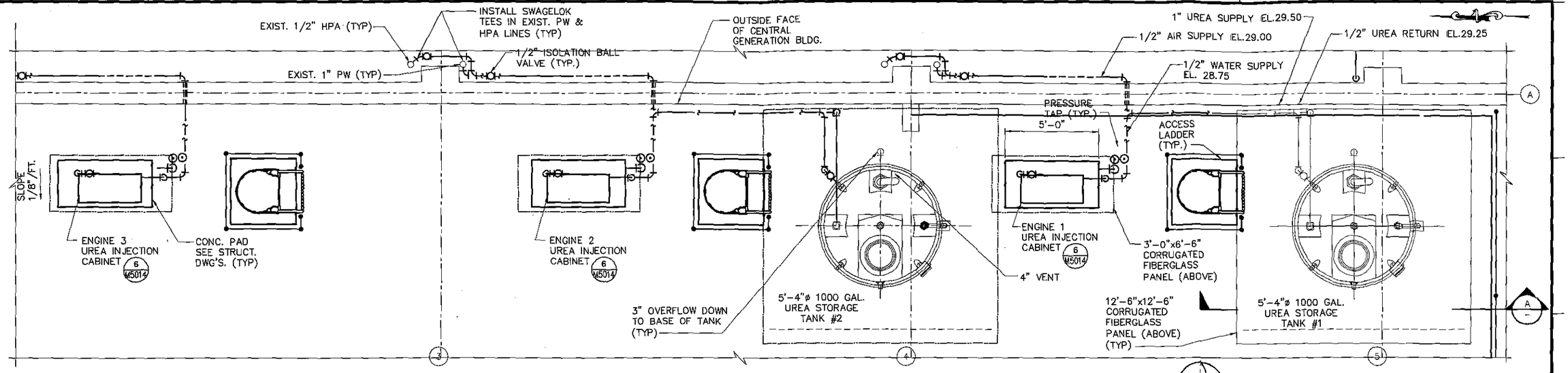
ORANGE COUNTY SANITATION DISTRICT

CENTRAL GENERATION EMISSIONS CONTROL

PROJECT NO. J-111

DRAWING NO.



PLAN AT EL. 28.00

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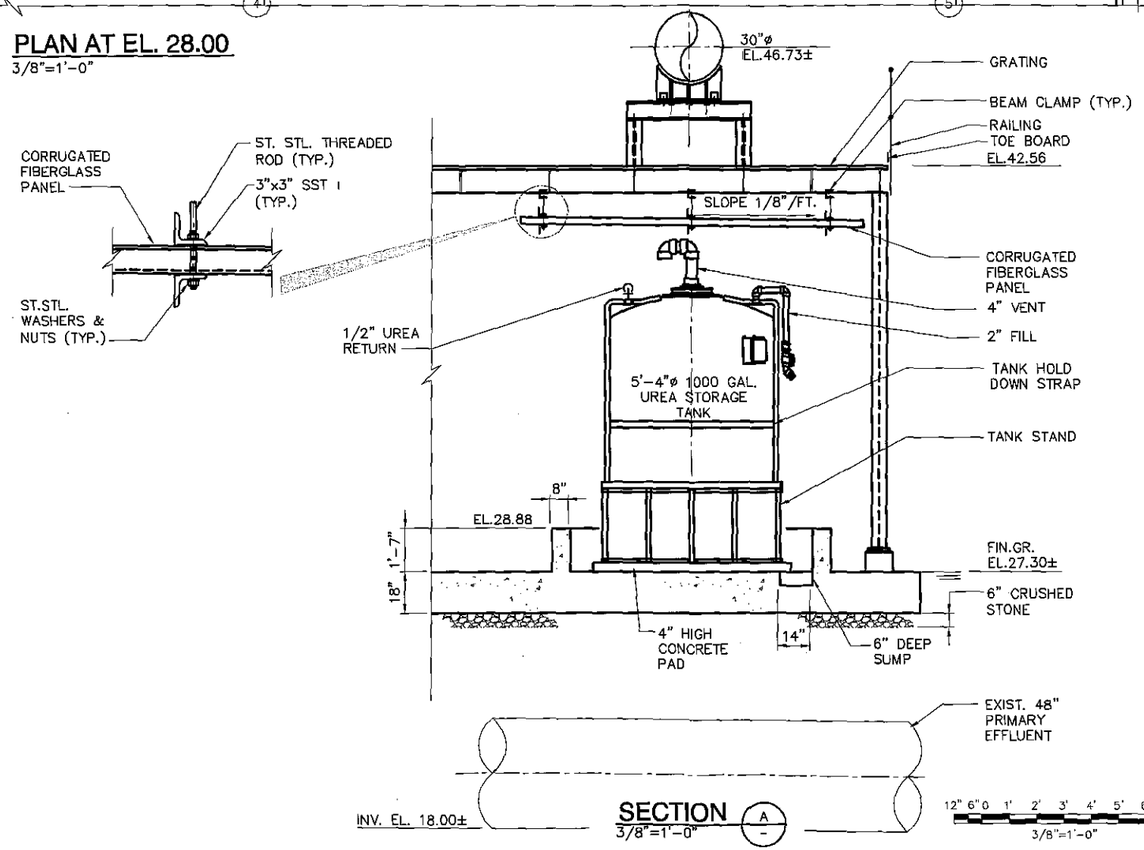

SECTION

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3/8"=1'-0"

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XREFS: J-79-M-GAS02
J-79-M-GAS01
J-79-S-GAS01

MARK	DESCRIPTION	DATE	APPR.

DESIGNED BY: PERRY, JOHN
DRAWN BY: SANTOS, CHRISTOPHER
CHECKED BY: MORTELLORO, JEAN

LINE IS 2 INCHES AT FULL SIZE
(IF NOT 2"-SCALE ACCORDINGLY)

BLACK & VEATCH
Building a world of difference.
Black & Veatch Corporation
Irvine, California

ORANGE COUNTY SANITATION DISTRICT

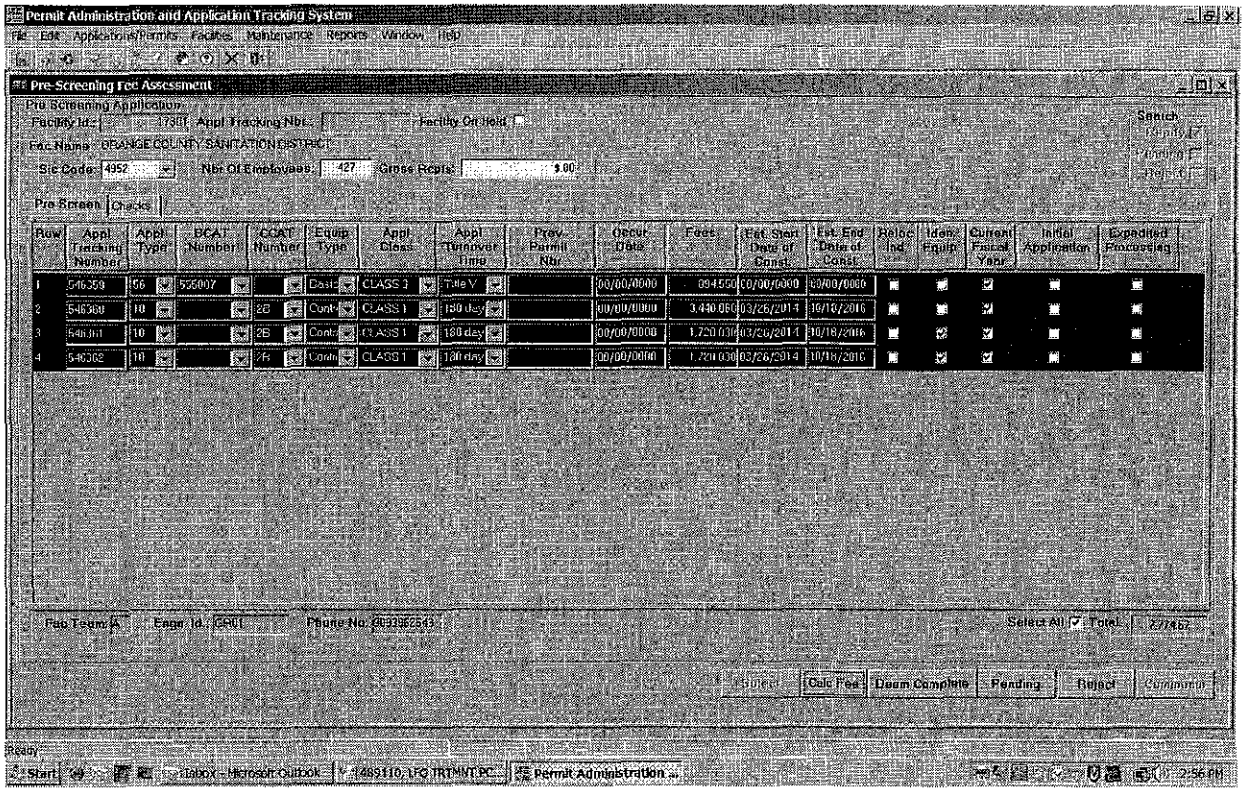
CENTRAL GENERATION EMISSIONS CONTROL

PLANT NO.1 CATALYST SYSTEM UREA FEED PLAN & SECTION

PROJECT NO. J-111

DRAWING NO. 1M4003

OF



546360
546361
546362
} add on cat 20 x | SCR identical to ICEs

B C-Cat = 2 B controls, 2 in series
Sch. C $3440.60 ÷ 2 = $1720.03 each ident.

3/13/2013

TABLE IA - PERMIT FEE RATES FOR CONTROL EQUIPMENT

Equipment/Process	Schedule
Abatement System/HEPA, Asbestos, Lead	B
Activated Carbon Adsorber, Venting Single Source (s.s.=single source)	B
Activated Carbon Adsorber, Venting Multiple Source (m.s.=multiple sources)	C
Activated Carbon Adsorber, Other	D
Activated Carbon Adsorber, Drum Venting Toxic Source (t.s = toxic source)	C
Activated Carbon Adsorber, with regeneration	E
Afterburner (<=1 MMBTU/hr,venting s.s.)	B
Afterburner (<1 MMBTU/hr,venting m.s.)	C
Afterburner, Catalytic for Bakery Oven	C
Afterburner, Direct Flame	D
Afterburner/Oxidizer: Regenerative Ceramic/Hot Rock Bed Type, Recuperative Thermal	D
Afterburner/Oxidizer, Catalytic	D
Air Filter, Custom	C
Amine (or DEA) Regeneration Unit[1]	D
Amine Treating Unit[1]	D
Baghouse, Ambient (<= 100 FT^2)	A
Baghouse, Ambient (> 100 - 500 FT^2)	B
Baghouse, Ambient (> 500 FT^2)	C
Baghouse, Hot (>350 F)	D
Biofilter (<= 100 cfm)	B
Biofilter (> 100 cfm)	C
Boiler as Afterburner	D
CO Boiler	F
Condenser	C
Control Systems, two in series	C
Control Systems, three in series	D
Control Systems, four or more in series	E
Control Systems, Venting Plasma Arc Cutters	B1
Cyclone	B
Dry Filter (<= 100 FT^2)	A
Dry Filter (>100 - 500 FT^2)	B
Dry Filter (>500 FT^2)	C

C Cat 2B

Equipment/Process	Schedule
Dust Collector/HEPA, other Rule 1401 toxics	C
Electrostatic Precipitator, Restaurant	B
Electrostatic Precipitator, Asphalt Batch Equipment	C
Electrostatic Precipitator, Extruder	B
Electrostatic Precipitator, < 3000 CFM	B
Electrostatic Precipitator, => 3000 CFM	D
Electrostatic Precipitator for Fluid Catalytic Cracking Unit (FCCU)	H
Ethylene Oxide Sterilization, Control, Hospital	B
Flare, Landfill/Digester Gas, Enclosed	E
Flare, Landfill/Digester Gas, Open	C
Flare, Portable	B
Flare System, Refinery[2]	F
Flare Other	C
Flue Gas Desulfurization[1]	D
Gas Absorption Unit[3]	D
Gas Scrubbing System[1]	F
Incinerator, Afterburner	D
Mesh pads, for toxics gas stream	C
Mesh pads, for other acid mists	B
Mist Control	B
Mist Eliminator with HEPA	C
Negative Air Machine/HEPA, Asbestos, Lead	A
Non-Selective Catalytic Reduction	B
Odor Control Unit	D
Relief and Blowdown System[4]	D
Scrubber, Biofiltration	C
Scrubber Controlling NO_X venting	D
Scrubber Controlling SO_X venting	D
Scrubber Controlling HCL or NH_3 venting s.s.	B
Scrubber Controlling HCL or NH_3 venting m.s.	C
Scrubber, NOx, multistage	D
Scrubber, NOx, single stage	C
Scrubber, Odor, <5000 cfm	C
Scrubber, Other venting s.s.	B
Scrubber, Other venting m.s.	C

TABLE IA - PERMIT FEE RATES FOR CONTROL EQUIPMENT

Equipment/Process	Schedule
Scrubber, Other Chemical venting s.s.	B
Scrubber, Other Chemical venting m.s.	D
Scrubber, Particulates venting s.s.	B
Scrubber, Particulates venting m.s.	C
Scrubber, Particulates venting t.s.	D
Scrubber, Restaurant	B
Scrubber, Toxics venting	D
Scrubber, Venturi venting s.s.	B
Scrubber, Venturi venting m.s.	C
Scrubber, Venturi venting t.s.	C
Scrubber, Water (no packing)	B
Selective Catalytic Reduction (SCR)	C
Settling Chamber	B
Ship Hold Hatch Cover	A
Slop Oil Recovery System	D
Sour Water Oxidizer Unit[5]	D
Sour Water Stripper[6]	D
Sparger	B
Spent Acid Storage & Treating Facility[7]	E
Spent Carbon Regeneration System	D
Spent Caustic Separation System[8]	D
Spray Booth/Enclosure, Other	B
Spray Booth/Enclosure, Powder Coating System with single or multiple APC for particulates	B
Spray Booth, Metallizing	C
Spray Booth with Carbon Adsorber (non-regenerative)	C
Spray Booths (multiple) with Carbon Adsorber (non-regenerative)	D
Spray Booth(s) with Carbon Adsorber (regenerative)	E
Spray Booth(s) (1 to 5) with Afterburner/Oxidizer (Regenerative/Recuperative)	D
Spray Booths (>5) with Afterburner/Oxidizer (Regenerative/Recuperative)	E
Spray Booth, Automotive, with Multiple VOC Control Equipment	C
Spray Booth with Multiple VOC Control	D
Spray Booths (multiple) with Multiple VOC Control Equipment	E
Storm Water Handling & Treating System[9]	E

Equipment/Process	Schedule
Sulfur Recovery Equipment[7]	H
Tail Gas Incineration	D
Tail Gas Unit[10]	H
Storage Tank, Degassing Unit	D
Ultraviolet Oxidation	D
Vapor Balance System[11]	B
Vapor Recovery, Serving Crude Oil Production[11]	D
Vapor Recovery, Serving Refinery Unit[11]	E
Waste Gas Incineration Unit	E

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[1] Including, but not limited to, all or part of the following: Accumulators, Columns, Condensers, Drums, Heat Exchangers, Knock Out Pots, Pots, Pumps, Regenerators, Scrubbers, Settling Tanks, Sumps, Tanks, Towers, Vessels

[2] Including, but not limited to, all or part of the following: Flare, Compressors, Drums, Knock Out Pots, Pots, Vessels

[3] Including, but not limited to, all or part of the following: Accumulators, Columns, Condensers, Drums, Heat Exchangers, Knock Out Pots, Pots, Pumps, Regenerators, Scrubbers, Settling Tanks, Sumps, Tanks, Towers, Vessels

[4] Including, but not limited to, all or part of the following: Compressors, Drums, Knock Out Pots, Pots

[5] Including, but not limited to, all or part of the following: Accumulators, Columns, Drums, Knock Out Pots, Tanks, Vessels

[6] Including, but not limited to, all or part of the following: Condensers, Coolers, Drums, Sumps, Vessels

[7] Including, but not limited to, all or part of the following: Accumulators, Clarifier, Columns, Compressors, Condensers, Drums, Filters, Filter Presses, Heat Exchangers, Knock Out Pots, Pits, Pots, Pumps, Reactors, Regenerators, Scrubbers, Settling Tanks, Sumps, Tanks, towers, Vessels

[8] Including, but not limited to, all or part of the following: Process Tanks, Separators, Tanks

[9] Including, but not limited to, all or part of the following: Air Floatation Units, Floatation Units, Filter Presses, Clarifiers, Settling Tanks, Waste Water Separators, Tanks

[10] Including, but not limited to, all or part of the following: Absorbers, Condensers, Coolers,

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ORANGE COUNTY SANITATION DISTRICT

B Cat 056057

PERMIT TO OPERATE

Permit No. G2957
A/N 486793

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 1 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
[RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
[RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
[RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

(6) Consider all written comments submitted within a time specified in the notice of public comment and all comments received at any public hearing(s) in making a final decision on the approvability of the application. The Executive Officer shall make all comments available for public inspection in the same locations where the Executive Officer made available preconstruction information relating to the proposed source or modification.

(7) Make a final determination whether construction should be approved, approved with conditions, or disapproved; and

(8) Notify the applicant in writing of the final determination and make such notification available for public inspection at the same location where the Executive Officer made available preconstruction information and public comments relating to the source.

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ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% 02
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% 02

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

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E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

AQMD

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: ○ Fixed Location ○ Various Location
(For equipment operated at various locations, provide address of initial site.)

10844 Ellis Avenue
Street Address

Fountain Valley, CA 92708-7018
City Zip

Terry Ahn — Regulatory Specialist
Contact Name Title

(714) 593-7082 Ext. (714) 962-2591
Phone # Fax #

E-Mail: tahn@ocsd.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
☒ Check here if same as equipment location address

10844 Ellis Avenue
Address

Fountain Valley, CA 92708-7018
City State Zip

Terry Ahn — Regulatory Specialist
Contact Name Title

(714) 593-7082 Ext. (714) 962-2591
Phone # Fax #

E-Mail: tahn@ocsd.com

Section D - Application Type

6. The Facility Is: ○ Not In RECLAIM or Title V ○ In RECLAIM ◉ In Title V ○ In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:

- ○ New Construction (Permit to Construct)
- ○ Equipment On-Site But Not Constructed or Operational
- ○ Equipment Operating Without A Permit *
- ○ Compliance Plan
- ○ Registration/Certification
- ○ Streamlined Standard Permit

7b. Facility Permits:

- ○ Title V Application or Amendment (Refer to Title V Matrix)
- ○ RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:

- ○ Administrative Change
- ◉ Alteration/Modification (50)
- ○ Alteration/Modification without Prior Approval *
- ○ Change of Condition
- ○ Change of Condition without Prior Approval *
- ○ Change of Location
- ○ Change of Location without Prior Approval *
- ○ Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number: G2956

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy): 03/26/2014

8b. Estimated End Date of Construction (mm/dd/yyyy): 10/18/2016

8c. Estimated Start Date of Operation (mm/dd/yyyy): 10/18/2016

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Installation of CatOx/SCR system on Internal Combustion Engine (CG2-FV), 3471 HP, Nat Gas/Digester Gas Fired

10. For Identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process) 2

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) ◉ No ○ Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? If Yes, provide NOV/NC#: ◉ No ○ Yes

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Municipal Wastewater 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 ◉ Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? ◉ No ○ Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: James D. Ruth

18. Title of Responsible Official: General Manager

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ○ No ◉ Yes

20. Print Name: James D. Ruth

21. Date: 12-5-12

22. Do you claim confidentiality of data? (If Yes, see instructions.) ◉ No ○ Yes

23. Check List: ☒ Authorized Signature/Date ☒ Form 400-CEQA ☒ Supplemental Form(s) (ie., Form 400-E-xx) ☒ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED	PAYMENT TRACKING #	VALIDATION
	546361	1000053305	$10390.27		1/8/13 mc

DATE	APP REJ	DATE	APP REJ	CLASS I II	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
3/13/13 GCR						2B	A		

© South Coast Air Quality Management District, Form 400-A (2012.07)

Ident-

3/4

cl 106734

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546361
Granted as of 04/16/2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 2 (G2955) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

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ORANGE COUNTY SANITATION DISTRICT

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	PAGES 15	PAGE 1
ENGINEERING AND COMPLIANCE DIVISION	APPL NO SEE BELOW Rvsd	DATE 2/26/2014
PERMIT APPLICATION EVALUATION AND CALCULATIONS	PROCESSED BY GCR	CHECKED BY

PERMIT TO CONSTRUCT EVALUATION

(Modifications to add DG cleaning system & addition of post-combustion controls to the CGS IC engines, POs' G2957, G2956 & G2955)

APPLICANT'S NAME: ORANGE COUNTY SANITATION DISTRICT (OCSD)

MAILING ADDRESS: 10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708
ATTN.: TERRY AHN, REGULATORY SPECIALIST

EQUIPMENT ADDRESS: WASTEWATER TREATMENT PLANT NO. 1
10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708

FACILITY ID. NO. : **17301**

CONTACT: Terry Ahn, Regulatory Specialist
Phone: (714) 593-7082 FAX: (714) 962-2591
E-mail: than@ocsd.com

EQUIPMENT DESCRIPTION:

Application No. 546360

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 1 (G2957) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

Application No. 546361

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 2 (G2956) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

Application No. 546362

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 3 (G2955) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

Conditions: (A/Ns 546360, 546361 & 546362)

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
[RULE 1110.2]

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE

TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

EMISSIONS AND REQUIREMENTS:

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

CO: RULE 1110.2 LIMIT
NOX: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

Note: Above are the proposed revised permits, as deemed necessary, based on OCSD's and SCAQMD's meetings and comments to the draft permits. Condition #15 was revised for mass emissions rates based on Rule 1110.2 concentration limits.

Application No. 559225

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 1 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC UREA FEED MONITORING AND CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X 62' H., ABOVE GROUND.

Application No. 559226

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 2 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC UREA FEED MONITORING AND CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X 62' H., ABOVE GROUND.

Application No. 559227

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 3 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC UREA FEED MONITORING AND CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X 62' H., ABOVE GROUND.

CONDITIONS: (559225, 559226, 559227)

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. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

EMISSIONS AND REQUIREMENTS:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP. [RULE 1303(b) (1)], [RULE 1402]

Note: Above are the proposed revised permits, as deemed necessary, based on OCSD's and SCAQMD's meetings and comments to the draft permits. Condition #15

BACKGROUND:

On January 8, 2013, Orange County Sanitation District (OCSD) submitted above applications (546360, 546361 and 546362) to add post-combustion control equipment (CatOx and SCR) and digester gas clean up system expansion for the existing three IC engines (G 2957, G2956 and G2955) at Fountain Valley (Sewage Treatment Plant #1), CA.
The proposed modification for the digester gas cleaning system (DGCS) and treatment of the engine's exhaust to further control emissions is required for regulatory compliance with new Rule 1110.2 emissions limits for CO, NOx and ROG using biogas fuel.
Although, at prescreening stage these applications were initially prescreened as control systems, two in a series for the add-on control (Schedule C), however, for simplicity of processing and with addition of few conditions for APC's, these applications are processed as modifications to existing engines' permits*, as current emissions are tied to the previous engine's permit and for simplicity of AEIS/NSR entries with respect to pre and post modifications of engine(s).
Fee will be kept same as submitted with the applications (this was based on modifications to current permits to operate for the engines).

*As per District's direction, OCSD was asked to submit new separate applications for the add-on control devices (CatOx /SCR). Therefore, on 12/20/2013, OCSD submitted 3 new applications; #559225, 559226 & 559227 for APCs.

A/Ns 557227 & 557228 for aqueous urea solution storage tanks were submitted on 10/13/2013.

A/N 546359 is also submitted for Title V de-minimis significant revision to include above permits to appropriate Title V permit section upon approval.

Note: If the equipment demonstrates compliance with the emissions limits by January 1, 2015 then their respective permit application fees to be refunded- Rule 1110.2 (d) (1) (E), amended Sept. 7, 2012.

PROCESS DESCRIPTION:

OCSD was granted a Rule 441 research permit (A/N 497717, G4633, 10/15/2009) for engine #1 that included digester gas cleaning system (DGCS) to remove mainly volatile silicon organic compounds (VSOC - Siloxanes), other impurities, some TNMOCs and total sulfur compounds from the digester gas to help improve combustion characteristics, improve engine operations and to extend engine life. Over several years, OCSD had conducted various experiments to develop emission reduction technology that employed post combustion control equipment- catalytic oxidation (to reduce CO and VOC emissions) and Selective Catalytic reduction (SCR), using aqueous urea solution injection into the engine's exhaust prior to SCR for NOx emission reduction. OCSD had made presentations about this emission reduction technology demonstrating that engine is capable of meeting Rule 1110.2 emissions limits for CO, NOx and ROG.

Based on successful results for achieving low emissions, OCSD had decided to modify existing engine's permits (3 engines at plant #1 and 5 engines at plant #2) with add-on controls in conjunction with DGCS that helps remove siloxanes

present in DG. For information purpose, typical emissions reduction results for CO, NOx and VOC are listed below (Source: A & WMA, West Coast Workshop Presentation, May 16, 2013);

Pollutant	Engine Outlet Avg. ppmv	Post-combustion Emission Avg. ppmv	Rule 1110.2 Limit ppmv (Effective January 1, 2016)
CO	452	**7.5**	250
NOx	31	**7.2**	11
VOC	97	**3.6**	30

Validated data -ppmv values at 15% O2, dry @ 15% O2, 15-minute average.

Note: Proposed DGCS is common to all three engines, supplying clean DG as fuel.
DGCS, CatOx and SCR systems for both plants are identified as **OCSD Project J-111**.

Engine:
Maximum heat input rate, design = 28.5 MMBTU/HR
Exhaust (stack) flow rate = 21,222 acfm, 500 deg. F (Form 400-PS)
Exhaust Stack = 30" Diameter x 62' above ground (Form 400-PS)

Following is the brief operation for catalytic oxidizer (CatOx) and Selective Catalytic Reduction (SCR) with urea injection.

A catalytic oxidizer (CatOx) will be installed to reduce CO and VOC emissions from the engine's exhaust. CatOx, located upstream of the SCR, will be equipped with temperature and pressure monitoring devices and controls. Operating temperature range is min. 600 to max. 850 deg F. CatOx inlet and outlet samples will be taken and analyzed for speciated VOC analysis, including Formaldehyde and other TACs. For CatOx specifications please refer to the information submitted with application. The typical chemical reaction is,

$$2\ CO + O_2 \rightarrow 2\ CO_2$$

$$CH_4 + 2\ O_2 \rightarrow CO_2 + 2\ H_2O$$

Selective Catalytic Reduction (SCR) System for NOx Control

NO and NO_2 in the engine's exhaust, at high temperature, will be reduced by the Selective Catalytic Reduction (SCR) system in presence of aqueous urea injection. The Urea reagent using an injection lance, with compressed air, is injected into the center of the exhaust piping, prior to the catalyst surface. Once the exhaust gas stream reaches the proper reactive temperature for the catalyst, the reagent automatically begins to flow. Control of the proper amount of Urea reagent required is typically done by mapping of NOx reduction performance curve based on engine operating conditions or by following a programmable NOx output based on the signal from the existing CEMS.
At temperature greater than 400 deg F, in the presence of water, the Urea hydrolyses to ammonia (NH_3) and CO2. As these molecules pass through the catalyst they react with NO_x to form N_2, H_2O, and CO_2. The chemical reaction is,

$(NH_2)_2\,CO + H_2O \rightarrow 2\ NH_3 + CO_2$ (Hydrolysis)
[Urea solution hydrolyzes, upon injection in the inlet duct line of SCR at >400 deg F]

$(NH_2)_2\,CO \rightarrow NH_3 + HNCO$ (Pyrolysis)

NH_3 OR HNCO + NOx + O_2 → N2 + H_2O + CO_2 (Catalytic Reduction).

NH3 to NOx ratio:

$4NH_3 + 4NO \rightarrow 4N2 + 6H_2O$
$6NO2 + 8NH_3 \rightarrow 7N2 + 12H_2O$

This is the molar ratio of the injected ammonia over the NOx at the catalyst inlet. SCR reactions require only one mole of NH3 to remove one mole of NOx and about 1.33 moles of NH3 to remove one mole of NO2. Depending on the fraction of NO2 in the overall NOx concentration, no more than 1.1 moles of NH3 are needed per mole of NOx for above reactions to happen. In order to control ammonia slip the uniformity of the NH3/NOx profile across the catalyst face is critical to the SCR process.

Estimated NH3 Injection Rate:

NOx emission rate in engine's exhaust (Pre-modification) = 5.1 lbs/hr, Table 2.3-1 Application submittal
= 5.1/46 =0.1108 lb. moles NOx/hr
Maximum moles of NH3 required/ mole of NOx = 1.1
NH3 required = 0.1108 x 1.1 = 0.1218 lb. moles NH3/ hr
= 0.1218 x 17 = 2.07 lbs NH3/hr
32.5% Wt. urea solution density =1.090 g/l x 8.33 = 9.08 lbs/gal. @20 deg C.
Lb. moles urea/gal = 9.08 lbs/gal x 0.325/ 60.05 MW of urea = 0.0491 lb moles urea/gal of solution.
When one mole of urea is injected in engine's exhaust, upon hydrolysis releases 2 moles of NH3.
$(NH_2)_2CO + H_2O \rightarrow 2\ NH_3 + CO_2$ (Hydrolysis)
Moles of NH3 released/gal of sol = 0.0491 x 2 = 0.0982 lb. moles NH3/ gallon of urea soln.

Urea injection rate needed = 0.1218 lb. moles of NH3 required / 0.0982 lb. moles NH3/gallon
= 1.24 gallon urea soln. /hr.

Urea dosing can change depending on the NOx reduction and other factors such as exhaust temperature, space velocity (volumetric flow of exhaust gas through the catalyst (ft/hr/ft3) and exhaust flow rate. NOx could be measured before and/or after the SCR catalyst through the use of NOx sensor. NOx concentration after SCR catalyst can be measured using CEMS. The level of ammonia slip is dependent on how NOx is being controlled. For typical NOx reduction of 90% - 95%, ammonia slip generally can vary 5-25 ppmv, measured at 15% O2, 1-hr average.

EMISSIONS:
Proposed installations will result in net emission reduction for CO, NOx and VOC. OCSD has estimated reduction in SOx and PM10 emissions based on pilot study source tests results. There will be an increase in ammonia emission- NH3 slip- (due to SCR and urea solution injection).

Following is the summary for maximum emissions reduction/engine, as provided by the OCSD for Plant No. 1 (Please refer to application submittal, Table 2.3-1).

POLLUTANT	PRE-MODIFICATION EMISSION., LBS/DAY	POST-MODIFICATION EMISSION., LBS/DAY	LBS/HR	NET CHANGE IN EMISSION, LBS/DAY
CO	440.3	11.2 (= 0.06 g/bhp-hr)	0.45	-429.1
NOx	122.7	11.9 (= 0.065 g/bhp-hr)	0.49	-110.8

PM10	12.0	1.28	0.05	-10.7
SOx	12.0	0.38	0.02	-11.6
VOC	92.0	0.64 (= 0.004 g/bhp-hr)	0.03	-91.4
NH3 SLIP*	-	3.71	0.15	+3.7

* Ammonia slip is based on 5 ppmv as the pilot project demonstrated maximum level of <5 ppmv ammonia slip. Results and Discussion of the research (pilot project), Final Report July 2011, Table 3-13, indicated free NH3 measurements at < Method Detection Limit (MDL), during 4/7/10 through 5/10/2011 at 65% to 100% engine load, whereas maximum calculated NH3 value was determined to be < 5 ppmv. Urea injection system is designed with associated automatic temperature, pressure monitoring and control devices. This can be considered as LAER for a major source.

AEIS/NSR:

Uncontrolled and controlled emissions are assigned to each IC engine (Basic Eqquipment) and respective APC (CatOx.SCR) are assigned zero emissions, except for ammonia slip.

For each engine,

Pollutant	**R1, lbs/hr**	**R2, lbs/hr**
CO	18.33	0.45
NOx	5.11	0.49
PM10	0.50	0.05
SOx	0.50	0.02
VOC	3.83	0.03

For each APC (Catox/SCR)

	R1, lbs/hr	**R2, lbs/hr**
NH3 (slip)	0.15	0.15

RULES EVALUATION

RULE 212: There is no school within 1000' of emission source. The proposed modifications to expand digester gas cleaning system and add-on post-combustion control equipment are expected to reduce emission. However, there will be an increase in ammonia emission (NH3 slip- 7.4 lbs/day) due urea solution injection for the SCR system. NO public notice is required. Compliance with this rule is expected.

RULE 401: With proper equipment operations, maintenance and keeping equipment in good operating condition, compliance is expected.

RULE 402: Nuisance complaints are not expected with the proper operation and monitoring of the equipment.

RULE 404: Compliance with its rule is expected. Previous source tests results (pre-modification) has shown compliance with this rule.

RULE 431.1: Total sulfur, as H2S, in DG is expected to be less than the rule limit of 40 ppmv H2S prior to DG combustion in IC engines. Also, DGCS is expected to reduce sulfur compounds from the DG. Compliance with this rule is expected.

REG. IX: **Standards of Performance for New stationary Sources**
Federal New Source Performance Standard (NSPS), 40 CFR Part 60 subpart JJJJ for spark ignition engines.

This rule is for emissions increase for CO, VOC and NOx pollutants. The proposed modifications will have net emissions reduction for CO, VOC and ROG. There is no increase in rated capacity of the CGS engine. Therefore, Reg. IX and NSPS subsection JJJJ is not applicable.

REG. X: **National Emission Standards for Hazardous Air Pollutants (NESHAP)**
40 CFR Part 63 subpart ZZZZ - MACT Standards

Based on year 2012 reported emissions for toxic air contaminants (TACs) single TAC is below 10 TPY and cumulative TACs emission is below 25 TPY. Therefore, the facility is not a major source for hazardous pollutants' emission and, facility is considered an area source.
(With the addition of proposed CatOx, significant reduction in VOC emissions is expected, and thereby also reduction in TACs/HAPS emissions once the system is in operation).

As per §63.6603 (a), existing stationary RICE located at an area source of HAP emissions, engine must comply with the requirements in Table 2d and, the operating limitations in Table 1b and Table 2b; as applicable.
Compliance with this regulation is expected.

REG. 1110.2: Proposed modifications (DGCS, CatOx and SCR) are to meet the new regulatory emissions limits for CO, NOx and VOC under Rule 1110.2, amended September 7, 2012. Based on pilot study (OCSD Project J-79) for engine #1, significant reductions in CO, NOx and VOC emissions are expected. Each engine is, therefore, expected to comply with the emissions limits shown under Rule 1110.2 (d) (1) (C), effective January 1, 2016, as listed below;

CO 250 ppmvd*
NOx 11 ppmvd, and*
VOC 30ppmvd*
*corrected to 15% O2, dry basis and averaged over 15 minutes.

Engine is expected to comply with start-up and shut down periods not to exceed 30 minutes. Engine start-up, after an overhaul or major repair/maintenance period not to exceed 4 operating hours is expected (per Rule 1110.2 (i) (10) and (11) listed under Exemptions).

Compliance with this rule is expected.

REG. XIII: Proposed modifications are expected to reduce criteria pollutants' emissions with respect to mass emissions rates for the current permit(s). Engine exhaust will be further treated by air pollution control equipment that is considered BACT for CO, NOx and VOC.

Note: Effective Jan. 1, 2016, Rule1110.2 compliance limits go into effect for CO, NOx and VOC. As a result, corresponding mass emissions rates (as confirmed by approved source tests and 180 days operation) will be considered as achieved in practice, and shall be considered as LAER limit for the major source category.

No modeling or offsets are required for criteria pollutants.

NH_3 is subject to NSR for BACT/LAER applicability for major source. A permit limit of 5 ppmv NH_3 slip is imposed based on pilot test results demonstrating < Method Detection Limit (MDL), 65% to 110% engine load, and calculated total NH3 values of < 5 ppmv. Urea injection system is designed with associated automatic temperature, pressure monitoring and control devices.
NH_3 is not considered a criteria pollutant, therefore, is not subject to offset requirement.

CEQA: For the proposed project, OCSD has provided a copy of Notice of Exemption, signed 9/20/12 and filed on 9/24/2012. Exemption category section # 15329. Cogeneration Projects at existing facility.

Compliance with this regulation is expected.

RULE 1401:

Proposed modification for post-combustion exhaust treatment by CatOx is expected to significantly reduce VOC/TAC emissions. Therefore, health risk is expected to be lower than the current permit and no further health risk analysis is required.

Ammonia is a new pollutant from SCR operation. However, ammonia emission is estimated to be below Emission Screening Levels shown under Table-1A for 25 meter receptor location.

NH3 emission = 3.7 lbs/day = **0.15 lbs/hr** = **1350 lbs/yr**.
Emission Screening Levels @ 25 meter, Acute threshold = **1.60 lbs/hr**

Chronic threshold = **6,610 lbs/yr**

Compliance with this Rule is expected.

REG. XVII:

Prevention of Significant deterioration (PSD)
This regulation incorporates the federal Prevention of Significant Deterioration (PSD) regulations and applies to major source or major modification of major sources located in attainment areas.

Major source is defined as any one of the 28 listed major source categories which emits, or has the PTE, ≥100 TPY of any regulated pollutant OR ≥ 250 TPY of any regulated pollutant if the stationary source does not fall under one of the 28 listed major source categories. OCSD plant is not listed on the 28 categories, therefore 250 TPY threshold applies. AER report (2012) shows CO emission of 97 TPY which is < 250 TPY threshold. Therefore OCSD plant 1 is not a major source and PSD is not applicable.

Major modification under PSD is triggered if the modification results in an increase in emissions > Significant Emission Rates (SERs) (40TPY for NOx, SOx and VOCs; 100 TPY CO, 15/25 TPY for Pm10/PM). The propose modifications would not result in emission increase greater than SERs. Therefore, this regulation does not apply.

Also, Rule 1704 specifically exempts OCSD which is classified as providers of Essential Public Services (EPS), if BACT is installed.

Rule 1714: Prevention of significant deterioration for greenhouse gases

The proposed modification of the existing source is not considered a major modification and would not result in a significant emission increase (SEI) defined in paragraph 40 CFR part 52.21(b) (11). Therefore, this rule is not applicable.

For information purpose only;
Potential to Emit (PTE) CO2e for a single engine (including biogenic CO2 in DG fuel)
= 1055.91 CO2e MTon/MMBTU/Yr x 28.5 MMBTU
= 30,093 CO2e MTon/yr
= 90,279 CO2e MTon/yr for 3 identical engines.

CONCLUSIONS/RECOMMENDATION:

The above equipment is expected to comply with all applicable District's Rules and Regulations.
Permit to construct is recommended for each IC engine and APC with subject to conditions listed above (upon completion of EPA review for the proposed Title V revision).

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Reference Current Permit

PERMIT TO OPERATE

Permit No. G2956
A/N 486792

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 2 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
[RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
[RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
[RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

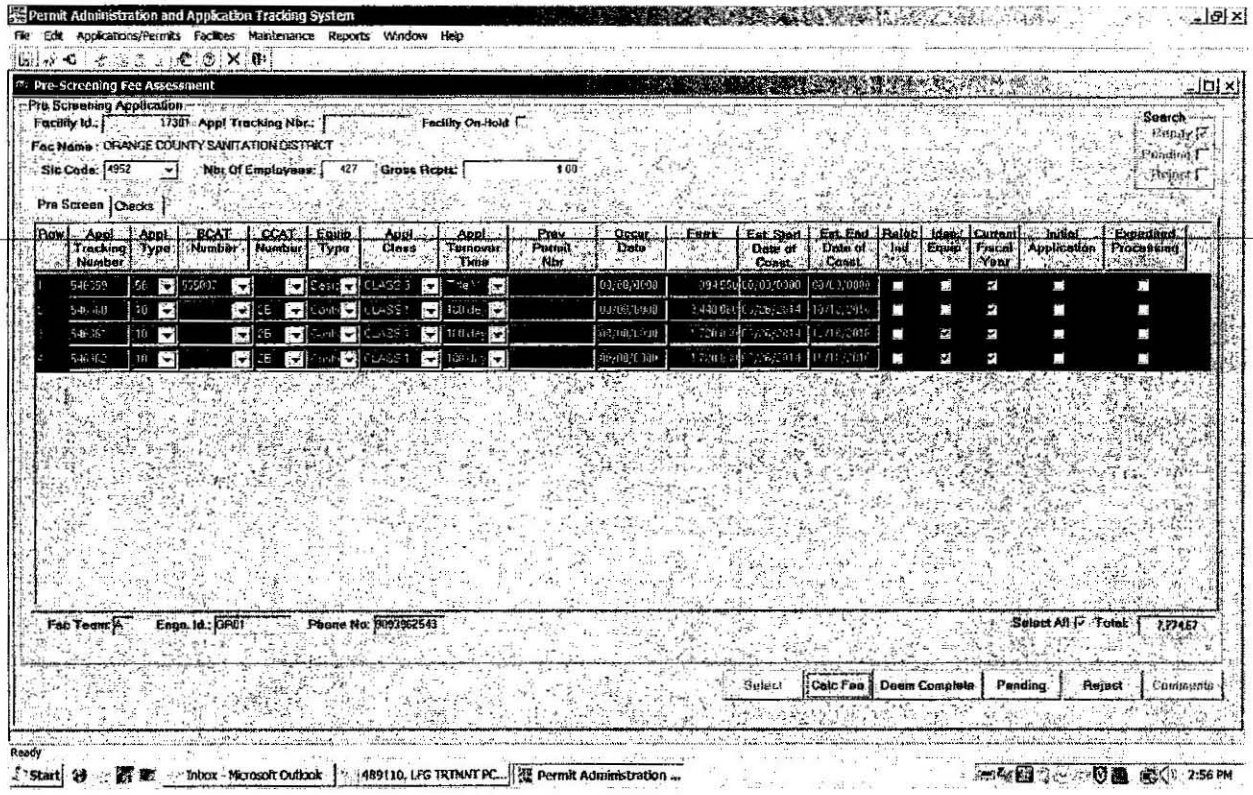
[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS



546360
546361
546362
} add on Cat ox/SCR identical to ICEs

B C-Cat = 2 B controls, 2 in series
Sch. C $3440.60 ea
$ 172003 each ident.

3/13/2013

TABLE IA - PERMIT FEE RATES FOR CONTROL EQUIPMENT

Equipment/Process	Schedule
Abatement System/HEPA, Asbestos, Lead	B
Activated Carbon Adsorber, Venting Single Source (s.s.=single source)	B
Activated Carbon Adsorber, Venting Multiple Source (m.s.=multiple sources)	C
Activated Carbon Adsorber, Other	D
Activated Carbon Adsorber, Drum Venting Toxic Source (t.s = toxic source)	C
Activated Carbon Adsorber, with regeneration	E
Afterburner (<=1 MMBTU/hr,venting s.s.)	B
Afterburner (<1 MMBTU/hr,venting m.s.)	C
Afterburner, Catalytic for Bakery Oven	C
Afterburner, Direct Flame	D
Afterburner/Oxidizer: Regenerative Ceramic/Hot Rock Bed Type, Recuperative Thermal	D
Afterburner/Oxidizer, Catalytic	D
Air Filter, Custom	C
Amine (or DEA) Regeneration Unit[1]	D
Amine Treating Unit[1]	D
Baghouse, Ambient (<= 100 FT^2)	A
Baghouse, Ambient (> 100 - 500 FT^2)	B
Baghouse, Ambient (> 500 FT^2)	C
Baghouse, Hot (>350 F)	D
Biofilter (<= 100 cfm)	B
Biofilter (> 100 cfm)	C
Boiler as Afterburner	D
CO Boiler	F
Condenser	C
Control Systems, two in series	C
Control Systems, three in series	D
Control Systems, four or more in series	E
Control Systems, Venting Plasma Arc Cutters	B1
Cyclone	B
Dry Filter (<= 100 FT^2)	A
Dry Filter (>100 - 500 FT^2)	B
Dry Filter (>500 FT^2)	C

Equipment/Process	Schedule
Dust Collector/HEPA, other Rule 1401 toxics	C
Electrostatic Precipitator, Restaurant	B
Electrostatic Precipitator, Asphalt Batch Equipment	C
Electrostatic Precipitator, Extruder	B
Electrostatic Precipitator, < 3000 CFM	B
Electrostatic Precipitator, => 3000 CFM	D
Electrostatic Precipitator for Fluid Catalytic Cracking Unit (FCCU)	H
Ethylene Oxide Sterilization, Control, Hospital	B
Flare, Landfill/Digester Gas, Enclosed	E
Flare, Landfill/Digester Gas, Open	C
Flare, Portable	B
Flare System, Refinery[2]	F
Flare Other	C
Flue Gas Desulfurization[1]	D
Gas Absorption Unit[3]	D
Gas Scrubbing System[1]	F
Incinerator, Afterburner	D
Mesh pads, for toxics gas stream	C
Mesh pads, for other acid mists	B
Mist Control	B
Mist Eliminator with HEPA	C
Negative Air Machine/HEPA, Asbestos, Lead	A
Non-Selective Catalytic Reduction	B
Odor Control Unit	D
Relief and Blowdown System[4]	D
Scrubber, Biofiltration	C
Scrubber Controlling NO_X venting	D
Scrubber Controlling SO_X venting	D
Scrubber Controlling HCL or NH_3 venting s.s.	B
Scrubber Controlling HCL or NH_3 venting m.s.	C
Scrubber, NOx, multistage	D
Scrubber, NOx, single stage	C
Scrubber, Odor, <5000 cfm	C
Scrubber, Other venting s.s.	B
Scrubber, Other venting m.s.	C

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G2956
A/N 486792

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 2 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

Conditions:

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[RULE 204]

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[RULE 204]

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[RULE 1110.2]

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[RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
[RULE 204]

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[RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

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9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

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PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
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[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

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AIR CONTAMINANT	LBS/DAY
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NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

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[RULE 218, RULE 1110.2]

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A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

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E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

Serving:
Anaheim
Brea
Buena Park
Cypress
Fountain Valley
Fullerton
Garden Grove
Huntington Beach
Irvine
La Habra
La Palma
Los Alamitos
Newport Beach
Orange
Placentia
Santa Ana
Seal Beach
Stanton
Tustin
Villa Park
Yorba Linda
County of Orange
Costa Mesa Sanitary District
Midway City Sanitary District
Irvine Ranch Water District

Orange County Sanitation District

10844 Ellis Avenue, Fountain Valley, CA 92708
(714) 962-2411 www.ocsewers.com

December 12, 2012

Charles Tupac
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

SUBJECT: Application for Title V Permit Revision: Central Power Generation Systems Engines at Orange County Sanitation District for SCAQMD Rule 1110.2 Compliance

Please find the enclosed Title V permit revision application for the Central Power Generation Systems (CGS) located at Orange County Sanitation District's two wastewater treatment plants. The CGS at each plant consists of lean-burn internal combustion engines, fueled primarily with digester gas and supplemented with small amounts of natural gas.

The purpose of this application is to modify the existing CGS engine permits to retrofit each engine with the catalytic oxidation and selective catalytic reduction systems in order to comply with the emission limits established in recently amended SCAQMD Rule 1110.2, The following Permits-to-Operate will be modified as a result of the enclosed permit application:

- Plant No. 1 (SCAQMD Facility ID. No. 17301) CGS Engines: Permit Nos. G2957; G2956; and G2955
- Plant No. 2 (SCAQMD Facility ID. No. 29110) CGS Engines: Permit Nos. G2958; G2959; G2964; G2966; and G2967

Enclosed with this letter are:

- For Plant No. 1 (SCAQMD Facility ID. No. 17301)
  - (4) SCAQMD Form 400-A: Application for Permit or Plan Approval
  - (1) SCAQMD Form 500-A2: Title V Application Certification
  - (1) SCAQMD Form 500-C1: Title V Compliance Status Report
  - (1) SCAQMD Form 400-CEQA
  - (3) SCAQMD Form 400-E-5: SCR System, Oxidation Catalyst, and Ammonia Catalyst
  - (3) SCAQMD Form 400-PS: Plot Plan And Stack Information
  - A check in the amount of $10,390.27 for the processing fee ($894.55 for Title V Permit Revision; $4747.86 for the first engine and $4747.86 for remaining two engines)
- For Plant No. 2 (SCAQMD Facility ID. No. 29110)
  - (6) SCAQMD Form 400-A: Application for Permit or Plan Approval
  - (1) SCAQMD Form 500-A2: Title V Application Certification
  - (1) SCAQMD Form 500-C1: Title V Compliance Status Report
  - (1) SCAQMD Form 400-CEQA
  - (5) SCAQMD Form 400-E-5: SCR System, Oxidation Catalyst, and Ammonia Catalyst
  - (5) SCAQMD Form 400-PS: Plot Plan And Stack Information
  - A check in the amount of $15,138.13 for the processing fee ($894.55 for Title V Permit Revision; $4747.86 for the first engine and $9495.72 for remaining four engines)
- Supplemental Information for both plants

If you have any questions or require further information, please contact Ms. Terry Ahn at (714) 593-7082 or tahn@ocsd.com.

James Colston
Environmental Compliance Manager

TA:JC:jb
H:\dept\eng\790\Groups\Compliance\Staff\ahn\Compliance\CGS\Permits\P2 CGS Permit Mod June 2012\CGS_Dec2012_J-111_ApplCvr.doc

Enclosure(s)
cc: Gaurang Rawal (SCAQMD)

South Coast Air Quality Management District

Form 400-CEQA

California Environmental Quality Act (CEQA) Applicability

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.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[1] has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].[2] Refer to the attached instructions for guidance in completing this form.[3] 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 Permit Services at (909) 396-3385 or (909) 396-2668.

Section A - Facility Information

1. **Facility Name** (Business Name of Operator To Appear On The Permit): Orange County Sanitation District

2. **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 17301

3. **Project Description:**
Installation of a catalytic oxidizer/selective catalytic reduction system on each of the Central Power Generation System engines. Expansion of the existing common digester gas cleaning system. (OCSD Job No. J-111)

Section B - Review For Exemption From Further CEQA Action

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
1.	◉	○	**A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project?** If yes, attach a copy of the signed Notice of Determination to this form.
2.	○	◉	**A request for a change of permittee only (without equipment modifications)?**
3.	○	◉	**A functionally identical permit unit replacement with no increase in rating or emissions?**
4.	○	◉	**A change of daily VOC permit limit to a monthly VOC permit limit?**
5.	○	◉	**Equipment damaged as a result of a disaster during state of emergency?**
6.	○	◉	**A Title V (i.e., Regulation XXX) permit renewal (without equipment modifications)?**
7.	○	◉	**A Title V administrative permit revision?**
8.	○	◉	**The conversion of an existing permit into an initial Title V permit?**

If "Yes" is checked for any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on page 2 and sign and date this form.

Section C - Review of Impacts Which May Trigger CEQA

Complete Parts 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	Part I - General
1.	○	○	**Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project?** 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.
2.	○	○	**Is this project part of a larger project?** If yes, attach a separate sheet to briefly describe the larger project.
			Part II - Air Quality
3.	○	○	**Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?**
4.	○	○	**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.

[1] 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.

[2] To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

[3] To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

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Section C - Review of Impacts Which May Trigger CEQA (cont.)			
	Yes	No	**Part II - Air Quality (cont.)**
5.	○	○	**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.	○	○	**Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?**
7.	○	○	**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?[4]**
			Part III – Water Resources
8.	○	○	**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.	○	○	**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.
			Part IV – Transportation/Circulation
10.			**Will the project result in** (Check all that apply):
	○	○	**a. the need for more than 350 new employees?**
	○	○	**b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?**
	○	○	**c. increase customer traffic by more than 700 visits per day?**
			Part V – Noise
11.	○	○	**Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?**
			Part VI – Public Services
12.			**Will the project create a permanent need for new or additional public services in any of the following areas** (Check all that apply):
	○	○	**a. Solid waste disposal?** Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	○	○	**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" response in Section C, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.***

Section D - Signatures

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.

1. Signature of Responsible Official of Firm:		2. Title of Responsible Official of Firm:
James D. Ruth		General Manager
3. Print Name of Responsible Official of Firm:		4. Date Signed:
James D. Ruth		12-5-12
5. Phone # of Responsible Official of Firm:	6. Fax # of Responsible Official of Firm:	7. Email of Responsible Official of Firm:
(714) 593-7110	(714) 968-4389	jruth@ocsd.com
8. Signature of Preparer, (If prepared by person other than responsible official of firm):		9. Title of Preparer:
		Regulatory Specialist
10. Print Name of Preparer:		11. Date Signed:
Terry Ahn		12/5/12
12. Phone # of Preparer:	13. Fax # of Preparer:	14. Email of Preparer:
(714) 593-7082	(714) 962-2591	tahn@ocsd.com

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

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

© South Coast Air Quality Management District, Form 400-CEQA (2009.04)

South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): Orange County Sanitation District

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Address 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): 10844 Ellis Avenue, Fountain Valley, CA 92708-7018 (●) Fixed Location ( ) Various Locations

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst

Manufacturer: Johnson Matthey Inc. or Equal — Catalyst Active Material: Vanadium Pentoxide

Model Number: 79449 or Equal — Type: Metallic Substrate

Size of Each Layer or Module: L: 8 ft. ____ in. W: ____ ft. 3.50 in. H: 8 ft. ____ in.

No. of Layers or Modules: 2 — Total Volume: 37.33 cu. ft. — Total Weight: 1600 lbs.

Reducing Agent

(●) Urea ( ) Anhydrous Ammonia ( ) Aqueous Ammonia ____ % — Injection Rate: 0.700 lb/hr

Reducing Agent Storage*

See Section 2.2.3 in Supplemental Information.

Diameter: ____ ft. ____ in. Height: ____ ft. ____ in. Capactity: ____ gal

Pressure Setting: ____ psia * A separate permit may be needed for the storage equipment.

Space Velocity

Gas Flow Rate/Catalyst Volume: 44289.0 per hour

Area Velocity

Gas Flow Rate/Wetted Catalyst Surface Area: ____ ft/hr

Manufacturer's Guarantee

NOx: 11.0 ppm $\%O_2$: 15.00 NOx: ____ gm/bhp-hr Ammonia Slip: 5 ppm @ 15.00 $\%O_2$

Catalyst Life

2 years (expected)

Cost

Capital Cost: ____ Installation Cost: ____ Catalyst Replacement Cost: ____

Oxidation Catalyst

Oxidation Catalyst

Manufacturer: Johnson Matthey Inc. or Equal — Catalyst Active Material: Aluminum Oxide or Platinum

Model Number: 91449 or Equal — Type: 200 cpsi oxidation catalyst or Equal

Size of Each Layer or Module: L: 8 ft. ____ in. W: ____ ft. 3.3 in. H: 8 ft. ____ in.

No. of Layers or Modules: 1 — Total Volume: 18.67 cu. ft. — Total Weight: 800.00 lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: 88554.0 per hour

Manufacturer's Guarantee

VOC: 30 ppm VOC: ____ gm/bhp-hr $\%O_2$: 15.00

CO: 250 ppm CO: ____ gm/bhp-hr $\%O_2$: 15.00

Catalyst Life

2 years (expected)

Cost

Capital Cost: ____ Installation Cost: ____ Catalyst Replacement Cost: ____

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South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)

Ammonia Catalyst

Ammonia Catalyst

Manufacturer: _____ Catalyst Active Material: _____

Model Number: _____ Type: _____

Size of Each Layer or Module: L: _____ ft. _____ in. W: _____ ft. _____ in. H: _____ ft. _____ in.

No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: _____ per hour

Manufacturer's Guarantee

NH_3: _____ ppm $\%O_2$: _____

Catalyst Life

_____ years (expected)

Cost

Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____

Section C - Operation Information

Operating Temperature

Minimum Inlet Temperature: 600 °F (from cold start) Maximum Temperature: 850 °F

Warm-up Time: 2 hr. _____ min. (maximum)

Operating Schedule

Normal: 24 hours/day 7 days/week 52 weeks/yr

Maximum: 24 hours/day 7 days/week 52 weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info

Signature: _____ Date: 12/5/12

Title: Terry Ahn Company Name: OCSD

Name: Terry Ahn

Phone #: (714) 593-7082 Fax #: _____

Email: tahn@ocsd.com

Contact Info

Name: Terry Ahn

Title: Regulatory Specialist Company Name: OCSD

Phone #: 7145937082 Fax #: _____

Email: tahn@ocsd.com

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

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South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

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

CG2 - FV
G2956

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator To Appears On The Permit): Orange County Sanitation District

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Address 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):

10844 Ellis Avenue, Fountain Valley, CA 92708-7018

(•) Fixed Location ( ) Various Locations

Section B - Location Data

Plot Plan

Please attach a site map for the project with distances and scales. Identify and locate the proposed equipment on the map. A copy of the appropriate Thomas Brothers page, a web-based map, or a sketch that shows the major streets and location of the equipment is acceptable.

Location of Schools Nearby

Is the facility located within a 1/4 mile radius (1,320 feet) of the outer boundary of a school? ( ) Yes (•) No

If yes, please provide name(s) of school(s) below:

School Name: _____ **School Name:** _____

School Address: _____ **School Address:** _____

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

CA Health & Safety Code 42301.9: "School" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.

Population Density

(•) Urban ( ) Rural (<50% of land within 3 km radius accounted for by urban land use categories, i.e., multi-family dwelling or industrial.)

Zoning Classification

(•) Mixed Use Residential Commercial Zone (M-U) ( ) Service and Professional Zone (C-S) ( ) Medium Commercial (C-3)

( ) Heavy Commercial (C-4) ( ) Commercial Manufacturing (C-M)

Section C - Emission Release Parameters - Stacks, Vents

Stack Data

Stack Height: 62.00 feet (above ground level) **What is the height of the closest building nearest the stack?** 47 feet

Stack Inside Diameter: 30.00 inches **Stack Flow:** 21,222 acfm **Stack Temperature:** 500 °F

Rain Cap Present: ( ) Yes (•) No **Stack Orientation:** (•) Vertical ( ) Horizontal

If the stack height is less than 2.5 times the closest building height (H), please provide information on any building within 5xH distance from the stack (attach additional sheet if necessary):

Building #/Name: See Attached Sheet for Details **Building #/Name:** See Attached Sheet for Details

Building Height: _____ feet (above ground level) **Building Height:** _____ feet (above ground level)

Building Width: _____ feet **Building Width:** _____ feet

Building Length: _____ feet **Building Length:** _____ feet

Receptor Distance From Equipment Stack or Roof Vents/Openings

Distance to nearest residence: 984 feet **Distance to nearest business:** 853 feet

Building Information

Are the emissions released from vents and/or openings from a building? ( ) Yes (•) No

If yes, please provide:

Building #/Name: _____ **Building Width:** _____ feet

Building Height: _____ feet (above ground level) **Building Length:** _____ feet

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South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

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

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submittfgfed with this application is true and correct.

Signature of Preparer:	Title of Preparer:	Preparer's Phone #: (714) 593-7082
	Regulatory Specialist	Preparer's Email: tahn@ocsd.com

Contact Person:	Contact's Phone#: (714) 593-7082	Date Signed:
Terry Ahn		12/5/12
Contact's Email: tahn@ocsd.com	Contact's Fax#: (714) 593-7785	

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

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Supplement to SCAQMD Form 400-PS:

Section C Stack Data for Plant 1 Engine 2

The stack height of Engine 2 at Plant No. 1 is less than 2.5 times the closest building height (H), therefore buildings heights and distances surrounding the stack were analyzed to see if they are within the 5xH distance from the stack. The following tables provide the name, height, width, and length of buildings within the 5xH distance from the stack.

Plant No. 1 Dimension Information for Buildings within 5xHeight of Engine 2 Stack

BUILDING NAME	BUILDING HEIGHT (FT)	BUILDING WIDTH (FT)	BUILDING LENGTH (FT)
Digester No. 6	45.6	46.9 ft (radius)[1]	
Digester No. 5	45.6	46.9 ft (radius)[1]	
Gas Compression Bldg	33.14	21.4	31.6
Operations Control Center	13.45	14.5	31.1

Notes:

1) Digesters near the stack for Engine 2 are circular in shape. A radius of these structures is provided in lieu of a length and width for rectangular buildings.

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

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

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: ○ Fixed Location ○ Various Location
(For equipment operated at various locations, provide address of initial site.)

10844 Ellis Avenue
Street Address

Fountain Valley , CA 92708-7018
City Zip

Terry Ahn — Contact Name
Regulatory Specialist — Title
(714) 593-7082 — Phone # — Ext.
(714) 962-2591 — Fax #
E-Mail: tahn@ocsd.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
☒ Check here if same as equipment location address

10844 Ellis Avenue
Address

Fountain Valley , CA 92708-7018
City State Zip

Terry Ahn — Contact Name
Regulatory Specialist — Title
(714) 593-7082 — Phone # — Ext.
(714) 962-2591 — Fax #
E-Mail: tahn@ocsd.com

Section D - Application Type

6. The Facility Is: ○ Not In RECLAIM or Title V ○ In RECLAIM ◉ In Title V ○ In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:
- ○ New Construction (Permit to Construct)
- ○ Equipment On-Site But Not Constructed or Operational
- ○ Equipment Operating Without A Permit *
- ○ Compliance Plan
- ○ Registration/Certification
- ○ Streamlined Standard Permit

7b. Facility Permits:
- ○ Title V Application or Amendment (Refer to Title V Matrix)
- ○ RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:
- ○ Administrative Change
- ◉ Alteration/Modification (50)
- ○ Alteration/Modification without Prior Approval *
- ○ Change of Condition
- ○ Change of Condition without Prior Approval *
- ○ Change of Location
- ○ Change of Location without Prior Approval *
- ○ Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number: G2955

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy):	8b. Estimated End Date of Construction (mm/dd/yyyy):	8c. Estimated Start Date of Operation (mm/dd/yyyy):
03/26/2014	10/18/2016	10/18/2016

9. Description of Equipment or Reason for Compliance Plan (list applicable rule):
Installation of CatOx/SCR system on Internal Combustion Engine (CG3-FV), 3471 HP, Nat Gas/Digester Gas Fired

10. For Identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process): 2

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) ◉ No ○ Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? ◉ No ○ Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Municipal Wastewater 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 ◉ Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? ◉ No ○ Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: James D. Ruth

18. Title of Responsible Official: General Manager

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ○ No ◉ Yes

20. Print Name: James D. Ruth

21. Date: 12-5-12

22. Do you claim confidentiality of data? (If Yes, see instructions.) ◉ No ○ Yes

23. Check List: ☒ Authorized Signature/Date ☒ Form 400-CEQA ☒ Supplemental Form(s) (ie., Form 400-E-xx) ☒ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED	PAYMENT TRACKING #	VALIDATION
	546362	10000533205	10390.27		1/8/13 mc

DATE	APP REJ	DATE	APP REJ	CLASS I / II	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
3/13/13	GKR			I	II	2B Ident.	A		

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(2) 106734

4/4

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546362
Granted as of 04/16/2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 3 (G2955) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

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6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

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ORANGE COUNTY SANITATION DISTRICT

14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

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D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	PAGES 15	PAGE 1
ENGINEERING AND COMPLIANCE DIVISION	APPL NO SEE BELOW Rvsd	DATE 2/26/2014
PERMIT APPLICATION EVALUATION AND CALCULATIONS	PROCESSED BY GCR	CHECKED BY

PERMIT TO CONSTRUCT EVALUATION

(Modifications to add DG cleaning system & addition of post-combustion controls to the CGS IC engines, POs' G2957, G2956 & G2955)

APPLICANT'S NAME: ORANGE COUNTY SANITATION DISTRICT (OCSD)

MAILING ADDRESS: 10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708
ATTN.: TERRY AHN, REGULATORY SPECIALIST

EQUIPMENT ADDRESS: WASTEWATER TREATMENT PLANT NO. 1
10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708

FACILITY ID. NO. : **17301**

CONTACT: Terry Ahn, Regulatory Specialist
Phone: (714) 593-7082 FAX: (714) 962-2591
E-mail: than@ocsd.com

EQUIPMENT DESCRIPTION:

Application No. 546360

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 1 (G2957) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

Application No. 546361

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 2 (G2956) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

Application No. 546362

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 3 (G2955) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

Conditions: (A/Ns 546360, 546361 & 546362)

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
[RULE 1110.2]

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE

TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

EMISSIONS AND REQUIREMENTS:

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

CO: RULE 1110.2 LIMIT
NOX: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

Note: Above are the proposed revised permits, as deemed necessary, based on OCSD's and SCAQMD's meetings and comments to the draft permits. Condition #15 was revised for mass emissions rates based on Rule 1110.2 concentration limits.

Application No. 559225

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 1 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC UREA FEED MONITORING AND CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X 62' H., ABOVE GROUND.

Application No. 559226

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 2 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC UREA FEED MONITORING AND CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X 62' H., ABOVE GROUND.

Application No. 559227

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 3 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC UREA FEED MONITORING AND CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X 62' H., ABOVE GROUND.

CONDITIONS: (559225, 559226, 559227)

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. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

EMISSIONS AND REQUIREMENTS:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP. [RULE 1303(b) (1)], [RULE 1402]

Note: Above are the proposed revised permits, as deemed necessary, based on OCSD's and SCAQMD's meetings and comments to the draft permits. Condition #15

BACKGROUND:

On January 8, 2013, Orange County Sanitation District (OCSD) submitted above applications (546360, 546361 and 546362) to add post-combustion control equipment (CatOx and SCR) and digester gas clean up system expansion for the existing three IC engines (G 2957, G2956 and G2955) at Fountain Valley (Sewage Treatment Plant #1), CA.
The proposed modification for the digester gas cleaning system (DGCS) and treatment of the engine's exhaust to further control emissions is required for regulatory compliance with new Rule 1110.2 emissions limits for CO, NOx and ROG using biogas fuel.
Although, at prescreening stage these applications were initially prescreened as control systems, two in a series for the add-on control (Schedule C), however, for simplicity of processing and with addition of few conditions for APC's, these applications are processed as modifications to existing engines' permits*, as current emissions are tied to the previous engine's permit and for simplicity of AEIS/NSR entries with respect to pre and post modifications of engine(s).
Fee will be kept same as submitted with the applications (this was based on modifications to current permits to operate for the engines).

*As per District's direction, OCSD was asked to submit new separate applications for the add-on control devices (CatOx /SCR). Therefore, on 12/20/2013, OCSD submitted 3 new applications; #559225, 559226 & 559227 for APCs.

A/Ns 557227 & 557228 for aqueous urea solution storage tanks were submitted on 10/13/2013.

A/N 546359 is also submitted for Title V de-minimis significant revision to include above permits to appropriate Title V permit section upon approval.

Note: If the equipment demonstrates compliance with the emissions limits by January 1, 2015 then their respective permit application fees to be refunded- Rule 1110.2 (d) (1) (E), amended Sept. 7, 2012.

PROCESS DESCRIPTION:

OCSD was granted a Rule 441 research permit (A/N 497717, G4633, 10/15/2009) for engine #1 that included digester gas cleaning system (DGCS) to remove mainly volatile silicon organic compounds (VSOC - Siloxanes), other impurities, some TNMOCs and total sulfur compounds from the digester gas to help improve combustion characteristics, improve engine operations and to extend engine life. Over several years, OCSD had conducted various experiments to develop emission reduction technology that employed post combustion control equipment- catalytic oxidation (to reduce CO and VOC emissions) and Selective Catalytic reduction (SCR), using aqueous urea solution injection into the engine's exhaust prior to SCR for NOx emission reduction. OCSD had made presentations about this emission reduction technology demonstrating that engine is capable of meeting Rule 1110.2 emissions limits for CO, NOx and ROG.

Based on successful results for achieving low emissions, OCSD had decided to modify existing engine's permits (3 engines at plant #1 and 5 engines at plant #2) with add-on controls in conjunction with DGCS that helps remove siloxanes

present in DG. For information purpose, typical emissions reduction results for CO, NOx and VOC are listed below (Source: A & WMA, West Coast Workshop Presentation, May 16, 2013);

Pollutant	Engine Outlet Avg. ppmv	Post-combustion Emission Avg. ppmv	Rule 1110.2 Limit ppmv (Effective January 1, 2016)
CO	452	**7.5**	250
NOx	31	**7.2**	11
VOC	97	**3.6**	30

Validated data -ppmv values at 15% O2, dry @ 15% O2, 15-minute average.

Note: Proposed DGCS is common to all three engines, supplying clean DG as fuel.
DGCS, CatOx and SCR systems for both plants are identified as **OCSD Project J-111**.

Engine:
Maximum heat input rate, design = 28.5 MMBTU/HR
Exhaust (stack) flow rate = 21,222 acfm, 500 deg. F (Form 400-PS)
Exhaust Stack = 30" Diameter x 62' above ground (Form 400-PS)

Following is the brief operation for catalytic oxidizer (CatOx) and Selective Catalytic Reduction (SCR) with urea injection.

A catalytic oxidizer (CatOx) will be installed to reduce CO and VOC emissions from the engine's exhaust. CatOx, located upstream of the SCR, will be equipped with temperature and pressure monitoring devices and controls. Operating temperature range is min. 600 to max. 850 deg F. CatOx inlet and outlet samples will be taken and analyzed for speciated VOC analysis, including Formaldehyde and other TACs. For CatOx specifications please refer to the information submitted with application. The typical chemical reaction is,

$$2\ CO + O_2 \rightarrow 2\ CO_2$$

$$CH_4 + 2\ O_2 \rightarrow CO_2 + 2\ H_2O$$

Selective Catalytic Reduction (SCR) System for NOx Control

NO and NO_2 in the engine's exhaust, at high temperature, will be reduced by the Selective Catalytic Reduction (SCR) system in presence of aqueous urea injection. The Urea reagent using an injection lance, with compressed air, is injected into the center of the exhaust piping, prior to the catalyst surface. Once the exhaust gas stream reaches the proper reactive temperature for the catalyst, the reagent automatically begins to flow. Control of the proper amount of Urea reagent required is typically done by mapping of NOx reduction performance curve based on engine operating conditions or by following a programmable NOx output based on the signal from the existing CEMS.
At temperature greater than 400 deg F, in the presence of water, the Urea hydrolyses to ammonia (NH_3) and CO2. As these molecules pass through the catalyst they react with NO_x to form N_2, H_2O, and CO_2. The chemical reaction is,

$(NH_2)_2\,CO + H_2O \rightarrow 2\ NH_3 + CO_2$ (Hydrolysis)
[Urea solution hydrolyzes, upon injection in the inlet duct line of SCR at >400 deg F]

$(NH_2)_2\,CO \rightarrow NH_3 + HNCO$ (Pyrolysis)

NH_3 OR HNCO + NOx + O_2 → N2 + H_2O + CO_2 (Catalytic Reduction).

NH3 to NOx ratio:

$4NH_3 + 4NO \rightarrow 4N2 + 6H_2O$
$6NO2 + 8NH_3 \rightarrow 7N2 + 12H_2O$

This is the molar ratio of the injected ammonia over the NOx at the catalyst inlet. SCR reactions require only one mole of NH3 to remove one mole of NOx and about 1.33 moles of NH3 to remove one mole of NO2. Depending on the fraction of NO2 in the overall NOx concentration, no more than 1.1 moles of NH3 are needed per mole of NOx for above reactions to happen. In order to control ammonia slip the uniformity of the NH3/NOx profile across the catalyst face is critical to the SCR process.

Estimated NH3 Injection Rate:

NOx emission rate in engine's exhaust (Pre-modification) = 5.1 lbs/hr, Table 2.3-1 Application submittal
= 5.1/46 =0.1108 lb. moles NOx/hr
Maximum moles of NH3 required/ mole of NOx = 1.1
NH3 required = 0.1108 x 1.1 = 0.1218 lb. moles NH3/ hr
= 0.1218 x 17 = 2.07 lbs NH3/hr
32.5% Wt. urea solution density =1.090 g/l x 8.33 = 9.08 lbs/gal. @20 deg C.
Lb. moles urea/gal = 9.08 lbs/gal x 0.325/ 60.05 MW of urea = 0.0491 lb moles urea/gal of solution.
When one mole of urea is injected in engine's exhaust, upon hydrolysis releases 2 moles of NH3.
$(NH_2)_2CO + H_2O \rightarrow 2\ NH_3 + CO_2$ (Hydrolysis)
Moles of NH3 released/gal of sol = 0.0491 x 2 = 0.0982 lb. moles NH3/ gallon of urea soln.

Urea injection rate needed = 0.1218 lb. moles of NH3 required / 0.0982 lb. moles NH3/gallon
= 1.24 gallon urea soln. /hr.

Urea dosing can change depending on the NOx reduction and other factors such as exhaust temperature, space velocity (volumetric flow of exhaust gas through the catalyst (ft/hr/ft3) and exhaust flow rate. NOx could be measured before and/or after the SCR catalyst through the use of NOx sensor. NOx concentration after SCR catalyst can be measured using CEMS. The level of ammonia slip is dependent on how NOx is being controlled. For typical NOx reduction of 90% - 95%, ammonia slip generally can vary 5-25 ppmv, measured at 15% O2, 1-hr average.

EMISSIONS:
Proposed installations will result in net emission reduction for CO, NOx and VOC. OCSD has estimated reduction in SOx and PM10 emissions based on pilot study source tests results. There will be an increase in ammonia emission- NH3 slip- (due to SCR and urea solution injection).

Following is the summary for maximum emissions reduction/engine, as provided by the OCSD for Plant No. 1 (Please refer to application submittal, Table 2.3-1).

POLLUTANT	PRE-MODIFICATION EMISSION., LBS/DAY	POST-MODIFICATION EMISSION., LBS/DAY	LBS/HR	NET CHANGE IN EMISSION, LBS/DAY
CO	440.3	11.2 (= 0.06 g/bhp-hr)	0.45	-429.1
NOx	122.7	11.9 (= 0.065 g/bhp-hr)	0.49	-110.8

PM10	12.0	1.28	0.05	-10.7
SOx	12.0	0.38	0.02	-11.6
VOC	92.0	0.64 (= 0.004 g/bhp-hr)	0.03	-91.4
NH3 SLIP*	-	3.71	0.15	+3.7

* Ammonia slip is based on 5 ppmv as the pilot project demonstrated maximum level of <5 ppmv ammonia slip. Results and Discussion of the research (pilot project), Final Report July 2011, Table 3-13, indicated free NH3 measurements at < Method Detection Limit (MDL), during 4/7/10 through 5/10/2011 at 65% to 100% engine load, whereas maximum calculated NH3 value was determined to be < 5 ppmv. Urea injection system is designed with associated automatic temperature, pressure monitoring and control devices. This can be considered as LAER for a major source.

AEIS/NSR:

Uncontrolled and controlled emissions are assigned to each IC engine (Basic Eqquipment) and respective APC (CatOx.SCR) are assigned zero emissions, except for ammonia slip.

For each engine,

Pollutant	**R1, lbs/hr**	**R2, lbs/hr**
CO	18.33	0.45
NOx	5.11	0.49
PM10	0.50	0.05
SOx	0.50	0.02
VOC	3.83	0.03

For each APC (Catox/SCR)

	R1, lbs/hr	**R2, lbs/hr**
NH3 (slip)	0.15	0.15

RULES EVALUATION

RULE 212: There is no school within 1000' of emission source. The proposed modifications to expand digester gas cleaning system and add-on post-combustion control equipment are expected to reduce emission. However, there will be an increase in ammonia emission (NH3 slip- 7.4 lbs/day) due urea solution injection for the SCR system. NO public notice is required. Compliance with this rule is expected.

RULE 401: With proper equipment operations, maintenance and keeping equipment in good operating condition, compliance is expected.

RULE 402: Nuisance complaints are not expected with the proper operation and monitoring of the equipment.

RULE 404: Compliance with its rule is expected. Previous source tests results (pre-modification) has shown compliance with this rule.

RULE 431.1: Total sulfur, as H2S, in DG is expected to be less than the rule limit of 40 ppmv H2S prior to DG combustion in IC engines. Also, DGCS is expected to reduce sulfur compounds from the DG. Compliance with this rule is expected.

REG. IX: **Standards of Performance for New stationary Sources**
Federal New Source Performance Standard (NSPS), 40 CFR Part 60 subpart JJJJ for spark ignition engines.

This rule is for emissions increase for CO, VOC and NOx pollutants. The proposed modifications will have net emissions reduction for CO, VOC and ROG. There is no increase in rated capacity of the CGS engine. Therefore, Reg. IX and NSPS subsection JJJJ is not applicable.

REG. X: **National Emission Standards for Hazardous Air Pollutants (NESHAP)**
40 CFR Part 63 subpart ZZZZ - MACT Standards

Based on year 2012 reported emissions for toxic air contaminants (TACs) single TAC is below 10 TPY and cumulative TACs emission is below 25 TPY. Therefore, the facility is not a major source for hazardous pollutants' emission and, facility is considered an area source.
(With the addition of proposed CatOx, significant reduction in VOC emissions is expected, and thereby also reduction in TACs/HAPS emissions once the system is in operation).

As per §63.6603 (a), existing stationary RICE located at an area source of HAP emissions, engine must comply with the requirements in Table 2d and, the operating limitations in Table 1b and Table 2b; as applicable.
Compliance with this regulation is expected.

REG. 1110.2: Proposed modifications (DGCS, CatOx and SCR) are to meet the new regulatory emissions limits for CO, NOx and VOC under Rule 1110.2, amended September 7, 2012. Based on pilot study (OCSD Project J-79) for engine #1, significant reductions in CO, NOx and VOC emissions are expected. Each engine is, therefore, expected to comply with the emissions limits shown under Rule 1110.2 (d) (1) (C), effective January 1, 2016, as listed below;

CO 250 ppmvd*
NOx 11 ppmvd, and*
VOC 30ppmvd*
*corrected to 15% O2, dry basis and averaged over 15 minutes.

Engine is expected to comply with start-up and shut down periods not to exceed 30 minutes. Engine start-up, after an overhaul or major repair/maintenance period not to exceed 4 operating hours is expected (per Rule 1110.2 (i) (10) and (11) listed under Exemptions).

Compliance with this rule is expected.

REG. XIII: Proposed modifications are expected to reduce criteria pollutants' emissions with respect to mass emissions rates for the current permit(s). Engine exhaust will be further treated by air pollution control equipment that is considered BACT for CO, NOx and VOC.

Note: Effective Jan. 1, 2016, Rule1110.2 compliance limits go into effect for CO, NOx and VOC. As a result, corresponding mass emissions rates (as confirmed by approved source tests and 180 days operation) will be considered as achieved in practice, and shall be considered as LAER limit for the major source category.

No modeling or offsets are required for criteria pollutants.

NH_3 is subject to NSR for BACT/LAER applicability for major source. A permit limit of 5 ppmv NH_3 slip is imposed based on pilot test results demonstrating < Method Detection Limit (MDL), 65% to 110% engine load, and calculated total NH3 values of < 5 ppmv. Urea injection system is designed with associated automatic temperature, pressure monitoring and control devices.
NH_3 is not considered a criteria pollutant, therefore, is not subject to offset requirement.

CEQA: For the proposed project, OCSD has provided a copy of Notice of Exemption, signed 9/20/12 and filed on 9/24/2012. Exemption category section # 15329. Cogeneration Projects at existing facility.

Compliance with this regulation is expected.

RULE 1401:

Proposed modification for post-combustion exhaust treatment by CatOx is expected to significantly reduce VOC/TAC emissions. Therefore, health risk is expected to be lower than the current permit and no further health risk analysis is required.

Ammonia is a new pollutant from SCR operation. However, ammonia emission is estimated to be below Emission Screening Levels shown under Table-1A for 25 meter receptor location.

NH3 emission = 3.7 lbs/day = **0.15 lbs/hr** = **1350 lbs/yr**.
Emission Screening Levels @ 25 meter, Acute threshold = **1.60 lbs/hr**

Chronic threshold = **6,610 lbs/yr**

Compliance with this Rule is expected.

REG. XVII:

Prevention of Significant deterioration (PSD)
This regulation incorporates the federal Prevention of Significant Deterioration (PSD) regulations and applies to major source or major modification of major sources located in attainment areas.

Major source is defined as any one of the 28 listed major source categories which emits, or has the PTE, ≥100 TPY of any regulated pollutant OR ≥ 250 TPY of any regulated pollutant if the stationary source does not fall under one of the 28 listed major source categories. OCSD plant is not listed on the 28 categories, therefore 250 TPY threshold applies. AER report (2012) shows CO emission of 97 TPY which is < 250 TPY threshold. Therefore OCSD plant 1 is not a major source and PSD is not applicable.

Major modification under PSD is triggered if the modification results in an increase in emissions > Significant Emission Rates (SERs) (40TPY for NOx, SOx and VOCs; 100 TPY CO, 15/25 TPY for Pm10/PM). The propose modifications would not result in emission increase greater than SERs. Therefore, this regulation does not apply.

Also, Rule 1704 specifically exempts OCSD which is classified as providers of Essential Public Services (EPS), if BACT is installed.

Rule 1714: Prevention of significant deterioration for greenhouse gases

The proposed modification of the existing source is not considered a major modification and would not result in a significant emission increase (SEI) defined in paragraph 40 CFR part 52.21(b) (11). Therefore, this rule is not applicable.

For information purpose only;
Potential to Emit (PTE) CO2e for a single engine (including biogenic CO2 in DG fuel)
= 1055.91 CO2e MTon/MMBTU/Yr x 28.5 MMBTU
= 30,093 CO2e MTon/yr
= 90,279 CO2e MTon/yr for 3 identical engines.

CONCLUSIONS/RECOMMENDATION:

The above equipment is expected to comply with all applicable District's Rules and Regulations.
Permit to construct is recommended for each IC engine and APC with subject to conditions listed above (upon completion of EPA review for the proposed Title V revision).

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT Reference Current Permit.

PERMIT TO OPERATE

Permit No. G2955
A/N 486760

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 3 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
   [RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
   [RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
   [RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

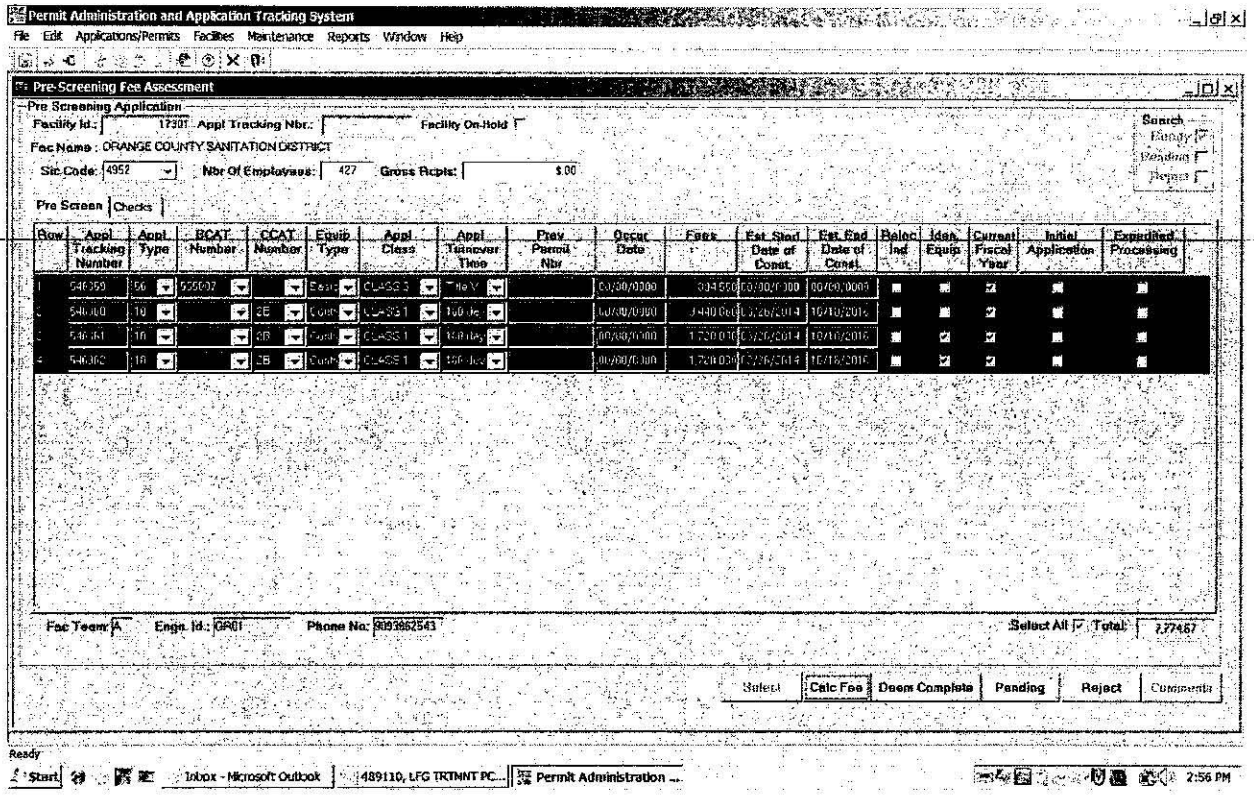
[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS



546360
546361
546362

add on CatOx/SCR identical to ICEs

B Cat = 2B controls, 2 in series

Sch. C $3440.60 1st

$172003 each ident.

3/13/2013

TABLE IA - PERMIT FEE RATES FOR CONTROL EQUIPMENT

Equipment/Process	Schedule
Abatement System/HEPA, Asbestos, Lead	B
Activated Carbon Adsorber, Venting Single Source (s.s.=single source)	B
Activated Carbon Adsorber, Venting Multiple Source (m.s.=multiple sources)	C
Activated Carbon Adsorber, Other	D
Activated Carbon Adsorber, Drum Venting Toxic Source (t.s = toxic source)	C
Activated Carbon Adsorber, with regeneration	E
Afterburner (<=1 MMBTU/hr,venting s.s.)	B
Afterburner (<1 MMBTU/hr,venting m.s.)	C
Afterburner, Catalytic for Bakery Oven	C
Afterburner, Direct Flame	D
Afterburner/Oxidizer: Regenerative Ceramic/Hot Rock Bed Type, Recuperative Thermal	D
Afterburner/Oxidizer, Catalytic	D
Air Filter, Custom	C
Amine (or DEA) Regeneration Unit[1]	D
Amine Treating Unit[1]	D
Baghouse, Ambient (<= 100 FT^2)	A
Baghouse, Ambient (> 100 - 500 FT^2)	B
Baghouse, Ambient (> 500 FT^2)	C
Baghouse, Hot (>350 F)	D
Biofilter (<= 100 cfm)	B
Biofilter (> 100 cfm)	C
Boiler as Afterburner	D
CO Boiler	F
Condenser	C
Control Systems, two in series	C
Control Systems, three in series	D
Control Systems, four or more in series	E
Control Systems, Venting Plasma Arc Cutters	B1
Cyclone	B
Dry Filter (<= 100 FT^2)	A
Dry Filter (>100 - 500 FT^2)	B
Dry Filter (>500 FT^2)	C

Equipment/Process	Schedule
Dust Collector/HEPA, other Rule 1401 toxics	C
Electrostatic Precipitator, Restaurant	B
Electrostatic Precipitator, Asphalt Batch Equipment	C
Electrostatic Precipitator, Extruder	B
Electrostatic Precipitator, < 3000 CFM	B
Electrostatic Precipitator, => 3000 CFM	D
Electrostatic Precipitator for Fluid Catalytic Cracking Unit (FCCU)	H
Ethylene Oxide Sterilization, Control, Hospital	B
Flare, Landfill/Digester Gas, Enclosed	E
Flare, Landfill/Digester Gas, Open	C
Flare, Portable	B
Flare System, Refinery[2]	F
Flare Other	C
Flue Gas Desulfurization[1]	D
Gas Absorption Unit[3]	D
Gas Scrubbing System[1]	F
Incinerator, Afterburner	D
Mesh pads, for toxics gas stream	C
Mesh pads, for other acid mists	B
Mist Control	B
Mist Eliminator with HEPA	C
Negative Air Machine/HEPA, Asbestos, Lead	A
Non-Selective Catalytic Reduction	B
Odor Control Unit	D
Relief and Blowdown System[4]	D
Scrubber, Biofiltration	C
Scrubber Controlling NO_X venting	D
Scrubber Controlling SO_X venting	D
Scrubber Controlling HCL or NH_3 venting s.s.	B
Scrubber Controlling HCL or NH_3 venting m.s.	C
Scrubber, NOx, multistage	D
Scrubber, NOx, single stage	C
Scrubber, Odor, <5000 cfm	C
Scrubber, Other venting s.s.	B
Scrubber, Other venting m.s.	C

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G2955
A/N 486760

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 3 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
[RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
[RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
[RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions And Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

Serving:
Anaheim
Brea
Buena Park
Cypress
Fountain Valley
Fullerton
Garden Grove
Huntington Beach
Irvine
La Habra
La Palma
Los Alamitos
Newport Beach
Orange
Placentia
Santa Ana
Seal Beach
Stanton
Tustin
Villa Park
Yorba Linda
County of Orange
Costa Mesa Sanitary District
Midway City Sanitary District
Irvine Ranch Water District

Orange County Sanitation District

10844 Ellis Avenue, Fountain Valley, CA 92708
(714) 962-2411 www.ocsewers.com

December 12, 2012

Charles Tupac
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

SUBJECT: Application for Title V Permit Revision: Central Power Generation Systems Engines at Orange County Sanitation District for SCAQMD Rule 1110.2 Compliance

Please find the enclosed Title V permit revision application for the Central Power Generation Systems (CGS) located at Orange County Sanitation District's two wastewater treatment plants. The CGS at each plant consists of lean-burn internal combustion engines, fueled primarily with digester gas and supplemented with small amounts of natural gas.

The purpose of this application is to modify the existing CGS engine permits to retrofit each engine with the catalytic oxidation and selective catalytic reduction systems in order to comply with the emission limits established in recently amended SCAQMD Rule 1110.2, The following Permits-to-Operate will be modified as a result of the enclosed permit application:

- Plant No. 1 (SCAQMD Facility ID. No. 17301) CGS Engines: Permit Nos. G2957; G2956; and G2955
- Plant No. 2 (SCAQMD Facility ID. No. 29110) CGS Engines: Permit Nos. G2958; G2959; G2964; G2966; and G2967

Enclosed with this letter are:

- For Plant No. 1 (SCAQMD Facility ID. No. 17301)
  - (4) SCAQMD Form 400-A: Application for Permit or Plan Approval
  - (1) SCAQMD Form 500-A2: Title V Application Certification
  - (1) SCAQMD Form 500-C1: Title V Compliance Status Report
  - (1) SCAQMD Form 400-CEQA
  - (3) SCAQMD Form 400-E-5: SCR System, Oxidation Catalyst, and Ammonia Catalyst
  - (3) SCAQMD Form 400-PS: Plot Plan And Stack Information
  - A check in the amount of $10,390.27 for the processing fee ($894.55 for Title V Permit Revision; $4747.86 for the first engine and $4747.86 for remaining two engines)
- For Plant No. 2 (SCAQMD Facility ID. No. 29110)
  - (6) SCAQMD Form 400-A: Application for Permit or Plan Approval
  - (1) SCAQMD Form 500-A2: Title V Application Certification
  - (1) SCAQMD Form 500-C1: Title V Compliance Status Report
  - (1) SCAQMD Form 400-CEQA
  - (5) SCAQMD Form 400-E-5: SCR System, Oxidation Catalyst, and Ammonia Catalyst
  - (5) SCAQMD Form 400-PS: Plot Plan And Stack Information
  - A check in the amount of $15,138.13 for the processing fee ($894.55 for Title V Permit Revision; $4747.86 for the first engine and $9495.72 for remaining four engines)
- Supplemental Information for both plants

If you have any questions or require further information, please contact Ms. Terry Ahn at (714) 593-7082 or tahn@ocsd.com.

James Colston
Environmental Compliance Manager

TA:JC:jb
H:\dept\eng\790\Groups\Compliance\Staff\ahn\Compliance\CGS\Permits\P2 CGS Permit Mod June 2012\CGS_Dec2012_J-111_ApplCvr.doc

Enclosure(s)
cc: Gaurang Rawal (SCAQMD)

South Coast Air Quality Management District

Form 400-CEQA

California Environmental Quality Act (CEQA) Applicability

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.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[1] has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].[2] Refer to the attached instructions for guidance in completing this form.[3] 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 Permit Services at (909) 396-3385 or (909) 396-2668.

Section A - Facility Information

1. **Facility Name** (Business Name of Operator To Appear On The Permit): Orange County Sanitation District

2. **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 17301

3. **Project Description:**

Installation of a catalytic oxidizer/selective catalytic reduction system on each of the Central Power Generation System engines. Expansion of the existing common digester gas cleaning system. (OCSD Job No. J-111)

Section B - Review For Exemption From Further CEQA Action

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
1.	◉	○	**A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project?** If yes, attach a copy of the signed Notice of Determination to this form.
2.	○	◉	**A request for a change of permittee only (without equipment modifications)?**
3.	○	◉	**A functionally identical permit unit replacement with no increase in rating or emissions?**
4.	○	◉	**A change of daily VOC permit limit to a monthly VOC permit limit?**
5.	○	◉	**Equipment damaged as a result of a disaster during state of emergency?**
6.	○	◉	**A Title V** (i.e., Regulation XXX) **permit renewal (without equipment modifications)?**
7.	○	◉	**A Title V administrative permit revision?**
8.	○	◉	**The conversion of an existing permit into an initial Title V permit?**

If "Yes" is checked for any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on page 2 and sign and date this form.

Section C - Review of Impacts Which May Trigger CEQA

Complete Parts 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	Part I - General
1.	○	○	**Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project?** 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.
2.	○	○	**Is this project part of a larger project?** If yes, attach a separate sheet to briefly describe the larger project.
			Part II - Air Quality
3.	○	○	**Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?**
4.	○	○	**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.

[1] 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.

[2] To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

[3] To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

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Section C - Review of Impacts Which May Trigger CEQA (cont.)			
	Yes	No	**Part II - Air Quality (cont.)**
5.	○	○	**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.	○	○	**Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?**
7.	○	○	**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?[4]**
			Part III – Water Resources
8.	○	○	**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.	○	○	**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.
			Part IV – Transportation/Circulation
10.			**Will the project result in** (Check all that apply):
	○	○	**a. the need for more than 350 new employees?**
	○	○	**b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?**
	○	○	**c. increase customer traffic by more than 700 visits per day?**
			Part V – Noise
11.	○	○	**Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?**
			Part VI – Public Services
12.			**Will the project create a permanent need for new or additional public services in any of the following areas** (Check all that apply):
	○	○	**a. Solid waste disposal?** Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	○	○	**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" response in Section C, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.*

Section D - Signatures

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.

1. Signature of Responsible Official of Firm: James D. Ruth		2. Title of Responsible Official of Firm: General Manager
3. Print Name of Responsible Official of Firm: James D. Ruth		4. Date Signed: 12-5-12
5. Phone # of Responsible Official of Firm: (714) 593-7110	6. Fax # of Responsible Official of Firm: (714) 968-4389	7. Email of Responsible Official of Firm: jruth@ocsd.com
8. Signature of Preparer, (If prepared by person other than responsible official of firm):		9. Title of Preparer: Regulatory Specialist
10. Print Name of Preparer: Terry Ahn		11. Date Signed: 12/5/12
12. Phone # of Preparer: (714) 593-7082	13. Fax # of Preparer: (714) 962-2591	14. Email of Preparer: tahn@ocsd.com

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

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

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South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

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

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): Orange County Sanitation District

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Address 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): 10844 Ellis Avenue, Fountain Valley, CA 92708-7018

(•) Fixed Location ( ) Various Locations

Section B - Equipment Description

Selective Catalytic Reduction (SCR)

SCR Catalyst

Manufacturer: Johnson Matthey Inc. or Equal — Catalyst Active Material: Vanadium Pentoxide

Model Number: 79449 or Equal — Type: Metallic Substrate

Size of Each Layer or Module: L: 8 ft. ____ in. W: ____ ft. 3.50 in. H: 8 ft. ____ in.

No. of Layers or Modules: 2 — Total Volume: 37.33 cu. ft. — Total Weight: 1600 lbs.

Reducing Agent

(•) Urea ( ) Anhydrous Ammonia ( ) Aqueous Ammonia ____ % — Injection Rate: 0.700 lb/hr

Reducing Agent Storage*

See Section 2.2.3 in Supplemental Information.

Diameter: ____ ft. ____ in. Height: ____ ft. ____ in. Capacity: ____ gal

Pressure Setting: ____ psia

* A separate permit may be needed for the storage equipment.

Space Velocity

Gas Flow Rate/Catalyst Volume: 44289.0 per hour

Area Velocity

Gas Flow Rate/Wetted Catalyst Surface Area: ____ ft/hr

Manufacturer's Guarantee

NOx: 11.0 ppm $\%O_2$: 15.00 — NOx: ____ gm/bhp-hr — Ammonia Slip: 5 ppm @ 15.00 $\%O_2$

Catalyst Life

2 years (expected)

Cost

Capital Cost: ____ Installation Cost: ____ Catalyst Replacement Cost: ____

Oxidation Catalyst

Oxidation Catalyst

Manufacturer: Johnson Matthey Inc. or Equal — Catalyst Active Material: Aluminum Oxide or Platinum

Model Number: 91449 or Equal — Type: 200 cpsi oxidation catalyst or Equal

Size of Each Layer or Module: L: 8 ft. ____ in. W: ____ ft. 3.3 in. H: 8 ft. ____ in.

No. of Layers or Modules: 1 — Total Volume: 18.67 cu. ft. — Total Weight: 800.00 lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: 88554.0 per hour

Manufacturer's Guarantee

VOC: 30 ppm VOC: ____ gm/bhp-hr $\%O_2$: 15.00

CO: 250 ppm CO: ____ gm/bhp-hr $\%O_2$: 15.00

Catalyst Life

2 years (expected)

Cost

Capital Cost: ____ Installation Cost: ____ Catalyst Replacement Cost: ____

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South Coast Air Quality Management District

Form 400-E-5
Selective Catalytic Reduction (SCR) System, Oxidation Catalyst, and Ammonia Catalyst

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section B - Equipment Description (cont.)

Ammonia Catalyst

Ammonia Catalyst

Manufacturer: _____ Catalyst Active Material: _____

Model Number: _____ Type: _____

Size of Each Layer or Module: L: _____ ft. _____ in. W: _____ ft. _____ in. H: _____ ft. _____ in.

No. of Layers or Modules: _____ Total Volume: _____ cu. ft. Total Weight: _____ lbs.

Space Velocity

Gas Flow Rate/Catalyst Volume: _____ per hour

Manufacturer's Guarantee

NH_3: _____ ppm $\%O_2$: _____

Catalyst Life

_____ years (expected)

Cost

Capital Cost: _____ Installation Cost: _____ Catalyst Replacement Cost: _____

Section C - Operation Information

Operating Temperature

Minimum Inlet Temperature: 600 °F (from cold start) Maximum Temperature: 850 °F

Warm-up Time: 2 hr. _____ min. (maximum)

Operating Schedule

Normal: 24 hours/day 7 days/week 52 weeks/yr

Maximum: 24 hours/day 7 days/week 52 weeks/yr

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info

Signature: _____ Date: 12/5/12

Title: Terry Ahn Company Name: OCSD

Name: Terry Ahn

Phone #: (714) 593-7082 Fax #: _____

Email: tahn@ocsd.com

Contact Info

Name: Terry Ahn

Title: Regulatory Specialist Company Name: OCSD

Phone #: 7145937082 Fax #: _____

Email: tahn@ocsd.com

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

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South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

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

CG3-FV
G2955

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

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

Section A - Operator Information

Facility Name (Business Name of Operator To Appears On The Permit): Orange County Sanitation District

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Address 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): 10844 Ellis Avenue, Fountain Valley, CA 92708-7018

(•) Fixed Location ( ) Various Locations

Section B - Location Data

Plot Plan

Please attach a site map for the project with distances and scales. Identify and locate the proposed equipment on the map. A copy of the appropriate Thomas Brothers page, a web-based map, or a sketch that shows the major streets and location of the equipment is acceptable.

Location of Schools Nearby

Is the facility located within a 1/4 mile radius (1,320 feet) of the outer boundary of a school? ( ) Yes (•) No

If yes, please provide name(s) of school(s) below:

School Name: _____ **School Name:** _____

School Address: _____ **School Address:** _____

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

CA Health & Safety Code 42301.9: "School" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.

Population Density

(•) Urban ( ) Rural (<50% of land within 3 km radius accounted for by urban land use categories, i.e., multi-family dwelling or industrial.)

Zoning Classification

(•) Mixed Use Residential Commercial Zone (M-U) ( ) Service and Professional Zone (C-S) ( ) Medium Commercial (C-3)

( ) Heavy Commercial (C-4) ( ) Commercial Manufacturing (C-M)

Section C - Emission Release Parameters - Stacks, Vents

Stack Data

Stack Height: 62.00 feet (above ground level) **What is the height of the closest building nearest the stack?** 47 feet

Stack Inside Diameter: 30.00 inches **Stack Flow:** 21,222 acfm **Stack Temperature:** 500 °F

Rain Cap Present: ( ) Yes (•) No **Stack Orientation:** (•) Vertical ( ) Horizontal

If the stack height is less than 2.5 times the closest building height (H), please provide information on any building within 5xH distance from the stack (attach additional sheet if necessary):

Building #/Name: See Attached Sheet for Details **Building #/Name:** See Attached Sheet for Details

Building Height: _____ feet (above ground level) **Building Height:** _____ feet (above ground level)

Building Width: _____ feet **Building Width:** _____ feet

Building Length: _____ feet **Building Length:** _____ feet

Receptor Distance From Equipment Stack or Roof Vents/Openings

Distance to nearest residence: 984 feet **Distance to nearest business:** 820 feet

Building Information

Are the emissions released from vents and/or openings from a building? ( ) Yes (•) No

If yes, please provide:

Building #/Name: _____ **Building Width:** _____ feet

Building Height: _____ feet (above ground level) **Building Length:** _____ feet

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South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

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

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submittfgfed with this application is true and correct.

Signature of Preparer:	Title of Preparer:	Preparer's Phone #: (714) 593-7082 Preparer's Email: tahn@ocsd.com
	Regulatory Specialist	

Contact Person: Terry Ahn	Contact's Phone#: (714) 593-7082	Date Signed: 12/5/12
Contact's Email: tahn@ocsd.com	Contact's Fax#: (714) 593-7785	

THIS IS A PUBLIC DOCUMENT

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Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

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Supplement to SCAQMD Form 400-PS

Plot Plan and Stack Information Form

Section C Stack Data for Plant 1 Engine 3

The stack height of Engine 3 at Plant No. 1 is less than 2.5 times the closest building height (H), therefore buildings heights and distances surrounding the stack were analyzed to see if they are within the 5xH distance from the stack. The following tables provide the name, height, width, and length of buildings within the 5xH distance from the stack.

Plant No. 1 Dimension Information for Buildings within 5xHeight of Engine 3 Stack

BUILDING NAME	BUILDING HEIGHT (FT)	BUILDING WIDTH (FT)	BUILDING LENGTH (FT)
Digester No. 6	45.6	46.9 ft (radius)[1]	
Digester No. 5	45.6	46.9 ft (radius)[1]	
Gas Compression Bldg	33.14	21.4	31.6
Operations Control Center	13.45	14.5	31.1

Notes:

1) Digesters near the stack for Engine 3 are circular in shape. A radius of these structures is provided in lieu of a length and width for rectangular buildings.

ROUTING RECORD

DATE	FROM	TO	ACTION
10-10-14	CT01	GR01	prescreen HR
10-16-14	GR01		III PO NO PC
10-29-14	GR01	CT01	PO NO PC Recom.
01-28-15	GR01	CT01	Rev. PO NO PC
2-2-15	CT	AL	Proposed Revision to EPA HR
5-13-15	GR01	CT01	Issue PO
5-13-15	CT	P/S	P/S HR

REFERENCE TO OTHER APCD RECORDS INCLUDING VARIANCES

~~21~~

31

TV Rev #9 5-15-2015

Sec D Rev # 6

G35620

APPL # 568969

I.D. # 17301

ORANGE COUNTY SANITATION DISTRICT

10844 ELLIS AVE

FOUNTAIN VALLEY

ABRASIVE BLASTING CABINET

Date: 10/09/14

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

XPP

2

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

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

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (●) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

10844 Ellis Avenue
Street Address

Fountain Valley , CA 92708-7018
City Zip

Terry Ahn — Contact Name
Regulatory Specialist — Title

(714) 593-7082 — Phone # — Ext.
(714) 962-2591 — Fax #

E-Mail: tahn@ocsd.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
[X] Check here if same as equipment location address

10844 Ellis Avenue
Address

Fountain Valley , CA 92708-7018
City State Zip

Terry Ahn — Contact Name
Regulatory Specialist — Title

(714) 593-7082 — Phone # — Ext.
(714) 962-2591 — Fax #

E-Mail: tahn@ocsd.com

Section D - Application Type

6. The Facility Is: ( ) Not In RECLAIM or Title V ( ) In RECLAIM (●) In Title V ( ) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:

- ( ) New Construction (Permit to Construct)
- ( ) Equipment On-Site But Not Constructed or Operational
- (●) Equipment Operating Without A Permit * 30
- ( ) Compliance Plan
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

7b. Facility Permits:

- ( ) Title V Application or Amendment (Refer to Title V Matrix)
- ( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:

- ( ) Administrative Change
- ( ) Alteration/Modification
- ( ) Alteration/Modification without Prior Approval *
- ( ) Change of Condition
- ( ) Change of Condition without Prior Approval *
- ( ) Change of Location
- ( ) Change of Location without Prior Approval *
- ( ) Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy):
8b. Estimated End Date of Construction (mm/dd/yyyy):
8c. Estimated Start Date of Operation (mm/dd/yyyy): 02/24/2014

9. Description of Equipment or Reason for Compliance Plan (list applicable rule):
Abrasive Blasting Cabinet, Media Blast & Abrasives, Inc. Model No. PowerPeen 6060

10. For identical equipment, how many additional applications are being submitted with this application?
(Form 400-A required for each equipment / process)

11. Are you a Small Business as per AQMD's Rule 102 definition?
(10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (●) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? (●) No ( ) Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location?
Municipal Wastewater 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 (●) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (●) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: James Herberg

18. Title of Responsible Official: General Manager

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ( ) No (●) Yes

20. Print Name: James Herberg

21. Date: 10-07-2014

22. Do you claim confidentiality of data? (If Yes, see instructions.) (●) No ( ) Yes

23. Check List: [X] Authorized Signature/Date [X] Form 400-CEQA [X] Supplemental Form(s) (ie., Form 400-E-xx) [X] Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED	PAYMENT TRACKING #	VALIDATION
	547969	1000068482	5597.85		10/9/1404

DATE	APP / REJ	DATE	APP / REJ	CLASS	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
10/16/14	G			I II III		284	A		

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(113884)

1/2

14 OCT -9 P2:27

S.C.A.Q.M.D.
PERMIT PROCESSING

South Coast Air Quality Management District

Form 400-CEQA
California Environmental Quality Act (CEQA) Applicability

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.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[1] has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].[2] Refer to the attached instructions for guidance in completing this form.[3] 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 Permit Services at (909) 396-3385 or (909) 396-2668.

Section A - Facility Information

1. Facility Name (Business Name of Operator To Appear On The Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

3. Project Description: Installation of one (1) 5.00' L x 4.25' W x 3.33' H Abrasive Blasting Cabinet

Section B - Review For Exemption From Further CEQA Action

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
1.	○	◉	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, attach a copy of the signed Notice of Determination to this form.
2.	○	◉	A request for a change of permittee only (without equipment modifications)?
3.	○	◉	A functionally identical permit unit replacement with no increase in rating or emissions?
4.	○	◉	A change of daily VOC permit limit to a monthly VOC permit limit?
5.	○	◉	Equipment damaged as a result of a disaster during state of emergency?
6.	○	◉	A Title V (i.e., Regulation XXX) permit renewal (without equipment modifications)?
7.	○	◉	A Title V administrative permit revision?
8.	○	◉	The conversion of an existing permit into an initial Title V permit?

If "Yes" is checked for any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on page 2 and sign and date this form.

Section C - Review of Impacts Which May Trigger CEQA

Complete Parts 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	Part I - General
1.	○	◉	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? 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.
2.	○	◉	Is this project part of a larger project? If yes, attach a separate sheet to briefly describe the larger project.
			Part II - Air Quality
3.	○	◉	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	○	◉	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.

[1] 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.

[2] To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

[3] To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

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Section C - Review of Impacts Which May Trigger CEQA (cont.)			
	Yes	No	Part II - Air Quality (cont.)
5.	○	◉	**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.	○	◉	**Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?**
7.	○	◉	**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?**[4]
			Part III – Water Resources
8.	○	◉	**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.	○	◉	**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.
			Part IV – Transportation/Circulation
10.			**Will the project result in** (Check all that apply):
	○	◉	**a. the need for more than 350 new employees?**
	○	◉	**b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?**
	○	◉	**c. increase customer traffic by more than 700 visits per day?**
			Part V – Noise
11.	○	◉	**Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?**
			Part VI – Public Services
12.			**Will the project create a permanent need for new or additional public services in any of the following areas** (Check all that apply):
	○	◉	**a. Solid waste disposal?** Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	○	◉	**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" response in Section C, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.*

Section D - Signatures

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.

1. Signature of Responsible Official of Firm:		2. Title of Responsible Official of Firm:
James Herberg		General Manager
3. Print Name of Responsible Official of Firm:		4. Date Signed:
James Herberg		10-07-2014
5. Phone # of Responsible Official of Firm:	6. Fax # of Responsible Official of Firm:	7. Email of Responsible Official of Firm:
(714) 593-7300	(714) 962-0356	jherberg@ocsd.com
8. Signature of Preparer, (If prepared by person other than responsible official of firm):		9. Title of Preparer:
Terry Ahn		Regulatory Specialist
10. Print Name of Preparer:		11. Date Signed:
Terry Ahn		10/06/2014
12. Phone # of Preparer:	13. Fax # of Preparer:	14. Email of Preparer:
(714) 593-7082	(714) 593-7773	tahn@ocsd.com

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

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

© South Coast Air Quality Management District, Form 400-CEQA (2014.07)

South Coast Air Quality Management District

Form 400-E-4b
Abrasive Blasting Equipment (Other Than Portable/Open)

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

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

South Coast AQMD

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section A - Operator Information

Facility Name (Business Name of Operator That Appears On Permit): Orange County Sanitation District

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Address 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): 10844 Ellis Avenue, Fountain Valley, CA. 92708-7018

(•) Fixed Location ( ) Various Locations

Section B - Equipment Description (Select ONLY one type of equipment)

( ) **Abrasive Blasting Room**

Blasting Room	Manufacturer:____ Model No.:____ Room Size: Length:____ ft Width:____ ft Height:____ ft Number of Air Port:____ Dimensions of Air Ports: Length:____ ft Width:____ ft Capacity of Pot*:____ lb Equipped with man door? ( ) No ( ) Yes Exhaust Blower Flow Rate:____
Nozzles	Number of Nozzles:____ Maximum Inner Diameter:____ (inches)
Compressor	[ ] Plant Air Air Flow Rate:____ cfm @____ psi

( ) **Abrasive Blasting Machine**

Blasting Machine	Manufacturer:____ Model No.:____ Dimensions: Length:____ ft Width:____ ft Height:____ ft Wheel impeller Horsepower:____ Capacity of Pot*:____ lb Exhaust Blower Flow Rate:____ Material Flow Rate:____

(•) **Abrasive Blasting Cabinet**

Blasting Cabinet	Manufacturer: Media Blast & Abrasives, Inc. Model No.: PowerPeen 6060 Dimensions: Length: 5.00 ft Width: 4.25 ft Height: 3.33 ft Control: Manual Number of Baffled Air Ports: 1 Exhaust Blower Flow Rate: 1160.000
Nozzles	Number of Nozzles: 1 Maximum Inner Diameter: 1/4 inches
Compressor	[x] Plant Air Air Flow Rate: 41.000 cfm @ 40 psi

70.762 FB

© South Coast Air Quality Management District, Form 400-E-4b (2014.07)

South Coast Air Quality Management District

Form 400-E-4b
Abrasive Blasting Equipment (Other Than Portable/Open)

This form must be accompanied by a completed Application for a Permit to Construct/Operate - Forms 400-A, Form 400-CEQA, and Form 400-PS.

Section C - Process Description

Blasting Type

(•) Dry Blasting ( ) Wet _____ % of time ( ) Hydro-Blasting _____ % of time

Abrasive Used

Material Type: ( ) Sand ( ) Grit ( ) Shot ( ) Plastic Media (•) Other Glass Bead

Material Name: Ballotini Impact Beads

Density: 156 lb/ft^3 Material Flow Rate (if known): _____ lbs/hour

Items To Be Blasted

Description: pupm casings and parts; valve bodies; compressor parts; bearing housings

Operating Schedule

Normal: 2 hours/day 2 days/week 27 weeks/yr

Maximum: 7 hours/day 2 days/week 12 weeks/yr

Control

Is the room vented to an external air pollution control device? ( ) Yes (•) No

If Yes, a separate application (Form 400A and E-1) needs to be filed for the control equipment.

Section D - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application is true and correct.

Preparer Info

Signature: _____ Date: 10/06/2014

Title: Regulatory Specialist Company Name: OCSD

Name: Terry Ahn

Phone #: (714) 593-7082 Fax #: (714) 593-7773

Email: tahn@ocsd.com

Contact Info

Name: Terry Ahn

Title: Regulatory Specialist Company Name: OCSD

Phone #: (714) 593-7082 Fax #: (714) 593-7773

Email: tahn@ocsd.com

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South Coast Air Quality Management District

Worksheet For Form 400-E-4b
Abrasive Blasting Equipment (Other Than Portable/Open)

Abrasive Flow Rate (FR)

FR1 = 138.00
ID = 1/4
ID1 = 1/4
ρ_1 = 156
ρ = 99

FR = FR1 x (ID/ID1) x ρ / ρ^1 FR = 138.000 x (0.063 in^2 ÷ 0.063 in^2) x (156 lb/ft^3 ÷ 99 lb/ft^3) = 217.455

Machine Emissions

R1,PM = NA x _____ HP x 1- (_____/200) = _____ lb/hr x (_____ hrs/day)= _____ lb/day

Uncontrolled PM Emissions (R_1) | Max lb/hr | Max lb/day

R2PM = R1,PM _____ x (1-.98) = _____

Controlled PM Emissions (R_2) | Max lb/hr | Max lb/day

Room or Cabinet Emissions

R1,PM = 0.01 EF x 217.45 FR x 1- (0.00 /200) = 2.1745 lb/hr x (2 hrs/day)= 4.3490 lb/day

Uncontrolled PM Emissions (R_1) | Max lb/hr: 2.1745 | Max lb/day: 15.2215

R2PM = R1,PM 2.1745 x (1-0.98) = 0.0435

Controlled PM Emissions (R_2) | Max lb/hr: 0.0435 | Max lb/day: 0.3045

Exhaust Gas Total Particulate Concentration (PC)

PC = 0.0435 lb PM/hr (Max) x 7,000 grains/lb / 1160.00 ft3/min x 60 min/hr = 0.00438 grains/dscf

Room Cross Draft Velocity (Vc)

Vc = VFR/W x H = _____ CFM / _____ ft x _____ ft = _____ FPM

Air Inlet Port Velocity (Vi)

Vi = VFR/W x L = _____ CFM / _____ ft^2 = _____ FPM

Cabinet Air Changes Per Minute (CAC)

CAC = VFR/W x L x H = 1160.00 CFM / 70.76 ft^3 = 16.393 FPM

Abrasive Blasting Cabinets

Item	Required	Actual	Compliance
a. Air Changes Per Minute	10-20	16.393	(•) Yes ( ) No
b. Baffled Air Inlet Ports	Yes	Yes	(•) Yes ( ) No

Abrasive Blasting Room Guidelines Review

Item	Required	Actual	Compliance
a. Crossdraft/Downdraft Velocity (FPM)			
Silica Type Abrasive	80	NA	( ) Yes ( ) No
Non-Silica Type Abrasive	50	NA	( ) Yes ( ) No
b. Air Port Opposite Exhaust Duct	Yes	NA	( ) Yes ( ) No
c. Indraft Velocity (FPM)	500	NA	( ) Yes ( ) No

© South Coast Air Quality Management District, Form 400-E-4b Engineer Evaluation (2014.07)

South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

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

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

Facility Name (Business Name of Operator To Appears On The Permit): Orange County Sanitation District

Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Address 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): 10844 Ellis Avenue, Fountain Valley, CA. 92708-7018 ◉ Fixed Location ○ Various Locations

Section B - Location Data

Plot Plan

Please attach a site map for the project with distances and scales. Identify and locate the proposed equipment on the map. A copy of the appropriate Thomas Brothers page, a web-based map, or a sketch that shows the major streets and location of the equipment is acceptable.

Location of Schools Nearby

Is the facility located within a 1/4 mile radius (1,320 feet) of the outer boundary of a school? ○ Yes ◉ No

If yes, please provide name(s) of school(s) below:

School Name: _____ **School Name:** _____

School Address: _____ **School Address:** _____

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

Distance from stack or equipment vent to the outer boundary of the school: _____ feet

CA Health & Safety Code 42301.9: "School" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.

Population Density

◉ Urban ○ Rural (<50% of land within 3 km radius accounted for by urban land use categories, i.e., multi-family dwelling or industrial.)

Zoning Classification

◉ Mixed Use Residential Commercial Zone (M-U) ○ Service and Professional Zone (C-S) ○ Medium Commercial (C-3)

○ Heavy Commercial (C-4) ○ Commercial Manufacturing (C-M)

Section C - Emission Release Parameters - Stacks, Vents

Stack Data

Stack Height: _____ feet (above ground level) **What is the height of the closest building nearest the stack?** _____ feet

Stack Inside Diameter: _____ inches **Stack Flow:** _____ acfm **Stack Temperature:** _____ °F

Rain Cap Present: ○ Yes ○ No **Stack Orientation:** ○ Vertical ○ Horizontal

If the stack height is less than 2.5 times the closest building height (H), please provide information on any building within 5xH distance from the stack (attach additional sheet if necessary):

Building #/Name: _____ **Building #/Name:** _____

Building Height: _____ feet (above ground level) **Building Height:** _____ feet (above ground level)

Building Width: _____ feet **Building Width:** _____ feet

Building Length: _____ feet **Building Length:** _____ feet

Receptor Distance From Equipment Stack or Roof Vents/Openings

Distance to nearest residence: 820 feet **Distance to nearest business:** 125 feet

Building Information

Are the emissions released from vents and/or openings from a building? ◉ Yes ○ No

If yes, please provide:

Building #/Name: Rebuild Shop **Building Width:** 60 feet

Building Height: 30 feet (above ground level) **Building Length:** 260 feet

© South Coast Air Quality Management District, Form 400-PS (2014.07)

South Coast Air Quality Management District

Form 400-PS

Plot Plan And Stack Information Form

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

Section D - Authorization/Signature			
I hereby certify that all information contained herein and information submittfgfed with this application is true and correct.			
Signature of Preparer:	Title of Preparer: Regulatory Specialist	Preparer's Phone #: (714) 593-7082 Preparer's Email: tahn@ocsd.com	
Contact Person: Terry Ahn Contact's Email: tahn@ocsd.com	Contact's Phone#: (714) 593-7082 Contact's Fax#: (714) 593-7773		Date Signed: 10/06/2014

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Check here if you claim that this form or its attachments contain confidential trade secret information. ☐

SCAQMD PERMIT PROCESSING SYSTEM (PPS)

FEE DATA - SUMMARY SHEET

Application No	: 568969	IRS/SS No:	
Previous Application No:		Previous Permit No:	

Company Name :	ORANGE COUNTY SANITATION DISTRICT			Facility ID:	17301
Equipment Street:	10844 ELLIS AVE , FOUNTAIN VALLEY CA 92708				
Equipment Desc :	ABRASIVE BLASTING (CABINET/MACHINE/ROOM)				
Equipment Type :	BASIC			Fee Charged by:	B-CAT
B-CAT NO. :	000284	C-CAT NO:	00	Fee Schedule:	B
Facility Zone :	18	Deemed Compl. Date:	10/16/2014	Public Notice:	NO

Evaluation Type :	PO NO PC (PENALTY WILL BE ASSESSED)	Small Business:	☐
Disposition :	Approve PO, Recommended by Engineer	Higher Fees for Failing to Obtain a Permit:	☒
Lead Appl. No :		Identical Permit Unit:	☐

Air quality Analysis			$0.00	Filing Fee Paid:	$0.00
E.I.R			$0.00	Permit Processing Fee Paid:	$4,643.00
Health Risk Assessment			$0.00	Permit Processing Fee Calculated*:	$3,482.25
Public Notice Preparation Fee			$0.00	Permit Processing Fee Adjustment:	$-1,160.75
Public Notice Publication Fee			$0.00		
Expedited Processing	Hours:	0.00	$1,160.75		
Source Test Review	Hours:	0.00	$0.00		
Time & Material	Hours:	0.00	$0.00		
				Total Additional Fee:	$1,160.75
				Additional Charge:	$0.00

COMMENTS: GROUPED UNDER TITLE V REVISION A/N 568970.

RECOMMENDED BY: GAURANG RAWAL DATE: 10/26/2014

REVIEWED BY: _____ DATE: 5/13/15

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

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 · www.aqmd.gov

May 15, 2015

Mr. James D. Ruth
General Manager
Orange County Sanitation District
PO Box 8127
Fountain Valley, CA 92728-8127

Subject: De Minimis Significant Revision to Title V Permit for Orange County Sanitation District (OCSD), Sewage Treatment Plant, Fountain Valley, (ID# 017301)

Dear Mr. Ruth,

Enclosed please find the revised Title Page, Table of Contents and Section D of the Title V Permit for OCSD, sewage treatment plant located at 10844 Ellis Avenue, Fountain Valley, CA, in Orange County. On February 3, 2015, the South Coast Air Quality Management District (SCAQMD) proposed a draft permit for Environmental Protection Agency's (EPA) review, and no comments were received from EPA. No public notice was required for this revision.

The revised Section D reflects the approval of the permit as shown below.

SECTION D: Facility Equipment and Requirements

Application Number	Permit to Operate	Equipment	Description
568969	G35620	Abrasive Blasting Cabinet with dust collector	Abrasive blasting cabinet, using glass beads as abrasive media, with an integral dust collector.

Please review the attached pages carefully. Insert the enclosed section D in your Title V Facility Permit and discard the earlier version. Questions concerning this revised permit should be directed to Mr. Gaurang Rawal at (909) 396-2543.

The operation of your facility is bound by the conditions and/or requirements stated in your Facility Permit to Operate. If you determine any administrative errors, please contact Mr. Gaurang Rawal at the above number within 30 days of receipt of your permit.

Sincerely,

Andrew Y. Lee, P.E.
Senior AQ Engineering Manager
Energy/Public Services/
Waste Mgmt/Terminals-Permitting

AYL: CDT: GCR
cc: w/ enclosure
Geraldo Rios, EPA Region IX
Compliance
Title V Central File, OCSD, ID # 17301
Title V Revision A/N 568970

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

FACILITY PERMIT TO OPERATE

ORANGE COUNTY SANITATION DISTRICT
10844 ELLIS AVE
FOUNTAIN VALLEY, CA 92708

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

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 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.
EXECUTIVE OFFICER

By FOR
Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

Table of Content	
Facility ID:	017301
Revision #:	9
Date:	May 15, 2015

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

TABLE OF CONTENTS

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A	Facility Information	1	04/16/2014
B	RECLAIM Annual Emission Allocation	1	04/16/2014
C	Facility Plot Plan	TO BE DEVELOPED	
D	Facility Description and Equipment Specific Conditions	6	05/15/2015
E	Administrative Conditions	1	04/16/2014
F	RECLAIM Monitoring and Source Testing Requirements	1	04/16/2014
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I	Compliance Plans & Schedules	1	04/16/2014
J	Air Toxics	1	04/16/2014
K	Title V Administration	1	04/16/2014
Appendix			
A	NOx and SOx Emitting Equipment Exempt From Written Permit Pursuant to Rule 219	1	04/16/2014
B	Rule Emission Limits	1	04/16/2014

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ORANGE COUNTY SANITATION DISTRICT

Facility Equipment and Requirements
(Section D)

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, all individual Permits to Construct and Permits to Operate issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit and Rule 219-exempt equipment will list operating conditions including periodic monitoring requirements, and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Operate Number	Equipment Description	Page Number
299283	G9737	SCRUBBER, ODOR CONTROL FOR PRIMARY BASINS	5
06049A	M30530	GAS TURBINE, EMERGENCY, >= 0.3 MW	7
06050A	M30531	GAS TURBINE, EMERGENCY, >= 0.3 MW	8
133994	R-D11231	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	9
133995	R-D11232	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	10
134619	R-D11233	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	11
135464	R-D11234	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	12
13973X	743973	SPRAY BOOTH PAINT AND SOLVENT	13
223413	F00876	BOILER (5-20 MMBTU/HR) DIGESTER GAS	14
356878	F66565	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	16
386679	F40906	SCRUBBER, ODOR CONTROL FOR DEWATERING	19
394229	G25417	ODOR CONTROL SYSTEM, BIOFILTER	20
408166	F55982	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	21
428945	F68430	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	22
429662	F71054	FLARE, ENCLOSED LANDFILL/DIGESTER GAS	23
444109	F99404	SCRUBBER, ODOR CONTROL FOR HEADWORKS	28
459958	F94280	ODOR CONTROL UNIT FOR ELLIS PUMP STATION	30
486760	G2955	I C E (>500 HP) NAT & DIGESTER GAS	32
486792	G2956	I C E (>500 HP) NAT & DIGESTER GAS	35
486793	G2957	I C E (>500 HP) NAT & DIGESTER GAS	38
512830	G19907	STORAGE TANK, HCl, 8000 GALLON CAPACITY, HCl	41
512831	G19908	STORAGE TANK, HCl, 2000 GALLON CAPACITY, HCl	42
568969	G35620	ABRASIVE BLASTING CABINET WITH DUST COLLECTOR	43

NOTE: APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

~~FACILITY PERMIT TO OPERATE~~
ORANGE COUNTY SANITATION DISTRICT

FACILITY WIDE CONDITION (S)

Condition(s):

1. EXCEPT FOR OPEN ABRASIVE BLASTING OPERATIONS, THE OPERATOR SHALL NOT DISCHARGE INTO THE ATMOSPHERE FROM ANY SINGLE SOURCE OF EMISSIONS WHATSOEVER ANY AIR CONTAMINANT FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR WHICH IS:

   A. AS DARK OR DARKER IN SHADE AS THAT DESIGNATED NO. 1 ON THE RINGLEMANN CHART, AS PUBLISHED BY THE UNITED STATES BUREAU OF MINES; OR
   B. OF SUCH OPACITY AS TO OBSCURE AN OBSERVER'S VIEW TO A DEGREE EQUAL TO OR GREATER THAN DOES SMOKE DESCRIBED IN SUBPARAGRAPH (A) OF THIS CONDITION. [RULE 401]

2. THE OPERATOR SHALL NOT COMBUST DIGESTER GAS CONTAINING SULFUR COMPOUNDS IN EXCESS OF 40 PPMV CALCULATED AS HYDROGEN SULFIDE AVERAGED DAILY. [RULE 431.1]

3. THE OPERATOR SHALL NOT USE FUEL OIL CONTAINING SULFUR COMPOUNDS IN EXCESS OF 15 PPM BY WEIGHT AS SUPPLIED BY THE SUPPLIER. [RULE 431.2, 1470]

4. THE OWNER/OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART VVV - *NON-INDUSTRIAL* POTW PLANT NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) AND ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART ZZZZ – STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES NESHAP. [40 CFR 63 SUBPART VVV, AND 40 CFR 63 SUBPART ZZZZ]

5. THE OPERATOR SHALL MEASURE THE SULFUR CONTENT OF THE DIGESTER GAS ACCORDING TO THE FOLLOWING:

   A. FOR READINGS UP TO 36 PPM AS H2S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H2S, USING COLORIMETRIC TUBES, AND WEEKLY ANALYSIS OF THE DIGESTER GAS BY AQMD METHOD 307 – TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY AND SULFUR CHEMILUMINESCENCE DETECTOR.

   B. FOR READINGS ABOVE 36 PPM AS H2S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H2S BY AQMD METHOD 307 – TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY *AND SULFUR CHEMILUMINESCENCE* DETECTOR. A MINIMUM OF THREE CONSECUTIVE DAILY SAMPLES ARE REQUIRED TO DEMONSTRATE THE TOTAL SULFUR CONTENT IS BELOW 36 PPM. [RULE 431.1]

6. A COMPLETE APPLICATION FOR COMPLIANCE ASSURANCE MONITORING (CAM, 40 CFR PART 64) SHALL BE SUBMITTED WHENEVER ANNUAL MASS OF VOC OF THE DIGESTER GAS EXCEEDS 19,999 LBS/YR. THE VOC CONTENT OF THE DIGESTER GAS SHALL BE ANALYZED IN CONJUNCTION WITH THE ANNUAL SOURCE TESTING OF THE CGS ENGINES USING THE

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPROVED METHODS. FOR EACH CALENDAR YEAR, THE VOC EMISSIONS SHALL BE CALCULATED BY MARCH 31ST OF THE SUBSEQUENT CALENDAR YEAR BASED ON THE DIGESTER GAS CONCENTRATION DATA FROM THE MOST RECENT ANNUAL RULE 1110.2 SOURCE TESTING OF THE ENGINES. IF THE VOC EMISSIONS EXCEED 19,999 LBS/YR, THE CAM APPLICATION SHALL BE SUBMITTED BY MAY 31ST (WITHIN 60 DAYS AFTER THE CALCULATION DUE DATE).
[40 CFR PART 64, CAM]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G9737
A/N 299283

Equipment Description:

AIR POLLUTION CONTROL SYSTEM (PRIMARY BASINS) CONSISTING OF:

1. FOUR SCRUBBERS, NOS. 5 THROUGH 8, EACH VERTICAL TYPE, PACKED TOWER, 10'- 0" DIA. X 33'- 0" H., WITH ASSOCIATED PUMPS.

2. CHEMICAL FEED WHICH MAY INCLUDE CAUSTIC, HYDROGEN PEROXIDE OR BLEACH.

3. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H_2S) MONITORING SYSTEM.

4. EXHAUST SYSTEM WITH ASSOCIATED TWO-SPEED BLOWERS, 116, 200 CFM MAXIMUM FOUL-AIR VENTILATION RATE, VENTING PRIMARY SEDIMENTATION BASINS NOS. 1 THROUGH 31.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. *THIS EQUIPMENT SHALL BE IN OPERATION, WHEN THE BASIC EQUIPMENT DESCRIBED UNDER* PC 453210 ARE IN OPERATION, TO MAINTAIN THE SCRUBBER OUTLET H2S CONCENTRATIONS SPECIFIED UNDER CONDITION NO. 8, AS MEASURED BY THE AUTOMATIC CHEMICAL FEED AND H2S MONITORING SYSTEM EXCEPT DURING UNFORESEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT, THAT REQUIRES THE SCRUBBERS TO BE *SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50* HOURS PER YEAR PER EQUIPMENT.
[RULE 402]

5. WHEN THE SCRUBBERS ARE IN OPERATION, AUTOMATIC CHEMICAL FEED AND HYDROGEN *SULFIDE (H_2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD* THE SCRUBBER OUTLET H2S CONCENTRATION, IN PPMV, EXCEPT DURING SHUTDOWN FOR MAINTENANCE. THE H_2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
[RULE 402]

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6. WHEN THE AUTOMATIC CHEMICAL FEED AND H_2S MONITORING SYSTEM IS NOT OPERATING, THE PH OF THE SCRUBBING OR RECYCLING LIQUID, MAKEUP WATER FLOW RATE (GPM), DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN), SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS AS DESCRIBED, AND THE SCRUBBER OUTLET H_2S CONCENTRATION SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.
[RULE 402]

7. WHEN THE SCRUBBERS ARE IN OPERATION, THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS, CALCULATED AS H2S MEASURED AT THE OUTLET OF EACH SCRUBBER SHALL NOT EXCEED 2 PPMV AND 3 PPMV WHEN THE EXHAUST BLOWER IS OPERATING AT LOW AND HIGH SPEED, RESPECTIVELY.
[RULE 402]

8. RECORDS SHALL BE KEPT AND MAINTAINED FOR DAILY AVERAGE H_2S CONCENTRATION, IN PPMV, AT THE OUTLET OF EACH SCRUBBER IN OPERATION. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. M30530
A/N 06049A

Equipment Description:

GAS TURBINE #1, SOLAR, MODEL NO. GSE 1000, 14,000,000 BTU PER HOUR, OIL FIRED, DRIVING A 900 KW EMERGENCY ELECTRIC GENERATOR.

Conditions:

1. THIS EMERGENCY STAND BY EQUIPMENT MAY ONLY OPERATE FOR MAINTENANCE TESTING OF THE EQUIPMENT, DURING MAINTENANCE AND RELIABILITY TESTING OF PLANT NO. 1 OR PLANT NO. 2 CENTRAL POWER GENERATION SYSTEMS, DURING EXCESS POWER DEMANDS, OR DURING A UTILITY POWER OUTAGE.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

2. THIS EQUIPMENT SHALL BE OPERATED LESS THAN 199 HOURS PER CALENDAR YEAR.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

Periodic Monitoring:

3. THE OPERATOR SHALL INSTALL AND MAINTAIN A NON-RESETTABLE ELAPSED TIME METER TO ACCURATELY INDICATE THE ELAPSED OPERATING TIME OF THE EQUIPMENT.
   [RULE 3004 (a)(4)]

4. RECORDS OF DAILY HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO THE EXECUTIVE OFFICER UPON REQUEST.
   [RULE 3004(a) (4)]

Emissions and Requirements:

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

   SULFUR COMPOUNDS: 500 PPMV, CALCULATED AS SO2
   [RULE 53]

Gaurang Rawal

From: Ahn, Terry [tahn@ocsd.com]
Sent: Wednesday, October 22, 2014 10:35 AM
To: Gaurang Rawal
Subject: RE: New application for abrasive blasting cabinet

Hi Gaurang,

Our Maintenance Supervisor contacted the supplier of the cabinet and found out that the manufacturer does not have the PM control efficiency data. He said that they strictly follow the preventive maintenance schedule for dust collector as indicated in the O&M manual.

Terry

From: Ahn, Terry
Sent: Wednesday, October 22, 2014 7:17 AM
To: 'Gaurang Rawal'
Subject: RE: New application for abrasive blasting cabinet

It is an integral part of the cabinet; therefore there's no separate baghouse. I could take a photo of the unit and send it to you if you'd like. Please let me know. Attached manufacturer's info sheet provides additional info on the dust collector. The PM control efficiency of 98% came from the AQMD form. I will have to contact the vendor to see what their number is.

Terry

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Tuesday, October 21, 2014 2:46 PM
To: Ahn, Terry
Subject: RE: New application for abrasive blasting cabinet

's this "an integral part of the cabinet" or venting to the separate baghouse (separate application) ?
Any PM control efficiency rating? If Mgfr. spec sheet is available, will be helpful.

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Tuesday, October 21, 2014 2:07 PM
To: Gaurang Rawal
Subject: FW: New application for abrasive blasting cabinet

Hi Gaurang,

Here's info I got from our Maintenance. Is this what you're looking for?

Thanks,

Terry

From: Ginest, Lance
Sent: Tuesday, October 21, 2014 1:56 PM
To: Ahn, Terry
Cc: Hellebrand, Ingrid; AbuShaban, Randa
Subject: RE: New application for abrasive blasting cabinet

Gaurang Rawal

From: Ahn, Terry [tahn@ocsd.com]
Sent: Wednesday, October 22, 2014 7:17 AM
To: Gaurang Rawal
Subject: RE: New application for abrasive blasting cabinet
Attachments: Power Peen 6060.pdf

It is an integral part of the cabinet; therefore there's no separate baghouse. I could take a photo of the unit and send it to you if you'd like. Please let me know. Attached manufacturer's info sheet provides additional info on the dust collector. The PM control efficiency of 98% came from the AQMD form. I will have to contact the vendor to see what their number is.

Terry

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
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To: Ahn, Terry
Subject: RE: New application for abrasive blasting cabinet

Is this "an integral part of the cabinet" or venting to the separate baghouse (separate application) ?
Any PM control efficiency rating? If Mgfr. spec sheet is available, will be helpful.

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Tuesday, October 21, 2014 2:07 PM
To: Gaurang Rawal
Subject: FW: New application for abrasive blasting cabinet

Hi Gaurang,

Here's info I got from our Maintenance. Is this what you're looking for?

Thanks,

Terry

From: Ginest, Lance
Sent: Tuesday, October 21, 2014 1:56 PM
To: Ahn, Terry
Cc: Hellebrand, Ingrid; AbuShaban, Randa
Subject: RE: New application for abrasive blasting cabinet

Terry, Here is your information.

- Type of dust collector: Is it a cartridge type? Yes If so, how many? Two
- Dimension of each cartridge 26"L X 12" D
- Material of the filter Paper
- Total filter area in sq. ft. for each cartridge 220 Sq. Ft.
- Blower HP and flow rate 2 HP/ 1,160 CFM

The unit does not have a HEPA filter. Let me know if you need anything else.

Have a great day,

Lance

From: Ahn, Terry
Sent: Tuesday, October 21, 2014 11:17 AM
To: Ginest, Lance
Cc: Hellebrand, Ingrid; AbuShaban, Randa
Subject: FW: New application for abrasive blasting cabinet

Hi Lance,

AQMD is requesting more info on the dust collector. Can you get me the following info to start with?

- Type of dust collector: Is it a cartridge type? If so, how many?
  Dimension of each cartridge
- Material of the filter
- Total filter area in sq. ft. for each cartridge.
- Blower hp and flow rate

I don't think the unit's equipped with a HEPA filter. Please confirm.

Thanks and let me know if you have any questions.

Terry x7082

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Tuesday, October 21, 2014 10:55 AM
To: Ahn, Terry
Subject: FW: New application for abrasive blasting cabinet

Terry,

Thanks for abrasive blasting cabinet information.
For PM emission control it shows 98% control efficiency. Does it have an integral baghouse (if yes, provide information, specs, etc.) or cabinet is connected to a baghouse?
If a separate baghouse, then a separate application is required for an APC. Thanks.

Gaurang
909-396-2543

From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Thursday, October 16, 2014 11:09 AM
To: Gaurang Rawal
Subject: New application for abrasive blasting cabinet

Hi Gaurang,

Please find attached pdf copy of the permit application package for an abrasive blasting cabinet. The original package along with the check were mailed out on 10/8.

Thanks,

Terry Ahn

Potters
Innovating Responsibly Since 1914

Tuesday, January 27, 2015

Product Listing

BALLOTINI® Impact Beads
SPHERIGLASS®
A-Series Glass Spheres
Oil Drilling Beads
MEDISPHERES™
Z-Cel
Spacer Beads

Glass Bead Facts

Coarse Beads

- Remove larger, tougher soils.
- Peen to more intense levels.
- Peen to deeper zones in surface.
- Produce higher surface profile.
- Produce brighter surface.

Fine Beads

- Remove smaller, lighter soil.
- Yield more impacts per pound.
- Clean faster.
- Peen to less intense levels.
- Peen outer zones of surfaces.
- Reach into keyways, fillets, and small areas.
- Produce lower surface profile.
- Produce matte finish.

Typical Properties

Shape	spherical
Color	clear
Hardness (Knoop)	515
Compressive strength	36,000 psi (avg.)
Density	2.5 g/cc
Specific Gravity	2.45-2.50
Free silica content	0%

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Power Peen

Pressure

Description:

The Power Peen is a simple to operate Direct Pressure machine designed for Production applications. (We consider production operation to be 1 or more hours of daily usage of the blast machine).

We have incorporated a 1.0 cubic foot Pressure Pot into the Power Peen that we attach to the bottom of the blast cabinet hopper. The Pressure Pot is used to pneumatically push the abrasive media through the blast hose. This is why a pressure machine produces faster abrasive velocities than the typical Siphon Blast machine which doesn't utilize a pressure pot.

This machine is designed for operation with any abrasive size, 120 mesh and larger. Operation with heavier blasting media, through hole part blasting, high abrasive Frictional Heat and blind-hole cleaning, are all advantages when using the Power Peen direct pressure blasting cabinet.

To maintain the proper hopper slope required to feed the pot on the Power Peen machine, we supply a raised operator's platform with all Power Peen models.



Power Peen 3636 with Expanded Height Top and Raised Operator Platform

Dust collector located behind the cabinet.

The dust collector on this machine is negative pressure with an easy to clean dust storage hopper. Negative pressure operation of the dust collector ensures longer duty cycles, a cleaner work area and longer blower service life. We use a replaceable cartridge style filter that has either 220 or 440 square feet of filter surface area. This setup eliminates the need for costly factory service on the dust collector, which results in savings of both time and money. The dust collector also comes with a pneumatic vibrating cleaning assembly for effortless cleaning. The dust collector's capacity to store dust, along with the ease of service, makes this machine the right choice for production operations.

In addition, larger dust collectors are available for even the harshest production requirements.

The Power Peen Direct Pressure Blast Cabinet is available with a standard 40 degree window slope for smaller/lower height parts or the expanded top with reduced window slope for taller parts. Please check the Standard Model listings for top availability.

Standard Features:

- 12 & 14 Gauge CRS Construction
- 100% Welded Construction
- Catalyst Paint
- 1.0 Cubic Foot Pressure Vessel
- Double Panel Door Construction, no spill
- Lockable Door Latch
- Heavy Duty Abrasive Mixing Valve
- Foot Operated Blast Valve
- Air Regulator-Filter-Water Trap
- 380 Watts Lighting
- Safety Plate Glass View Window
- Window Protect Assembly
- Safety Door Interlock
- 10" Diameter Work Ports
- Heavy Duty Bar Grate Work Surface
- Bolt-In Hopper Abrasive Scalper Screen
- Steel Hopper Wear Plate
- Bolt-On Machine Hopper, replaceable
- 1/4" Boron Carbide Blast Nozzle, standard
- Blow-Off Gun
- Abrasive Separator Reclaimer
- Production Dust Collector:
  - 770 CFM
  - 220 Sq. Ft. Filter Cartridge
  - Hopper Bottom Dust Collector
  - Easy Access Door
  - Filter Cycle Cleaning Gauge
  - Pneumatic Filter Cleaning System

Other Available Features:

- Pressure Pot Blow-Down Controls
- Maintenance Meter ••
- Magnahelic Gauge, non-electrical ••
- Cutting Abrasive Package ••
- Fixed Turntable, Manual or Powered
- Mobile Work Cart Assembly & Track Extension
- Gun/Blast Nozzle Holding Fixture ••
- White Polyethylene Cabinet Wear Plates
- Steel Hopper Wear Plate, front hopper location ••
- Expanded Cabinet Heights
- Mirror Images Available
- 2 Operator Stations on larger models
- Additional Side Access Door on smaller single door models
- Stainless Steel cabinet construction for elimination of steel cabinet contamination
- Ergonomic Cabinet Designs
- Increased Cabinet Height, Width, Depth
- Square Top Design with Insert Window for maximum door size
- Powered and Manual Vertical Roll-Up Door
- Available "Less Dust Collector" for connection to central dust collector
- Rubber Dipped Bar Grates or Fiberglass Bar Grates
- Additional Abrasive Blast Nozzle w/Controls
- Magnetic Separator
- Integrated Vacuum Cleanup System
- Shrouded Foot Pedal
- Ambient Air Dryer
- Single Power Source Electrical, standard some models
- Zhp 1160 cfm Exhaust Blower standard on larger cabinets, see "Standard Models Section".
- Dual 2 Cartridge Expanded Dust Collector or 4-6 Cartridge Separate Standing Collector
- Reverse Pulse Cleaning, manual pulse only single cartridge ••
- Contained Dust Discharge Assembly ••
- Polyester Filter Cartridge Upgrade ••
- Blower Exhaust Silencer ••
- HEPA Filtration Package
- Timed Cartridge Filter Cleaning System
- Static Electricity Grounding Kit ••
- Special Machine Color, color chip matched
- Powder coat Machine
- Semi-automated Assemblies
- Pendant Lighting for steel shot

NOTE: Standard Features are included with every model. Available Features can be added at additional cost. Available Features marked with a •• can be bolted-on to house inventory prior to machine shipment. Other Available Features require custom machine work and may increase machine delivery time.

Technical Specifications:

Machine Type:	Direct Pressure
Air Requirements:	25-150 CFM
Compressor:	Standard nozzle size in all Power Peen models is 1/4" I.D. using 41 cfm @ 40 psi. and 56 cfm at 60 psi. A smaller 3/16 nozzle can be used to reduce the requirement to 23 and 31 respectively but, smaller than 3/16"nozzles are not recommended on any Power Peen Production Models. (See Micro PrecisionBlast models). these machines are designed to operate properly with smaller compressed air requirements. Compressors vary greatly, check specification on your compressor for HP and or CFM output, 10 HP minimum is advised. A general rule for piston air compressors would be 4 cfm for each motor horse power, for more information on compressor selection see Air Basics. Most direct pressure machines exceed maximum abrasive impact velocity at 40-60 psi, this includes glass beads, plastics, soda, garnet and silicon carbide. Steel Shot, grit and aluminum oxide will operate at higher pressures.
Recommended Abrasive Size:	16-120 Mesh
Common Abrasives Used:	Glass bead, Aluminum oxide, steel shot/grit
Warning:	NEVER USE A POOR QUALITY LOW RECYCLE ABRASIVE OR SILICA SAND IN ANY MEDIA BLAST EQUIPMENT. THE RAPID AND CONTINUOUS BREAKDOWN OF POOR QUALITY ABRASIVES, WILL REDUCE CABINET VISIBILITY AND OVERLOAD THE DUST COLLECTOR ON ANY BLASTING MACHINE. SILICA SAND CAN BE A HEALTH HAZARD WHEN USED IN ANY BLASTING CABINET AND THE USE OF SILICA SAND VOIDS THE WARRANTY ON ALL MEDIA BLAST EQUIPMENT.
Paint Specs:	Environmentally Friendly High Grade Polyurethane High Gloss Paint. Standard colors MBA Beige and High Gloss White. Custom color matches and Powder Coating available per customer supplied color sample. Call for pricing.

Standard Model Specifications:

MODEL	WORK AREA / DOOR OPENING	OVERALL DIMENSIONS	DUST COLLECTOR SPECIFICATIONS	STANDARD ELECTRICAL
3030 Request Info	30" x 30" x 30"H Door: 24" x 25"H	34" x 45" x 84"H	220 sq. ft. filter cartridge 770 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
3636 Standard Top Request Info	36" x 36" x 30"H Door: 30" x 25"H	44" x 51" x 84"H	220 sq. ft. filter cartridge 770 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
3636 Expanded Top Request Info	36" x 36" x 36"H Door: 27" x 28"H	44" x 51" x 90"H	220 sq. ft. filter cartridge 770 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
4836 Standard Top Request Info	48" x 36" x 30"H Door: 30" x 25"H	52" x 52" x 84"H	220 sq. ft. filter cartridge 770 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
4836 Expanded Top Request Info	48" x 36" x 36"H Door: 27" x 28"H	52" x 51" x 90"H	220 sq. ft. filter cartridge 770 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
4848 Request Info	48" x 48" x 36"H Door: 39" x 28"H	52" x 65" x 90"H	440 sq. ft. filter cartridges 1,160 cfm blower, C-III Abrasive Reclaimer	120V/60Hz/1ph.
6060 1 station Request Info	60" x 60" x 48"H 2 Doors: 51" x 40"H	65" x 75" x 102"H	440 sq. ft. filter cartridges 1,160 cfm blower, C-III Abrasive Reclaimer	208V/230V/460V/60Hz

Gaurang Rawal

From: Ahn, Terry [tahn@ocsd.com]
Sent: Tuesday, October 21, 2014 10:59 AM
To: Gaurang Rawal
Subject: RE: New application for abrasive blasting cabinet

Hi Gaurang,

It has an integral filter. I will get the information and get back to you.

Thanks,

Terry

From: Gaurang Rawal [mailto:grawal@aqmd.gov]
Sent: Tuesday, October 21, 2014 10:55 AM
To: Ahn, Terry
Subject: FW: New application for abrasive blasting cabinet

Terry,

Thanks for abrasive blasting cabinet information.
For PM emission control it shows 98% control efficiency. Does it have an integral baghouse (if yes, provide information, specs, etc.) or cabinet is connected to a baghouse?
If a separate baghouse, then a separate application is required for an APC. Thanks.

Gaurang
909-396-2543

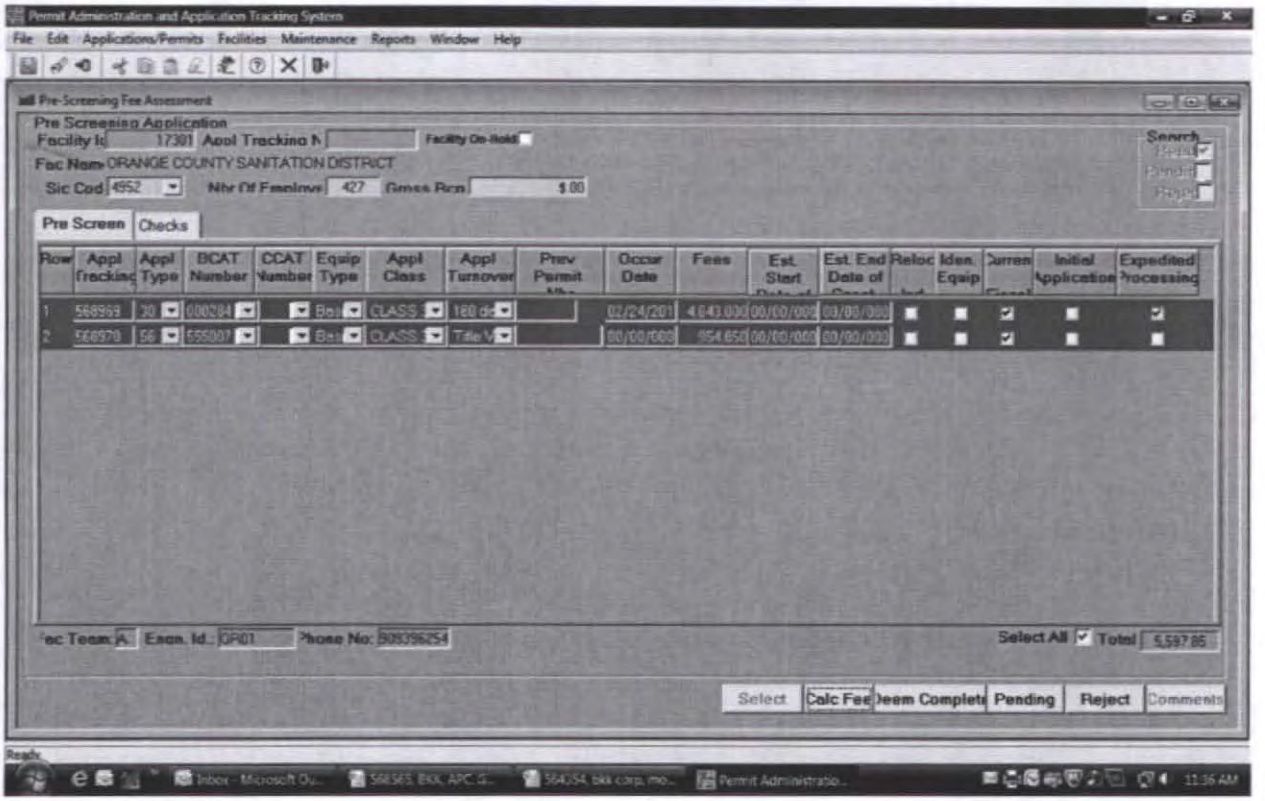
From: Ahn, Terry [mailto:tahn@ocsd.com]
Sent: Thursday, October 16, 2014 11:09 AM
To: Gaurang Rawal
Subject: New application for abrasive blasting cabinet

Hi Gaurang,

Please find attached pdf copy of the permit application package for an abrasive blasting cabinet. The original package along with the check were mailed out on 10/8.

Thanks,

Terry Ahn
Orange County Sanitation District |Environmental Compliance
Regulatory Specialist
(714) 593-7082



Abrasive Blasting Cabinet
P/o no P/C, APP

10/16/14

South Coast Air Quality Management District

Form 400 - XPP

Express Permit Processing Request

Form 400-A, Form 400-CEQA and one or more 400-E-xx form(s) must accompany all submittals.

Mail To:
SCAQMD
P.O Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator To Appear On The Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

Section B - Equipment Location Address

3. (●) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

10844 Ellis Avenue
Street Address

Fountain Valley, CA 92708-7018
City State Zip

Terry Ahn — Regulatory Specialist
Contact Name Title

(714) 593-7082 — Ext. — (714) 593-7773
Phone # Ext. Fax #

tahn@ocsd.com
E-Mail

Section C - Permit Mailing Address

4. Permit and Correspondence Information:
☑ Check here if same as equipment location address

10844 Ellis Avenue
Address

Fountain Valley, CA 92708-7018
City State Zip

Terry Ahn — Regulatory Specialist
Contact Name Title

(714) 593-7082 — Ext. — (714) 593-7773
Phone # Ext. Fax #

tahn@ocsd.com
E-Mail

Section D - Authorization/Signature

I understand that the Expedited Permit Processing fees must be submitted at the time of application submittal, and that the application may be subject to additional fees per Rule 301. I understand that requests for Express Permit Processing neither guarantees action by any specific date nor does it guarantee permit approval; that Express Permit Processing is subject to availability of qualified staff; and that once Express Permit Processing has commenced, the expedited fees will not be refunded. I hereby certify that all information contained herein and information submitted with the application are true and correct.

5. Signature of Responsible Official:	6. Title of Responsible Official:
James Herberg	General Manager
7. Print Name of Responsible Official:	**8. Date:**
James Herberg	10-07-2014
9. Phone #:	**10. Fax #:**
(714) 593-7300	(714) 962-0356

AQMD USE ONLY	APPLICATION TRACKING #		TYPE B C	EQUIPMENT CATEGORY CODE	FEE SCHEDULE $		VALIDATION
ENG DATE A R	ENG. DATE	A R	CLASS I II	ASSIGNMENT Unit Engineer	CHECK/MONEY ORDER #	AMOUNT $	TRACKING #

© South Coast Air Quality Management District, Form 400-XPP (2009.04)

BCT 2884 SCA-B

Serving:
Anaheim
Brea
Buena Park
Cypress
Fountain Valley
Fullerton
Garden Grove
Huntington Beach
Irvine
La Habra
La Palma
Los Alamitos
Newport Beach
Orange
Placentia
Santa Ana
Seal Beach
Stanton
Tustin
Villa Park
Yorba Linda
County of Orange
Costa Mesa Sanitary District
Midway City Sanitary District
Irvine Ranch Water District

Orange County Sanitation District
10844 Ellis Avenue, Fountain Valley, CA 92708
(714) 962-2411 www.ocsewers.com

October 6, 2014

Permit Services
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

SUBJECT: Application for Title V Permit Revision for Orange County Sanitation District Plant No. 1 (Facility ID No. 017301): Addition of a Permit-to-Operate an Abrasive Blasting Cabinet

---

Enclosed with this letter is an application for Title V permit revision for Orange County Sanitation District's Reclamation Plant No. 1. The Title V permit revision is requested to add a permit-to-operate an abrasive blasting cabinet which is located in the Rebuild Shop. The abrasive blasting cabinet will be used to remove rust, old paint, and any debris left on the metal parts such as pump casings, valve bodies, and bearing housings.

Enclosed with this letter are:

- (2) SCAQMD Form 400-A: Application for Permit to Construct and Permit to Operate
- (1) SCAQMD Form 500-A2: Title V Application Certification
- (1) SCAQMD Form 500-C1: Title V Compliance Status Report
- (1) SCAQMD Form 400-CEQA
- (1) SCAQMD Form 400-4b: Abrasive Blasting Equipment
- (1) SCAQMD Form 400-XPP: Express Permit Processing Request
- A check in the amount of $5,597.85 for the processing fee

If you have any questions or require further information, please contact Terry Ahn at (714) 593-7082 or tahn@ocsd.com.

James Colston
Environmental Compliance Manager

TA:JC:jb
H:\dept\eng\790\Groups\Compliance\Staff\ahn\Misc Projects\Rebuild Shop - Abrasive Blasting\Permit Pkg\ApplCvr.doc

Enclosure(s)

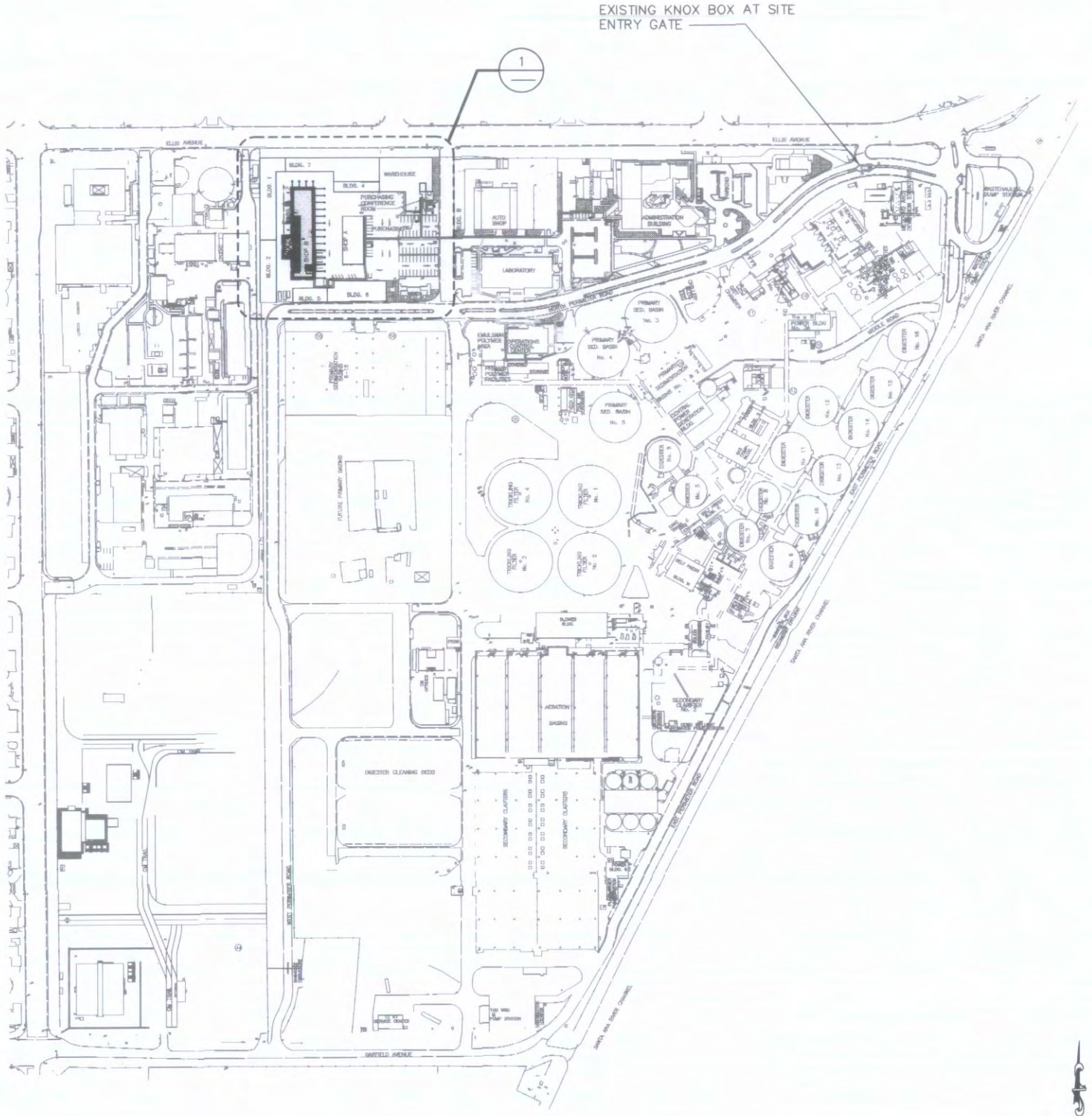
cc: V. Kogan (w/o enclosures)
Gaurang Rawal (SCAQMD)

Orange County Sanitation District
10844 Ellis Ave, Fountain Valley, CA 92708
(714) 962-2411

PAYMENT STUB
Vendor:
SOUTH COAST AIR QUALITY MGMT DIST

Check No.: 1000068482
Check Date: 10/8/2014
Vendor No.: 15843

Invoice Number	Invoice Date	Description	Gross	Discount	Payment Amount
TITLE V PERMIT APP.	10/6/2014	TITLE V PERMIT REVISIO	5,597.85		5,597.85
		Total Amount			U.S. $*****5,597.85


EXISTING KNOX BOX AT SITE ENTRY GATE
1
ELLIS AVENUE
GARFIELD AVENUE
SANTA ANA RIVER CHANNEL
BLDG. 7
WAREHOUSE
BLDG. 4
PURCHASING CONFERENCE ROOM
SHOP B
BLDG. 1
ADMINISTRATION BUILDING
LABORATORY
BLDG. 2
BLDG. 8
PRIMARY SED. BASIN No. 3
PRIMARY SED. BASIN No. 4
PRIMARY SED. BASIN No. 5
DIGESTER No. 11
DIGESTER No. 12
DIGESTER No. 13
DIGESTER No. 14
DIGESTER No. 15
DIGESTER No. 16
TRICKLING FILTER No. 1
TRICKLING FILTER No. 2
TRICKLING FILTER No. 3
FUTURE PRIMARY BASINS
AERATION BASINS
DIGESTER CLEANING BED
SECONDARY CLARIFIER
SECONDARY CLARIFIER
BLOWER BLDG.
SECONDARY CLARIFIER
SECONDARY CLARIFIER
SECONDARY CLARIFIER

ORANGE COUNTY
SANITATION DISTRICT
10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708-7018

Hasler
10/08/2014
US POSTAGE

FIRST-CLASS
$01.6

ZIP 927
011D1161

Permit Services
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

ROUTING RECORD

DATE	FROM	TO	ACTION
6/26/14	CTO1	6R01	prescreen
7-9-14	GR01		TV Rev, minor
9-24-14	GR01	CT01	Ready for EPA Review
10-7-14	CT	AL	EPA, Proposed Minor Revision
12-16-14	CT	P/S	Revision Approved

REFERENCE TO OTHER APCD RECORDS INCLUDING VARIANCES

TV Rev # 8
SCC H Rev # 7
} 12/10/14

APPL # 565933
I.D. # 17301

ORANGE COUNTY SANITATION DISTRICT
10844 ELLIS AVE
FOUNTAIN VALLEY
ADMIN PERMIT REVISION
TV — minor

Date: 08/25/14

(2)

XPP

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

AQMD

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: ○ Fixed Location ○ Various Location
(For equipment operated at various locations, provide address of initial site.)

10844 Ellis Avenue
Street Address

Fountain Valley, CA 92708-7018
City Zip

Terry Ahn — Regulatory Specialist
Contact Name Title

(714) 593-7082 Ext. (714) 962-2591
Phone # Fax #

E-Mail: tahn@ocsd.com

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
☒ Check here if same as equipment location address

10844 Ellis Avenue
Address

Fountain Valley, CA 92708-7018
City State Zip

Terry Ahn — Regulatory Specialist
Contact Name Title

(714) 593-7082 Ext. (714) 962-2591
Phone # Fax #

E-Mail: tahn@ocsd.com

Section D - Application Type

6. The Facility Is: ○ Not In RECLAIM or Title V ○ In RECLAIM ◉ In Title V ○ In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:

- ○ New Construction (Permit to Construct)
- ○ Equipment On-Site But Not Constructed or Operational
- ○ Equipment Operating Without A Permit *
- ○ Compliance Plan
- ○ Registration/Certification
- ○ Streamlined Standard Permit

7b. Facility Permits:

- ◉ Title V Application or Amendment (Refer to Title V Matrix) (76)
- ○ RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:

- ○ Administrative Change
- ○ Alteration/Modification
- ○ Alteration/Modification without Prior Approval *
- ○ Change of Condition
- ○ Change of Condition without Prior Approval *
- ○ Change of Location
- ○ Change of Location without Prior Approval *
- ○ Equipment Operating with an Expired/Inactive Permit *

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

8a. Estimated Start Date of Construction (mm/dd/yyyy): 04/01/2015

8b. Estimated End Date of Construction (mm/dd/yyyy): 03/31/2016

8c. Estimated Start Date of Operation (mm/dd/yyyy): 03/31/2016

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Replacement of existing Scrubbers 9 and 10 with two new bioscrubbers

10. For Identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process)

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) ◉ No ○ Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? If Yes, provide NOV/NC#: ◉ No ○ Yes

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Municipal Wastewater 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 ○ Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? ◉ No ○ Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: James Herberg

18. Title of Responsible Official: General Manager

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) ○ No ◉ Yes

20. Print Name: James Herberg

21. Date: 06-24-2014

22. Do you claim confidentiality of data? (If Yes, see instructions.) ◉ No ○ Yes

23. Check List: ☒ Authorized Signature/Date ☒ Form 400-CEQA ☒ Supplemental Form(s) (ie., Form 400-E-xx) ☒ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED	PAYMENT TRACKING #	VALIDATION
	545933	1000065887	8,176.67		6-25-14

DATE	APP REJ	DATE	APP REJ	CLASS I III	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
7/9/14 GKR						555007	A		

© South Coast Air Quality Management District, Form 400-A (2012.07)

(114872)

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SCAQMD PERMIT PROCESSING SYSTEM (PPS)

FEE DATA - SUMMARY SHEET

Application No :	565933	IRS/SS No:	
Previous Application No:		Previous Permit No:	

Company Name :	ORANGE COUNTY SANITATION DISTRICT			Facility ID:	17301
Equipment Street:	10844 ELLIS AVE , FOUNTAIN VALLEY CA 92708				
Equipment Desc :	Title V Permit Revision				
Equipment Type :	BASIC			Fee Charged by:	B-CAT
B-CAT NO. :	555007	C-CAT NO:	00	Fee Schedule:	Z
Facility Zone :	18	Deemed Compl. Date:	6/30/2014	Public Notice:	NO

Evaluation Type :	MINOR PERMIT REVISION
Disposition :	Approve Title V Application, Recommended by Engineer
Lead Appl. No :	

Small Business: ☐
Higher Fees for Failing to Obtain a Permit: ☐
Identical Permit Unit: ☐

Air quality Analysis			$0.00	Filing Fee Paid:	$0.00
E.I.R			$0.00	Permit Processing Fee Paid:	$912.44
Health Risk Assessment			$0.00	Permit Processing Fee Calculated*:	$912.44
Public Notice Preparation Fee			$0.00		
Public Notice Publication Fee			$0.00	Permit Processing Fee Adjustment:	$0.00
Expedited Processing	Hours:	0.00	$0.00		
Source Test Review	Hours:	0.00	$0.00		
Time & Material	Hours:	0.00	$0.00		
				Total Additional Fee:	$0.00
				Additional Charge:	$0.00

COMMENTS: TV MINOR REVISION.

RECOMMENDED BY: GAURANG RAWAL DATE: 09/24/2014

REVIEWED BY: CDT DATE: 12/16/14

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

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

December 10, 2014

Mr. James D. Ruth
General Manager
Orange County Sanitation District
PO Box 8127
Fountain Valley, CA 92728-8127

Subject: Minor Revision to Title V Permit for Orange County Sanitation District (OCSD), Sewage Treatment Plant, Fountain Valley (ID# 017301)

Dear Mr. Ruth,

Enclosed please find the revised Title Page, Table of Contents and Section H of the Title V Permit for OCSD, sewage treatment plant located at 10844 Ellis Avenue, Fountain Valley, CA, in Orange County. On October 7, 2014 the South Coast Air Quality Management District (SCAQMD) proposed a draft permit for Environmental Protection Agency's (EPA) review, and no comments were received from EPA. No public notice was required for this revision.

The revised Section H reflects the approval of the permit as shown below.

SECTION H, PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

Application Number	Equipment	Description
565934	Air Pollution Control (APC) System to treat foul-air from the Headworks Facility.	Modifications to permit to operate, F99404, by the removal of the existing scrubbers #9 & #10 and replacing with new rectangular bioscrubbers (#9 & #10), adding new exhaust blowers, duct work to treat foul air from various sources (OCSD Job No. P1-123).

Please review the attached pages carefully. Insert the enclosed section in your Title V Facility Permit and discard the earlier versions. Questions concerning this revised permit should be directed to Mr. Gaurang Rawal at (909) 396-2543.

The operation of your facility is bound by the conditions and/or requirements stated in your Facility Permit to Operate. If you determine any administrative errors, please contact Mr. Gaurang Rawal at the above number within 30 days of receipt of your permit.

Sincerely,

Andrew Y. Lee, P.E.
Senior AQ Engineering Manager
Energy/Public Services/
Waste Mgmt/Terminals-Permitting

AYL: CDT: GCR

cc: w/ enclosure
Geraldo Rios, EPA Region IX
Compliance
Title V Central File, OCSD, ID# 17301
Title V Revision A/N 565933

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

Title Page
Facility ID: 017301
Revision #: 8
Date: December 10, 2014

FACILITY PERMIT TO OPERATE

ORANGE COUNTY SANITATION DISTRICT
10844 ELLIS AVE
FOUNTAIN VALLEY, CA 92708

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

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 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.
EXECUTIVE OFFICER

By _____ for
Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

TABLE OF CONTENTS

Section	Description	Revision #	Date Issued
A	Facility Information	1	04/16/2014
B	RECLAIM Annual Emission Allocation	1	04/16/2014
C	Facility Plot Plan	TO BE DEVELOPED	
D	Facility Description and Equipment Specific Conditions	5	04/16/2014
E	Administrative Conditions	1	04/16/2014
F	RECLAIM Monitoring and Source Testing Requirements	1	04/16/2014
G	Recordkeeping and Reporting Requirements for RECLAIM Sources	1	04/16/2014
H	Permit To Construct and Temporary Permit to Operate	7	12/10/2014
I	Compliance Plans & Schedules	1	04/16/2014
J	Air Toxics	1	04/16/2014
K	Title V Administration	1	04/16/2014
Appendix			
A	NOx and SOx Emitting Equipment Exempt From Written Permit Pursuant to Rule 219	1	04/16/2014
B	Rule Emission Limits	1	04/16/2014

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

This section consists of a table listing all equipment with Permits to Construct and copies of all individual Permits to Construct issued to various equipment at the facility. Each permit will list operating conditions including periodic monitoring requirements and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Construct Granted On	Equipment Description	Page Number
432418	11-18-2004	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	3
453210	10-17-2006	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	6
494460	02-09-2010	BOILER (>10 MMBTU/HR) NAT GAS & DIGESTER GAS	11
504150	05-05-2010	ODOR CONTROL UNIT	15
520793	08-16-2012	ODOR CONTROL UNIT	18
520794	08-16-2012	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	22
546360	04-16-2014	ICE CG-1 (3471 HP) NG/DG WITH DG FUEL PRETREATMENT	28
546361	04-16-2014	ICE CG-2 (3471 HP) NG/DG WITH DG FUEL PRETREATMENT	32
546362	04-16-2014	ICE CG-3 (3471 HP) NG/DG WITH DG FUEL PRETREATMENT	36
557227	04-16-2014	STORAGE TANK, AQUEOUS UREA SOLUTION	40
557228	04-16-2014	STORAGE TANK, AQUEOUS UREA SOLUTION	41
559225	04-16-2014	APC SYSTEM 1, SCR/CO CATALYST	42
559226	04-16-2014	APC SYSTEM 2, SCR/CO CATALYST	45
559227	04-16-2014	APC SYSTEM 3, SCR/CO CATALYST	48
565934	12-09-2014	ODOR CONTROL UNIT FOR HEADWORKS FACILITY	51

NOTE: EQUIPMENT LISTED ABOVE THAT HAVE NO CORRESPONDING PERMITS TO OPERATE NUMBER ARE ISSUED PERMITS TO CONSTRUCT. THE ISSUANCE OR DENIAL OF THEIR PERMITS TO OPERATE IS SUBJECT TO ENGINEERING FINAL REVIEW. ANY OTHER APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 432418
Granted as of 11/18/2004

Equipment Description:

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT, COVERED BY PERMIT TO CONSTRUCT APPLICATION NO. 407071 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'- 0" L. X 20'- 0" W. X 14' -0" D., TWO SPLITTER BOXES, 15'- 0" L. X 4'- 0" W. X 7' - 6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.

2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'- 0" L. X 20'- 0" W. X 14' -0" D., THREE SPLITTER BOXES, 15'- 0" L. X 8'- 0" W. X 15' - 0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.

3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'- 0" L. X 40'- 0" W. X 9' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140' - 0" DIA. X 9' -O" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'- 0" L. X 195'- 0" W. X 10' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.

4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6' - 0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.

5. SECONDARY CLARIFIERS CONSISTING OF ONE 140' - 0" DIA. X 9' - 0" D., AND TWENTY-FOUR 150'- 0" L. X 40'- 0" W. X 10' -0" D. WITH ASSOCIATED PUMPS.

6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.

7. TEN AERATION BASINS, EACH 275'- 0" L. X 45'- 0" W. X 15' -0" D. WITH ASSOCIATED BLOWERS.

8. SIX SLUDGE THICKENERS, EACH 40' -0" DIA. X 8' - 0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.

9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90' -0" DIA. X 30' - 0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110' -0" DIA. X 30' - 0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMINUTERS.

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42' -0" DIA. X 33' - 6" H. WITH THREE COMPRESSORS.

12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.

BY THE ADDITION OF:

1. SIXTEEN PRIMARY BASINS, 195'- 0" L. X 40'- 0" W. X 10' -0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.

2. FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.

3. ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.

4. TWO NEW SECONDARY CLARIFIERS, EACH 150'- 0" L. X 40'- 0" W. X 10' - 0" D., WITH ASSOCIATED PUMPS (ITEM NO 5).

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND SLUDGE PROCESS STATION SHALL NOT BE OPERATED UNLESS THEY ARE FULLY ENCLOSED AND THEIR EXHAUST AIR VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN FULL OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
[RULE 402]

5. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.
[RULE 204]

FACILITY PERMIT TO OPERATE
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6. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304(a) (4)-MODELING & OFFSETS EXEMPTION]

7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 92 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304(a) (4)-MODELING & OFFSETS EXEMPTION]

8. THE HYDROGEN SULFIDE (H2S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.
[RULE 402]

9. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER BE COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS, WHICH HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD, EXCEPT DURING MAINTENANCE WORK OR CLEANING OF THE DIGESTERS AND RELATED DIGESTER GAS SYSTEM WHICH REQUIRES ISOLATION OF THE DIGESTER GAS LINE, IN WHICH CASE COLLECTED DIGESTER GAS SHALL BE TREATED BY ACTIVATED CARBON.
[RULE 402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 453210
Granted as of 10/17/2006

Equipment Description:

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT (216 MGD), COVERED BY PERMIT TO CONSTRUCT APPLICATION NO.432418 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'- 0" L. X 20'- 0" W. X 14' -0" D., TWO SPLITTER BOXES, 15'- 0" L. X 4'- 0" W. X 7' - 6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.

2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'- 0" L. X 20'- 0" W. X 14' -0" D., THREE SPLITTER BOXES, 15'- 0" L. X 8'- 0" W. X 15' - 0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.

3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'- 0" L. X 40'- 0" W. X 9' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140' - 0" DIA. X 9' -O" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'- 0" L. X 195'- 0" W. X 10' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.

4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6' - 0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.

5. SECONDARY CLARIFIERS CONSISTING OF ONE 140' - 0" DIA. X 9' - 0" D. AND TWENTY-FOUR 150'- 0" L. X 40'- 0" W. X 10' -0" D. WITH ASSOCIATED PUMPS.

6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.

7. TEN AERATION BASINS, EACH 275'- 0" L. X 45'- 0" W. X 15' -0" D. WITH ASSOCIATED BLOWERS.

8. SIX SLUDGE THICKENERS, EACH 40' -0" DIA. X 8' - 0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.

9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90' -0" DIA. X 30' - 0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110' -0" DIA. X 30' - 0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMINUTERS.

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.

11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42' -0" DIA. X 33' - 6" H. WITH THREE COMPRESSORS.

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12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.

13.* SIXTEEN PRIMARY BASINS, 195'- 0" L. X 40'- 0" W. X 10' -0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.

14.* FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.

15.* ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.

* Construction for the above items 13, 14, and 15 has been completed (under A/N 407071).

BY THE ADDITION OF: (OCSD JOB NO. P1-82 ACTIVATED SLUDGE PLANT REHABILITATION) UNDER A/N 432418.

16. TWO NEW SECONDARY CLARIFIERS, EACH 150'- 0" L. X 40'- 0" W. X 10' - 0" D.

BY THE REMOVAL OF:

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.

AND BY THE ADDITION OF:

17. NEW SECONDARY ACTIVATED SLUDGE FACILITY 2 (OCSD JOB NO. P1-102), AND NEW SLUDGE DEWATERING BEDS (OCSD JOB NO. P1-106) UNDER A/N 453210,

    I. SIX AERATION BASINS (NOS. 11 THROUGH 16), COVERED, EACH 227' – 2" L. X 45' – 0" W. X 26' – 0" D., WITH ASSOCIATED AERATION BLOWERS, DIFFUSERS, MIXERS, AND PUMPS, AND VENTING THROUGH SIX STACKS, EACH 7'– 11" H., AND 10,000 SCFM.

    II. SIX SECONDARY CLARIFIERS (NOS. 27, 29, 31, 32, 33, AND 34), UNCOVERED, EACH 155' DIA. X 16' SIDE WATER D. , WITH ASSOCIATED RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SECONDARY SCUM PUMPS.

    III. SODIUM HYPOCHLORITE (NaOCl) SOLUTION SYSTEM ADDITION (TO THE EXISTING BLEACH SYSTEM) FOR CHLORINATION OF THE TREATED EFFLUENT, RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SURFACE WASTE.

18. SLUDGE MANAGEMENT SYSTEM CONSISTING OF:

    I. TRUCK WASH STATION
    II. SAWDUST STORAGE
    III. TWO (2) DEWATERING BEDS FOR PLANT CLEANING OPERATIONS, EACH 110' – 0" L. X 56' – 0" W., AND WITH APPROXIMATELY 580 CUBIC YARDS CAPACITY.
    IV. ONE DEWATERING BED FOR PLANT CLEANING OPERATIONS, 100' – 0" L. X 24' – 0" W., WITH APPROXIMATELY 44 CUBIC YARDS CAPACITY.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION 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 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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, OCSD SHALL PROVIDE IN THE WRITTEN REQUEST, VERIFIABLE DATA TO AQMD IN ORDER TO SHOW COMPLIANCE WITH THE CONSTRUCTION SCHEDULE AS PROVIDED IN THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS GRANTED. IF THERE ARE CHANGES TO THE INCREMENTS OF PROGRESS AND/OR CONSTRUCTION SCHEDULE, THEY WILL NOT BECOME EFFECTIVE UNTIL OCSD RECEIVES WRITTEN CONFIRMATION OF SUCH CHANGES FROM AQMD.
[RULE 204]

5. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND SLUDGE PROCESS STATION SHALL NOT BE OPERATED UNLESS THEY ARE FULLY ENCLOSED AND THEIR EXHAUST AIR VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN FULL OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AIR POLLUTION CONTROL SYSTEM(S) ARE SHUTDOWN FOR CONSTRUCTION OR MAINTENANCE WORK, THE H2S EMISSIONS SHALL NOT EXCEED THE CONCENTRATION LIMITS AS SPECIFIED IN THE SHUT DOWN OF AIR POLLUTION CONTROL EQUIPMENT PERMIT.
[RULE 402]

6. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.
[RULE 204]

7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]

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8. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 92 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]

9. THE AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TREATED BY THE NEW ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102 CONSISTING OF SIX AERATION BASINS AND SIX SECONDARY CLARIFIERS), SHALL NOT EXCEED 60 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 204]

10. WITHIN 60 DAYS AFTER ACHIEVING THE MAXIMUM INFLUENT FLOW RATE FOR THE ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102), BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM AT LEAST TWO OF THE SIX NEW AERATION BASINS' EXHAUST STACKS, AND AT LEAST TWO OF THE SIX NEW SECONDARY CLARIFIERS' SURFACE EMISSIONS, IN ACCORDANCE WITH THE AQMD OR OTHER APPROVED TEST PROCEDURES. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM TWO OF THE AERATION BASINS AND TWO OF THE SECONDARY CLARIFIERS FOR:

    A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV).
    B. AMMONIA AND HYDROGEN SULFIDE (H2S), (LBS/HR AND PPMV).
    C. CARBON DIOXIDE, OXYGEN AND NITROGEN
    D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.

11. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED IN THE AERATION BASINS' EXHAUST STACK (JOB NO. P1-102) IN ACCORDANCE WITH SCAQMD'S RULE 217.
[RULE 217]

12. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0, JULY 1, 2005), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.
[RULE 1401]

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ORANGE COUNTY SANITATION DISTRICT

13. IF SOURCE TESTS RESULTS INDICATE THAT THE TOTAL VOLATILE ORGANIC COMPOUNDS (VOC) EMISSIONS FROM THE AERATION BASINS EXCEED 13 LBS PER DAY OR AS DETERMINED BY AQMD, THEN OCSD SHALL CONDUCT IN DETAIL THE TECHNOLOGICAL FEASIBLE STUDY AND COST-EFFECTIVENESS ANALYSIS FOR A SUITABLE AIR POLLUTION CONTROL EQUIPMENT TO DETERMINE LOWEST ACHIEVABLE EMISSION RATE (LAER) FROM SUCH PROCESS.
[RULE 1303 (a) (1) – BACT]

14. THE HYDROGEN SULFIDE (H2S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.
[RULE 402]

15. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH A PERMITTED AIR POLLUTION CONTROL DEVICE(S).
[RULE 402]

16. THE SAWDUST USED IN THE SLUDGE MANAGEMENT SYSTEM SHALL BE STORED AND KEPT SUFFICIENTLY MOIST TO PREVENT ANY AIR BORNE PARTICULATE MATTER EMISSIONS.
[RULE 402]

17. OCSD SHALL KEEP THE FOLLOWING DAILY RECORDS WITH REGARDS TO THE SLUDGE MANAGEMENT SYSTEM,

    I. THE AMOUNT OF SLUDGE DEWATERED IN EACH DRYING BED.
    II. NUMBER OF TRUCKS WASHED.
    III. NUMBER OF LEAKY OR OVERFILLED TRUCKS.
    [RULE 204]

18. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 494460
Granted as of 02/09/2010

Equipment Description:

BOILER, HURST BOILER AND WELDING COMPANY, MODEL S5-250-125W OR EQUIVALENT, FIRE-TUBE TYPE, WITH POWER FLAME INC., MODEL NVC8-G-30 LOW NOx BURNER OR EQUIVALENT, 10,500,000 BTU PER HOUR, WITH DIGESTER GAS AS PRIMARY FUEL, AND NATURAL GAS AS STAND-BY FUEL.

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL PROVIDE TO SCAQMD FINAL BOILER DESIGN DRAWINGS, P & I DIAGRAMS, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, DIMENSIONS, SIZE AND MAXIMUM CAPACITY) PRIOR TO INSTALLATION OF THE EQUIPMENT.
[RULE 204]

4. THIS EQUIPMENT SHALL BE PRIMARILY FIRED WITH DIGESTER GAS. NATURAL GAS MAY BE USED AS A STANDBY FUEL, IN THE EVENT DIGESTER GAS IS NOT AVAILABLE.
[RULE 204, 1146]

5. A FUEL METER SHALL BE INSTALLED AND MAINTAINED IN THE FUEL SUPPLY LINE(S) TO MEASURE, INDICATE AND RECORD THE AMOUNT OF FUEL(S) (SCFM) BURNED IN THIS EQUIPMENT.
[RULE 1303 (b) (1) & 1303 (b) (2) – MODELING & OFFSET]

6. WHEN IN OPERATION, TOTAL HEAT INPUT FOR THIS EQUIPMENT SHALL NOT EXCEED 10.5 MMBTU/HR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE (BTU/SCF) OF FUEL GAS BURNED IN THIS EQUIPMENT BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) & 1303 (b) (2) – MODELING & OFFSET]

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7. THIS EQUIPMENT SHALL BE EQUIPPED WITH A CONTROL SYSTEM TO AUTOMATICALLY REGULATE THE COMBUSTION AIR AND FUEL RATE AS THE BOILER LOAD VARIES. THIS AUTOMATIC CONTROL SYSTEM SHALL BE ADJUSTED AND TUNED PERIODICALLY, ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO ASSURE ITS ABILITY TO REPEAT THE SAME PERFORMANCE AT THE SAME BURNER FIRING RATE.
[RULE 1146]

8. EMISSIONS FOR OXIDES OF NITROGEN (NOx) AND CARBON MONOXIDE (CO) SHALL NOT EXCEED THE FOLLOWING LIMITS AND SHALL BE MEASURED BY VOLUME, ON A DRY BASIS, AT 3% O2.

FUEL USED	NOx AS NO2	CO
DIGESTER GAS	30 PPMV	≤100 PPMV
NATURAL GAS	12 PPMV	≤50 PPMV

[RULE 1146, RULE 1303 (a) (1) – BACT/LAER]

9. ON AND AFTER JANUARY 1, 2015, EMISSIONS OF NOx SHALL NOT EXCEED 15 PPMV (CORRECTED TO 3% O2, DRY) WHILE FIRING ON DIGESTER GAS
[RULE 1146]

10. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT AN INITIAL SOURCE TEST, AND SUBSEQUENT SOURCE TESTS ONCE EVERY THREE YEARS THEREAFTER, UNDER THE FOLLOWING CONDITIONS:

A. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD AND IN COMPLIANCE WITH DISTRICT RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THIS TEST.

B. A SOURCE TEST PROTOCOL SHALL BE SUBMITTED TO AQMD WITHIN 30 DAYS OF INITIAL START UP AND SHALL BE APPROVED BY AQMD BEFORE THE TEST COMMENCES. THE PROTOCOL SHALL INCLUDE PROPOSED OPERATING CONDITIONS OF THE EQUIPMENT DURING THE TEST, AND A DESCRIPTION OF ALL SAMPLING AND ANALYTICAL PROCEDURES TO BE USED.

C. SOURCE TESTING SHALL BE CONDUCTED WITHIN 60 CALENDAR DAYS AFTER NORMAL OPERATION OF THE EQUIPMENT HAS BEEN ESTABLISHED, BUT NO LATER THAN 180 DAYS AFTER INITIAL START UP.

D. THE SOURCE TESTS SHALL BE PERFORMED WHEN THE BOILER IS OPERATING AT MAXIMUM, MINIMUM AND AVERAGE LOAD FOR EACH FUEL (DIGESTER GAS AND NATURAL GAS) TO BE BURNED. THE SAMPLING TIME AT EACH LOAD SHALL BE FOR A MINIMUM OF 15 CONSECUTIVE MINUTES.

E. TWO COPIES OF THE SOURCE TEST RESULTS SHALL BE SUBMITTED TO AQMD, ATTN. GAURANG RAWAL, WITHIN 60 DAYS OF THE TESTS COMPLETION. THE REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

FUEL FLOW RATE (EACH FUEL)
FLUE GAS FLOW RATE (EACH FUEL)
METHANE (INLET DIGESTER GAS)
TOTAL NON-METHANE ORGANICS (EXHAUST & INLET DIGESTER GAS)

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SPECIATED TRACE ORGANICS (EXHAUST, DIGESTER GAS)
TOTAL PARTICULATES (EXHAUST)
OXIDES OF NITROGEN (EXHAUST)
CARBON MONOXIDE (EXHAUST)
OXYGEN
DIGESTER GAS BTU (HHV), AND TOTAL SULFUR CONTENT (AS H2S, PPMV)

THE REPORT SHALL PRESENT THE EMISSIONS DATA IN PARTS PER MILLION (PPMV) ON A DRY BASIS, POUNDS PER HOUR, AND LBS/MMBTU.
[RULE 217, RULE 404, RULE 1146, RULE 1303(A) (1), 1303 (B) (1), 1303(B) (2) - BACT, MODELING AND OFFSET, 1401]

10. MONITORING AND TESTING OF THE BOILER SHALL BE PERFORMED ACCORDING TO RULE 1146. [RULE 1146]

11. EMISSIONS RESULTING FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	POUNDS PER HOUR
CO	0.90 (0.43 WITH NATURAL GAS)
NOx	0.44 (0.17 WITH NATURAL GAS)
PM10	0.056
ROG	0.083
SOx	0.13

[RULE 404, 431.1, 1303(a) (1)-BACT, 1303(b) (2) - OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART DDDDD.
[40 CFR 63 SUBPART DDDDD]

13. ALL RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR A MINIMUM OF FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 3004 (a) (1)]

Periodic Monitoring:

14. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE EMISSION LIMIT(S) IN CONDITION N0. 11, AT LEAST ONCE EVERY FIVE YEARS USING AQMD-APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS. THE OPERATOR SHALL COMPLY WIT H ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.
[RULE 1303 – OFFSET, 3004 (a) (4)]

FACILITY PERMIT TO OPERATE
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Emissions And Requirements:

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

CO: 2000 PPMV, RULE 407
CO: 400 PPMV, @ 3% O2, DRY BASIS, RULE 1146
PM: 0.1 GR/SCF, RULE 409

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 504150
Granted as of 04/30/2010

Equipment Description:

MODIFICATION OF THE EXISTING ODOR CONTROL SYSTEM, F94280, CONSISTING OF;

1. FOUL AIR DUCTING FROM WET WELL AND ASSOCIATED TRUNK LINES (ELLIS PUMP STATION, OCSD PLANT NO. 1).

2. TWO BLOWERS, IN PARALLEL, EACH 7500 SCFM FLOW RATE

3. TWO ADSORBERS, IN PARALLEL, CONTAINING US FILTER/WESTATES MIDAS OCM OR CALGON CARBON MINOTAUR, EACH WITH A MINIMUM OF 8000 LBS OF HIGH H2S CAPACITY ACTIVATED CARBON.

4. TWO EXHAUST STACKS, EACH 2' - 6" DIA. X 6.5' H. WITH RAIN CAP.

BY REPLACEMENT WITH NEW ADSORBENT MEDIA BLEND, EXHAUST STACK, AND REMOVAL OF A RAIN CAP, AS FOLLOWS,

1. FOUL AIR DUCTING FROM WET WELL AND ASSOCIATED TRUNK LINES (STEVE ANDERSON LIFT STATION, OCSD PLANT NO. 1).

2. TWO BLOWERS, IN PARALLEL, EACH 7500 SCFM FLOW RATE

3. TWO ADSORBERS, IN PARALLEL, CONTAINING PUREAIR FILTRATION OR EQUAL ADSORBENT MEDIA, A BLEND OF POTASSIUM PERMANGANATE BASED AND GRANULAR ACTIVATED CARBON MEDIA, EACH ADSORBER WITH A MINIMUM OF 382 CUBIC FEET OF HIGH H2S CAPACITY MEDIA BLEND.

4. HYDROGEN SULFIDE CONTINUOUS EMISSION MONITORING AND INTEGRATED SAMPLING SYSTEM.

5. TWO EXHAUST STACKS, EACH 2' - 0" DIA. X 25' – 6"H.

PERMIT CONDITIONS:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATIONS UNDER WHICH THIS PERMIT IS ISSUED.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

3. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
[RULE 205]

4. IDENTIFICATION TAG (S) OR NAMEPLATE (S) SHALL BE DISPLAYED ON THE EQUIPMENT TO SHOW MANUFACTURER MODEL NO. AND SERIAL NO. THE TAG (S) OR PLATE (S) SHALL BE ISSUED BY THE MANUFACTURER AND SHALL BE AFFIXED TO THE EQUIPMENT IN A PERMANENT AND CONSPICUOUS POSITION.
[RULE 204]

5. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE FOUL AIR TREATED, IN CUBIC FEET PER MINUTE (CFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.
[RULE 204]

6. MAXIMUM FOUL AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 7500 CFM.
[RULE 402]

7. FOR EACH CARBON ADSORBER, TOTAL ORGANIC COMPOUNDS (TOCs) CONCENTRATION (PPMV) SHALL BE MONITORED AT EACH EXHAUST STACK, AT LEAST ONCE EVERY 7 DAYS OF OPERATION, FOR THE FIRST SIX-MONTH AND THEN ON A MONTHLY BASIS, USING A PHOTO IONIZATION DETECTOR OR AN ORGANIC VAPOR ANALYZER. RECORDS SHALL BE MAINTAINED AND KEPT ON FILE.
[RULE 204]

8. THE TOC CONCENTRATION MEASURED AT THE EXHAUST FROM EACH CARBON ADSORBER SHALL NOT EXCEED 2.2 PPMV, AS CARBON.
[RULE 204]

9. WHEN IN OPERATION, H2S CONCENTRATION (PPMV) IN EACH EXHAUST STACK SHALL BE MONITORED AND RECORDED USING A HYDROGEN SULFIDE CONTINUOUS EMISSION MONITORING AND INTEGRATED SAMPLING SYSTEM (CEMS). WHEN THE H2S MONITORING SYSTEM IS SHUTDOWN FOR REPAIR OR MAINTENANCE, PORTABLE DEVICES SUCH AS JEROME OR COLORIMETRIC TUBES SHALL BE USED TO MEASURE AND RECORD OUTLET H2S AT LEAST ONCE PER SHIFT.

10. THE HYDROGEN SULFIDE (H2S) CONCENTRATION MEASURED AT EACH EXHAUST STACK, USING CEMS SHALL NOT EXCEED 2.45PPMV, AVERAGED OVER ONE HOUR
[RULE 402, 1401]

11. IF THE HYDROGEN SULFIDE (H2S) CONCENTRATION MEASURED AT THE EXHAUST STACK IS DETECTED ABOVE 2.2 PPMV, THEN IMMEDIATE CORRECTIVE MEASURES SHALL BE TAKEN INCLUDING ACTIVATED CARBON REPLACEMENT, WITH FRESH CARBON, BEFORE RESUMING OPERATION.
[RULE 402, 1401]

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12. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.
[RULE 204]

13. IF THE OPERATION OF THIS EQUIPMENT RESULTS IN CONSIDERABLE NUMBER OF ODOR COMPLAINTS, THE WORK SHALL CEASE AND MITIGATION MEASURES SHALL BE IMPLEMENTED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL EMISSIONS CAUSING THE COMPLAINTS IS MITIGATED.
[RULE 402]

14. RECORDS SHALL BE MAINTAINED AS REQUIRED BY THIS PERMIT INCLUDING CARBON CHANGE OVER DATE(S) FOR COMPLIANCE. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 520793
Granted as of 08/16/2012

Equipment Description:

ODOR CONTROL SCRUBBER SYSTEM FOR NEW SLUDGE THICKENING AND DEWATERING FACILITY (JOB NO. P1-101), CONSISTING OF:

1. FOUL AIR EXHAUST DUCT FROM NEW SLUDGE THICKENING AND DEWATERING BUILDING, TOTAL 40,000 CFM.

2. THREE (3) EXHAUST BLOWERS, EACH 20,000 CFM.

3. THREE (3) CHEMICAL SCRUBBERS, EACH 3-STAGE, SIEMENS MODEL LP-6500 OR DUALL MODEL PMTD OR EQUIVALENT, VERTICAL, PACKED BED TYPE, FIRST AND FINAL STAGE MIST ELIMINATORS, WITH OPTIONAL OXIDATION REDUCTION POTENTIAL (ORP) PROBES AND CONTROLLERS, THREE (3) SUMPS, SCRUBBER SOLUTION RECIRCULATION PUMPS AND FLOW METERS, AUTOMATIC CHEMICAL FEED METERING PUMP AND MAKEUP WATER SYSTEM, EACH WITH EXHAUST STACK, 3' DIA. X 33' – 9" H., AND WITH NO RAIN CAP.

4. ASSOCIATED SULFURIC ACID, SODIUM HYDROXIDE, AND SODIUM HYPOCHLORITE STORAGE TANKS.

5. OPTIONAL TWO (2) DUAL-BED ADSORBERS, IN PARALLEL, EACH SIEMENS MODEL RJC-1300-D OR DUALL MODEL CA-132DB OR EQUIVALENT, GRANULAR ACTIVATED CARBON, 20, 000 SCFM, EACH WITH A EXHAUST STACK, 3' DIA. X 22' – 6" H., AND WITH NO RAIN CAP.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
[RULE 205]

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ORANGE COUNTY SANITATION DISTRICT

5. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY). DEVIATIONS FROM THE ABOVE DESCRIPTION AND PROPOSED DESIGN AFFECTING EQUIPMENT PERFORMANCE OR EMISSIONS SHALL BE APPROVED IN WRITING BY THE AQMD.
[RULE 204]

6. A SUFFICIENT NUMBER OF SCRUBBERS AND CARBON ADSORBERS (IF CONSTRUCTED) SHALL BE IN OPERATION WHEN THE BASIC EQUIPMENT ARE IN OPERATION TO MAINTAIN EXHAUST OUTLET H2S AND NH3 CONCENTRATIONS IN COMPLIANCE WITH THE LIMITS AS SPECIFIED IN THIS PERMIT EXCEPT DURING UNFORESEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT THE REQUIRES THE EQUIPMENT TO BE SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50 HOURS PER YEAR PER EQUIPMENT. A LOG OF SHUTDOWN DATE, DURATION, AND REASON FOR THE SHUTDOWN SHALL BE MAINTAINED.
[RULE 402]

7. WHEN IN OPERATION, NO MORE THAN TWO (2) MULTI-STAGE CHEMICAL SCRUBBERS SHALL BE IN OPERATION.
[RULE 204]

8. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH OF THE MULTI-STAGE CHEMICAL SCRUBBER TO INDICATE THE TOTAL AIR FLOW RATE IN CUBIC FEET PER MINUTE (CFM). THE MEASURED AIR FLOW RATE FOR EACH SCRUBBER SHALL NOT EXCEED 20,000 CFM. IN CASE A PRESSURE SENSOR DEVICE(S) IS USED IN PLACE OF THE FLOW METER(S), A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDENT FLOW RATE(S), IN CFM, TO THE PRESSURE READING.
[RULE 204]

9. A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP ACROSS EACH SCRUBBER PACKING BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH PACKING BED SHALL BE MAINTAINED WHEN THE SCRUBBER IS IN OPERATION PER MANUFACTURER'S RECOMMENDATION.
[RULE 204]

10. A PH METER SHALL BE INSTALLED AND MAINTAINED, FOR EACH SCRUBBER STAGE (SUMP SOLUTION), TO INDICATE PH OF THE SCRUBBING SOLUTION. THE PH OF THE SCRUBBER SOLUTION FOR EACH SCRUBBER STAGE SHALL BE RECORDED ONCE PER DAY AND SHALL BE PROPERLY MAINTAINED TO ENSURE COMPLIANCE WITH THE EXHAUST LIMITS SPECIFIED IN CONDITION NO. 20.
[RULE 204]

11. IF THE ORP IS CONSTRUCTED AND IS IN OPERATION, THE OXIDATION REDUCTION POTENTIAL (ORP) VALUE FOR EACH STAGE OF THE SCRUBBING SOLUTION SHALL BE MAINTAINED PER MANUFACTURER'S RECOMMENDATION.
[RULE 204]

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12. A FLOW METER SHALL BE INSTALLED TO INDICATE SCRUBBING SOLUTION FLOW RATE FOR EACH SCRUBBER. THE SCRUBBING SOLUTION FLOW RATE (GPM) FOR EACH STAGE SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATION.
[RULE 204]

13. WHEN IN OPERATION, FOR EACH SCRUBBER THE FOUL-AIR FLOW RATE, SCRUBBING SOLUTION FLOW RATE, PH, AND PRESSURE DIFFERENTIAL ACROSS THE SCRUBBER PACKING BED SHALL BE MONITORED AND RECORDED AT LEAST ONCE A DAY FOR THE FIRST MONTH OF OPERATION AND WEEKLY THEREAFTER.
[RULE 204]

14. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE EXHAUST AIR (FROM CHEMICAL SCRUBBER UNITS) TREATED, IN CUBIC FEET PER MINUTE (SCFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.
[RULE 204]

15. MAXIMUM EXHAUST AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 20,000 SCFM.
[RULE 204]

16. WITHIN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM THE ODOR CONTROL SYSTEM DESCRIBED IN THIS PERMIT AS INSTALLED; IN ACCORDANCE WITH THE AQMD APPROVED SOURCE TESTS PROTOCOL. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, WASTE MANAGEMENT & BULK TERMINALS PERMITTING TEAM, FOR APPROVAL AT LEAST 60 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM THE ODOR CONTROL SYSTEM FOR:

A. AMMONIA AND HYDROGEN SULFIDE (H2S), (LBS/HR AND PPMV) – EXHAUST TO ATMOSPHERE.
B. CARBON DIOXIDE, OXYGEN AND NITROGEN
C. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.

[RULE 204, 1401]

17. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS SHALL BE INSTALLED AND MAINTAINED FOR THE ODOR CONTROL UNIT AND EXHAUST STACKS IN ACCORDANCE WITH SCAQMD'S RULE 217.
[RULE 217]

FACILITY PERMIT TO OPERATE
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18. WHEN IN OPERATION, A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP (INCHES OF WATER COLUMN) ACROSS EACH CARBON BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH CARBON BED SHALL BE MAINTAINED AS PER MANUFACTURER'S SPECIFICATION AND RECOMMENDATION. PRESSURE DROP READING SHALL BE RECORDED AT LEAST ONCE A DAY FOR THE FIRST MONTH OF OPERATION AND WEEKLY THEREAFTER.
[RULE 204]

19. AMMONIA (NH3) AND HYDROGEN SULFIDE (H2S) CONCENTRATIONS (PPMV), AT THE EXHAUST STACKS, SHALL BE MONITORED USING HANDHELD DEVICES (USING LOW RANGE CONCENTRATION DETECTION LIMIT) OR OTHER APPROVED METHODS AT LEAST ONCE A DAY WHEN EQUIPMENT IS IN OPERATION.
[RULE 204]

20. EMISSIONS FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING.

H_2S	1 PPMV
NH_3	5 PPMV

IF MORE THAN ONE READING IS MADE IN A DAY, THE DAILY AVERAGE CONCENTRATION OF THE READINGS SHALL NOT EXCEED THE LIMITS SPECIFIED ABOVE.
[RULE 402]

21. ACTIVATED CARBON IN THE ADSORBER SHALL BE REPLACED WITH FRESH ONE AS PER MANUFACTURER'S RECOMMENDATION TO MAINTAIN DESIRED CONTROL EFFICIENCY, RECORDS FOR CARBON REPLACEMENT EVENTS, WITH DATE, TYPE AND QUANTITY SHALL BE MAINTAINED ON FILE.
[RULE 204]

22. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.
[RULE 204]

23. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 520794
Granted as of 08/16/2012

Equipment Description:

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT (216 MGD), COVERED BY PERMIT TO CONSTRUCT APPLICATION NO. 453210 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'- 0" L. X 20'- 0" W. X 14' -0" D., TWO SPLITTER BOXES, 15'- 0" L. X 4'- 0" W. X 7' - 6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.

2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'- 0" L. X 20'- 0" W. X 14' -0" D., THREE SPLITTER BOXES, 15'- 0" L. X 8'- 0" W. X 15' - 0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.

3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'- 0" L. X 40'- 0" W. X 9' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140' - 0" DIA. X 9' - 0" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'- 0" L. X 195'- 0" W. X 10' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.

4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6' - 0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.

5. SECONDARY CLARIFIERS CONSISTING OF ONE 140' - 0" DIA. X 9' - 0" D. AND TWENTY-FOUR 150'- 0" L. X 40'- 0" W. X 10' -0" D. WITH ASSOCIATED PUMPS.

6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.

7. TEN AERATION BASINS, EACH 275'- 0" L. X 45'- 0" W. X 15' -0" D. WITH ASSOCIATED BLOWERS.

8. SIX SLUDGE THICKENERS, EACH 40' -0" DIA. X 8' - 0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.

9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90' -0" DIA. X 30' - 0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110' -0" DIA. X 30' - 0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMINUTERS (GRINDERS). EACH DIGESTER IN OPERATION EQUIPPED WITH TWO PASSIVE CARBON ADSORBERS (55 GALLONS OR LESS VOLUME) USING NO MECHANICAL VENTILATION.

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.

11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42' -0" DIA. X 33' - 6" H. WITH THREE COMPRESSORS.

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12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.

13.* SIXTEEN PRIMARY BASINS, 195'- 0" L. X 40'- 0" W. X 10' -0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.

14.* FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.

15.* ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.

* Construction for the above items 13, 14, and 15 has been completed (under A/N 407071).

BY THE ADDITION OF: (OCSD JOB NO. P1-82 ACTIVATED SLUDGE PLANT REHABILITATION) UNDER *A/N 432418*.

16. TWO NEW SECONDARY CLARIFIERS, EACH 150'- 0" L. X 40'- 0" W. X 10' - 0" D.

BY THE REMOVAL OF:

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.(SEE ITEM 10 ABOVE)

AND BY THE ADDITION OF:

17. NEW SECONDARY ACTIVATED SLUDGE FACILITY 2 (OCSD JOB NO. P1-102), AND NEW SLUDGE DEWATERING BEDS (OCSD JOB NO. P1-106, CONSTRUCTION COMPLETED AND CURRENTLY IN OPERATION) UNDER A/N 453210,

    I. SIX AERATION BASINS (NOS. 11 THROUGH 16), COVERED, EACH 227' – 2" L. X 45' – 0" W. X 26' – 0" D., WITH ASSOCIATED AERATION BLOWERS, DIFFUSERS, MIXERS, AND PUMPS, AND VENTING THROUGH SIX STACKS, EACH 7'– 11" H., AND 10,000 SCFM.

    II. SIX SECONDARY CLARIFIERS (NOS. 27, 29, 31, 32, 33, AND 34), UNCOVERED, EACH 155' DIA. X 16' SIDE WATER D. , WITH ASSOCIATED RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SECONDARY SCUM PUMPS.

    III. SODIUM HYPOCHLORITE (NaOCl) SOLUTION SYSTEM ADDITION (TO THE EXISTING BLEACH SYSTEM) FOR CHLORINATION OF THE TREATED EFFLUENT, RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SURFACE WASTE.

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AND BY THE REPLACEMENT/UPGRADE OF: (OCSD JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

18. REPLACE TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES (LISTED UNDER ITEM NO. 12)

19. UPGRADE, REPLACE OR MODIFY;

I. SLUDGE CONVEYANCE AND PUMPING SYSTEM
II. BIOSOLIDS STORAGE AND LOAD-OUT SYSTEM
III. CHEMICAL FEED SYSTEM
IV. VENTILATION SYSTEM AND VARIOUS OTHER ELECTRICAL AND CONTROL SYSTEMS.
V. MODIFY EXISTING TRUCKLOADING FACILITY TO IMPROVE ODOR CONTROL AND TO ALLOW STORAGE AND CONVEYANCE OF A DRIER DEWATERED CAKE/BIOSOLIDS.

AND BY THE ADDITION OF: (OCSD JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

20. THREE (3) SLUDGE BLENDING TANKS
POLYMER SYSTEM CONSISTING OF POLYMER STORAGE, MIXING AND AGING TANKS.
THREE (3) SLUDGE THICKENING CENTRIFUGES
THREE (3) THICKENED SLUDGE WETWELLS
THREE (3) DEWATERING CENTRIFUGES
DEWATERED CAKE CONVEYANCE SYSTEM CONSISTING OF INCLINED SCREW CONVEYORS, HORIZONTAL/CROSS CONVEYERS, HORIZONTAL COLLECTOR CONVEYORS, CAKE HOPPERS AND TEMPORARY TRUCK LOAD OUT HOPPER.

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, OCSD SHALL PROVIDE IN THE WRITTEN REQUEST, VERIFIABLE DATA TO AQMD IN ORDER TO SHOW COMPLIANCE WITH THE CONSTRUCTION SCHEDULE AS PROVIDED IN THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS GRANTED. IF THERE ARE

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CHANGES TO THE INCREMENTS OF PROGRESS AND/OR CONSTRUCTION SCHEDULE, THEY WILL NOT BECOME EFFECTIVE UNTIL OCSD RECEIVES WRITTEN CONFIRMATION OF SUCH CHANGES FROM AQMD.
[RULE 204]

5. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND NEW SLUDGE THICKENING AND DEWATERING AND SOLIDS PROCESSING AND HANDLING FACILITY (JOB P1-101) SHALL NOT BE OPERATED UNLESS THE EXHAUST AIR IS VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AIR POLLUTION CONTROL SYSTEM(S) ARE SHUTDOWN FOR CONSTRUCTION OR MAINTENANCE WORK, THE H2S EMISSIONS SHALL NOT EXCEED THE CONCENTRATION LIMITS AS SPECIFIED IN THEIR RESPECTIVE AIR POLLUTION CONTROL EQUIPMENT PERMIT.
[RULE 402]

6. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.
[RULE 204]

7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]

8. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 182 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]

9. THE AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TREATED BY THE NEW ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102 CONSISTING OF SIX AERATION BASINS AND SIX SECONDARY CLARIFIERS), SHALL NOT EXCEED 60 MILLION GALLONS PER DAY (MGD) , AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 204]

10. WITHIN 60 DAYS AFTER ACHIEVING THE MAXIMUM INFLUENT FLOW RATE FOR THE ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102), BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM AT LEAST TWO OF THE SIX NEW AERATION BASINS' EXHAUST STACKS, AND AT LEAST TWO OF THE SIX NEW SECONDARY CLARIFIERS' SURFACE EMISSIONS, IN ACCORDANCE WITH THE AQMD OR OTHER APPROVED TEST PROCEDURES. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10

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DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM TWO OF THE AERATION BASINS AND TWO OF THE SECONDARY CLARIFIERS FOR:

A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV).
B. AMMONIA AND HYDROGEN SULFIDE (H2S), (LBS/HR AND PPMV).
C. CARBON DIOXIDE, OXYGEN AND NITROGEN
D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.

11. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED IN THE AERATION BASINS' EXHAUST STACK (JOB NO. P1-102) IN ACCORDANCE WITH SCAQMD'S RULE 217.
[RULE 217]

12. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0, JULY 1, 2005), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.
[RULE 1401]

13. IF SOURCE TESTS RESULTS INDICATE THAT THE TOTAL VOLATILE ORGANIC COMPOUNDS (VOC) EMISSIONS FROM THE AERATION BASINS EXCEED 13 LBS PER DAY OR AS DETERMINED BY AQMD, THEN OCSD SHALL CONDUCT IN DETAIL THE TECHNOLOGICAL FEASIBLE STUDY AND COST-EFFECTIVENESS ANALYSIS FOR A SUITABLE AIR POLLUTION CONTROL EQUIPMENT TO DETERMINE LOWEST ACHIEVABLE EMISSION RATE (LAER) FROM SUCH PROCESS.
[RULE 1303 (a) (1) – BACT]

14. THE HYDROGEN SULFIDE (H2S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.
[RULE 402]

15. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH A PERMITTED AIR POLLUTION CONTROL DEVICE(S).
[RULE 402]

16. THE SAWDUST USED IN THE SLUDGE MANAGEMENT SYSTEM SHALL BE STORED AND KEPT SUFFICIENTLY MOIST TO PREVENT ANY AIR BORNE PARTICULATE MATTER EMISSIONS.
[RULE 402]

17. OCSD SHALL KEEP THE FOLLOWING DAILY RECORDS WITH REGARDS TO THE SLUDGE MANAGEMENT SYSTEM,

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I. THE AMOUNT OF SLUDGE DEWATERED IN EACH DRYING BED.
II. NUMBER OF TRUCKS WASHED.
III. NUMBER OF LEAKY OR OVERFILLED TRUCKS.
[RULE 204]

18. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.
[RULE 204]

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PERMIT TO CONSTRUCT

A/N 546360
Granted as of 04-16-2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 1 (G2957) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

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6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

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14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

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D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

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ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546361
Granted as of 04-16-2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 2 (G2955) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

FACILITY PERMIT TO OPERATE
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6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

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14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

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D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546362
Granted as of 04-16-2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 3 (G2955) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

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6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

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ORANGE COUNTY SANITATION DISTRICT

D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 557227
Granted as of 04-16-2014

Equipment Description:

STORAGE TANK, NO. 16KTNK001, AQUEOUS UREA SOLUTION, ABOVE GROUND, 1,000 GALLON CAPACITY, VENTING TO ATMOSPHERE.

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 EQUIPMENT SHALL ONLY BE USED FOR STORAGE OF AQUEOUS UREA SOLUTION.

4. THE THROUGHPUT OF THIS EQUIPMENT SHALL NOT EXCEED 21 TURNOVERS IN ANY ONE MONTH.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 557228
Granted as of 04-16-2014

Equipment Description:

STORAGE TANK, NO. 16KTNK005, AQUEOUS UREA SOLUTION, ABOVE GROUND, 1,000 GALLON CAPACITY, VENTING TO ATMOSPHERE.

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 EQUIPMENT SHALL ONLY BE USED FOR STORAGE OF AQUEOUS UREA SOLUTION.

4. THE THROUGHPUT OF THIS EQUIPMENT SHALL NOT EXCEED 21 TURNOVERS IN ANY ONE MONTH.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 559225
Granted as of 04-16-2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 1 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC UREA FEED MONITORING AND CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X 62' H., ABOVE GROUND.

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. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 559226
Granted as of 04-16-2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 2 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.

4. EXHAUST STACK, 2'-6" DIA. X 62' ABOVE GROUND.

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. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 559227
Granted as of 04-16-2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 3 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.

4. EXHAUST STACK, 2'-6" DIA. X 62' ABOVE GROUND.

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. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 565934
Granted as of 12/09/2014

Equipment Description:

MODIFICATIONS TO AIR POLLUTION CONTROL SYSTEM (F99404) FOR HEADWORKS, CONSISTING OF:

1. SCRUBBER NOS. 9, VERTICAL TYPE, PACKED TOWER, 6'-0" DIA. X 34'- 0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

2. BIOTRICKLING FILTER NO. 10 WITH POLYURETHANE FOAM PACKING, 6'-0" DIA. X 34'-0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

3. FOUR SCRUBBERS, NOS. 1 THROUGH 4, EACH VERTICAL TYPE, PACKED TOWER, 9'-0" DIA. X 36'-9" H., INTERNAL DEMISTER AT THE TOP, AND WITH ASSOCIATED PUMPS AND INLET BLOWERS.

4. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H2S) MONITORING SYSTEM.

5. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING THE EXISTING METERING AND DIVERSION STRUCTURE, HEADWORKS NO. 1, SUNFLOWER PUMP STATION, BAR SCREEN BUILDING, BIN LOADING AND GRIT WASHER FACILITY AND GRIT CHAMBER/SPLITTER BOX BUILDING.

BY THE REMOVAL OF:

6. ABOVE ITEM No. 1 (SCRUBBER NO. 9) AND NO. 2 (BIOTRICKLING FILTER No. 10).

AND BY THE ADDITION OF:

7. BIOSCRUBBERS, NO. 9 AND NO. 10, EACH DANIEL MECHANICAL COMPANY OR EQUAL, APPROXIMATELY 40' L. X 12' W. X 16' H., WITH APPROXIMATELY TOTAL HEIGHT OF 10' MEDIA (LAVA ROCK OR EQUAL), WATER RECIRCULATION AND IRRIGATION SPRAY SYSTEMS, ASSOCIATED PUMPS, AUXILIARY SYSTEMS AND CONTROLS.

   EXHAUST FANS (2), EACH HARTZELL, NEW YORK BLOWER OR EQUAL, APPROXIMATELY 100 H.P., VFD, 19000 CFM CAPACITY.

   ITEM NO. 5 ABOVE WILL INCLUDE FOUL-AIR FROM STEVE ANDERSON LIFT (SAL) AND WASTE HAULER (WH) STATIONS.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION 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, 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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, EXTENSION REQUEST SHALL INCLUDE PROGRESS MADE AND THE WORK COMPLETED AND EXPECTED CONSTRUCTION COMPLETION DATE.
[RULE 204]

5. WHEN IN OPERATION, BIOSCRUBBERS (NO. 9 AND 10) SHALL ONLY EXHAUST INTO THE SCRUBBER NOS. 1 THROUGH 4.
[RULE 402]

6. WHEN THE CHEMICAL SCRUBBERS 1 THROUGH 4 ARE IN OPERATION, AUTOMATIC HYDROGEN SULFIDE (H2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE OUTLET H2S CONCENTRATION, IN PPMV. THE H2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
[RULE 204]

7. WHEN THE AUTOMATIC H2S MONITORING SYSTEM IS NOT OPERATING, PH OF THE SCRUBBING OR RECYCLING LIQUID, DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN) AND H2S CONCENTRATION IN EXHAUST, FOR SCRUBBERS 1 THROUGH 4 SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS AS DESCRIBED SHALL BE MEASURED AND RECORDED AT LEAST ONCE A DAY.
[RULE 402]

8. THE DAILY AVERAGE CONCENTRATION MEASURED FOR H2S EMISSION SHALL NOT EXCEED 2 PPMV.
[RULE 402, 1401]

9. ALL RECORDS AS REQUIRED BY THIS PERMIT SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

EPA 45-day ends Nov. 21, 2014

Catherine Rodriguez

From: Catherine Rodriguez
Sent: Tuesday, October 07, 2014 12:16 PM
To: R9AirPermits_SC@epa.gov
Cc: Gaurang Rawal; Charles Tupac; Andrew Lee; Charlene Delgado; Helen Quintana
Subject: Orange County Sanitation District (OCSD) Sewage Treament Plant Fountain Valley (17301) Proposed Minor
Attachments: ID 17301 OCSD Fountain Valley - EPA Cover Letter AN 565934 565933.pdf; ID 17301 OCSD Fountain Valley - Proposed TV Permit Revision AN 565934 565933.pdf; ID 17301 OCSD Fountain Valley Engr Eval AN 565933.pdf; ID 17301 OCSD Fountain Valley - Engr Eval AN 565934.pdf

Facility Name: Orange County Sanitation District (OCSD) Sewage Treatment Plant, Fountain Valley
Facility ID: 17301
Address: 10844 Ellis Ave., Fountain Valley, CA
Type of Mod: Proposed Minor
Description: Section H: Permit to Construct and Temporary Permit to Operate:
N: 565934 – Air Pollution Control System to treat foul-air from the Headworks Facility – Modification to permit to operate, F99404, by the removal of the existing scrubbers #9 and #10 and replacing with new rectangular bioscrubbers (#9 & #10), adding new exhaust blowers, duct work to treat foul air from various sources (OCSD Job No. P1-123).
Title V Application #: 565933
Attachments:

1. EPA Cover Letter
2. Proposed Title V Permit Revision
3. Engineering Evaluations

Please call or email me if there are any problems with the transmission of the attached files
Thank you.
Catherine

Catherine Rodriguez
Secretary to
Andrew Lee, P.E.
Sr. AQ Engineering Manager
South Coast AQMD
Energy/Public Services/Waste Mgmt/Terminals-Permitting
Engineering and Compliance Division
21865 Copley Drive
Diamond Bar, CA 91765
(909) 396-2735; crodriguez@aqmd.gov

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

October 7, 2014
Via electronic submittal

Mr. Gerardo Rios
USEPA – Region IX
Mail Stop A-5-2
75 Hawthorne Blvd.
San Francisco, CA 94105

Re: Proposed Minor Revision to Title V Permit for Orange County Sanitation District (OCSD), Sewage Treatment Plant, Fountain Valley (ID# 017301)

Dear Mr. Rios,

Enclosed for your 45-day review is the proposed minor revision to the Title V Permit (A/N 565933) for OCSD, sewage treatment plant, located at 10844 Ellis Avenue, Fountain Valley, CA in Orange County. This revision is not subject to public notice. We are enclosing the appropriate pages of the proposed Section H which includes the permit as shown below, and the engineering evaluations.

SECTION H: Permit to Construct and Temporary Permit to Operate

Application Number	Equipment	Description
565934	Air Pollution Control (APC) System to treat foul-air from the Headworks Facility.	Modifications to permit to operate, F99404, by the removal of the existing scrubbers #9 & #10 and replacing with new rectangular bioscrubbers (#9 & #10), adding new exhaust blowers, duct work to treat foul air from various sources (OCSD Job No. P1-123).

This request is being made via electronic submittal in order to facilitate your review. If you have any questions or need additional information, please contact Mr. Gaurang Rawal at (909) 396-2543 or by email at grawal@aqmd.gov.

Sincerely,

Andrew Y. Lee, P.E.
Senior AQ Engineering Manager
Energy/Public Services/
Waste Mgmt/Terminals-Permitting

AYL: CDT: GCR
Enclosures
cc: James D. Ruth, General Manager, OCSD, without enclosures
A/N 565933 - TV permit revision

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

This section consists of a table listing all equipment with Permits to Construct and copies of all individual Permits to Construct issued to various equipment at the facility. Each permit will list operating conditions including periodic monitoring requirements and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Construct Granted On	Equipment Description	Page Number
432418	11-18-2004	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	3
453210	10-17-2006	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	6
494460	02-09-2010	BOILER (>10 MMBTU/HR) NAT GAS & DIGESTER GAS	11
504150	05-05-2010	ODOR CONTROL UNIT	15
520793	08-16-2012	ODOR CONTROL UNIT	18
520794	08-16-2012	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	22
546360	04-16-2014	ICE CG-1 (3471 HP) NG/DG WITH DG FUEL PRETREATMENT	28
546361	04-16-2014	ICE CG-2 (3471 HP) NG/DG WITH DG FUEL PRETREATMENT	32
546362	04-16-2014	ICE CG-3 (3471 HP) NG/DG WITH DG FUEL PRETREATMENT	36
557227	04-16-2014	STORAGE TANK, AQUEOUS UREA SOLUTION	40
557228	04-16-2014	STORAGE TANK, AQUEOUS UREA SOLUTION	41
559225	04-16-2014	APC SYSTEM 1, SCR/CO CATALYST	42
559226	04-16-2014	APC SYSTEM 2, SCR/CO CATALYST	45
559227	04-16-2014	APC SYSTEM 3, SCR/CO CATALYST	48
565934	TBD	ODOR CONTROL UNIT FOR HEADWORKS FACILITY	51

NOTE: EQUIPMENT LISTED ABOVE THAT HAVE NO CORRESPONDING PERMITS TO OPERATE NUMBER ARE ISSUED PERMITS TO CONSTRUCT. THE ISSUANCE OR DENIAL OF THEIR PERMITS TO OPERATE IS SUBJECT TO ENGINEERING FINAL REVIEW. ANY OTHER APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 565934
Granted as of TBD

Equipment Description:

MODIFICATIONS TO AIR POLLUTION CONTROL SYSTEM (F99404) FOR HEADWORKS, CONSISTING OF:

1. SCRUBBER NOS. 9, VERTICAL TYPE, PACKED TOWER, 6'-0" DIA. X 34'- 0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

2. BIOTRICKLING FILTER NO. 10 WITH POLYURETHANE FOAM PACKING, 6'-0" DIA. X 34'-0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

3. FOUR SCRUBBERS, NOS. 1 THROUGH 4, EACH VERTICAL TYPE, PACKED TOWER, 9'-0" DIA. X 36'-9" H., INTERNAL DEMISTER AT THE TOP, AND WITH ASSOCIATED PUMPS AND INLET BLOWERS.

4. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H2S) MONITORING SYSTEM.

5. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING THE EXISTING METERING AND DIVERSION STRUCTURE, HEADWORKS NO. 1, SUNFLOWER PUMP STATION, BAR SCREEN BUILDING, BIN LOADING AND GRIT WASHER FACILITY AND GRIT CHAMBER/SPLITTER BOX BUILDING.

BY THE REMOVAL OF:

6. ABOVE ITEM No. 1 (SCRUBBER NO. 9) AND NO. 2 (BIOTRICKLING FILTER No. 10).

AND BY THE ADDITION OF:

7. BIOSCRUBBERS, NO. 9 AND NO. 10, EACH DANIEL MECHANICAL COMPANY OR EQUAL, APPROXIMATELY 40' L. X 12' W. X 16' H., WITH APPROXIMATELY TOTAL HEIGHT OF 10' MEDIA (LAVA ROCK OR EQUAL), WATER RECIRCULATION AND IRRIGATION SPRAY SYSTEMS, ASSOCIATED PUMPS, AUXILIARY SYSTEMS AND CONTROLS.

   EXHAUST FANS (2), EACH HARTZELL, NEW YORK BLOWER OR EQUAL, APPROXIMATELY 100 H.P., VFD, 19000 CFM CAPACITY.

   ITEM NO. 5 ABOVE WILL INCLUDE FOUL-AIR FROM STEVE ANDERSON LIFT (SAL) AND WASTE HAULER (WH) STATIONS.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION 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, 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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, EXTENSION REQUEST SHALL INCLUDE PROGRESS MADE AND THE WORK COMPLETED AND EXPECTED CONSTRUCTION COMPLETION DATE.
[RULE 204]

5. WHEN IN OPERATION, BIOSCRUBBERS (NO. 9 AND 10) SHALL ONLY EXHAUST INTO THE SCRUBBER NOS. 1 THROUGH 4.
[RULE 402]

6. WHEN THE CHEMICAL SCRUBBERS 1 THROUGH 4 ARE IN OPERATION, AUTOMATIC HYDROGEN SULFIDE (H2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE OUTLET H2S CONCENTRATION, IN PPMV. THE H2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
[RULE 204]

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[RULE 402, 1401]

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SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	PAGES 2	PAGE 1
ENGINEERING AND COMPLIANCE DIVISION	APPL NO 565933	DATE 10/02/2014
PERMIT APPLICATION EVALUATION AND CALCULATIONS	PROCESSED BY GCR	CHECKED BY CDT

TITLE V PERMIT REVISION EVALUATION
(Minor Permit Revision)

APPLICANT'S NAME: ORANGE COUNTY SANITATION DISTRICT (OCSD)

MAILING ADDRESS: 10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708-7018
ATTN.: TERRY AHN, REGULATORY SPECIALIST

EQUIPMENT ADDRESS: 10844 ELLIS AVENUE (PLANT NO. 1)
FOUNTAIN VALLEY, CA 92708

FACILITY ID. NO.: 017301

Background:
This application 565933 was submitted for Title V permit revision on 6/25/2014. This revision is to include proposed modifications (A/N 565934) to the existing permit to operate F99404, odor control equipment to treat foul-air from the Headworks facility. Proposed odor control improvements for the Headworks facility is identified as OCSD Job No. P1-123.

Most recent Title V permit Renewal/Revision for this facility was issued on 4/17/2014 (A/Ns 554225 - Renewal and 546359-de minimis significant revision).

Evaluation:
For the odor control improvements, the existing scrubber #9 and #10 (biotrickling filter) will be removed and replaced with new rectangular bioscrubbers (#9 & #10) that will have lava rock media, water recirculation and irrigation system to provide for H2S removal. Also, there will be two new exhaust fans (19,000 cfm, VFD, 100 HP, each) for the bioscrubbers and new foul-air duct work.

The proposed improvements will divert foul-air from the existing Steve Anderson Lift (SAL) station and Waste Haul (WH) station and first treated by the new bioscrubbers (#9 & #10) that vent to the existing scrubber's #1-#4. Existing scrubber (F94280) for SAL station and scrubber (G25417) for the WH station will be demolished.

Treated air from the two new bioscrubbers (38,000 cfm combined) and foul-air from the Headworks facility (53,400 cfm), total 91,400 cfm, will be further treated by the existing chemical scrubbers #1-#4 before discharged into the atmosphere. As per OCSD, there is no change for the existing scrubbers #1-#4 and its' exhaust fan capacity (total 96,000 cfm capacity), thereby, no increase in emission.

Please refer to the permit evaluation for the proposed scrubbers' operations under A/N 565934 .

This is considered a minor permit revision with no change in permitted wastewater treatment plant throughput and no net increase in total foul-air (cfm) treated by the final chemical scrubbers, #1 through #4, and no net increase in H2S emission. With no net increase in emissions, new odor control system is not subject to additional requirements for NSPS or NESHAP, pursuant to 40 CFR 60 and 40 CFR 63. No public notice is required for this minor revision; however, EPA 45-day review is required.

Rules Evaluation:

Reg. XXX: Title V Permits

Title V Renewal/revision was issued April 7, 2014.

A/N 565933 is filed for Title V permit revision to include proposed odor control system.

Annual Title V compliance inspection report, 7/29/14, stated that the facility had submitted required monitoring reports and facility was operating in compliance. Compliance with this regulation is expected.

Conclusions & Recommendations:

Issue a Title V minor permit revision with (Section H, 07) upon completion of EPA review and commenting period.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	PAGES 7	PAGE 1
ENGINEERING AND COMPLIANCE DIVISION	APPL NO 565934 rev	DATE 10/02/2014
PERMIT APPLICATION EVALUATION AND CALCULATIONS	PROCESSED BY GCR	CHECKED BY CDT

PERMIT TO CONSTRUCT EVALUATION
(Modifications to F99404, A/N 444109)

APPLICANT'S NAME: ORANGE COUNTY SANITATION DISTRICT (OCSD)

MAILING ADDRESS: 10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708-7018
ATTN.: TERRY AHN, REGULATORY SPECIALIST

EQUIPMENT ADDRESS: 10844 ELLIS AVENUE (PLANT NO. 1)
FOUNTAIN VALLEY, CA 92708

FACILITY ID. NO.: **017301**

EQUIPMENT DESCRIPTION:

MODIFICATIONS TO AIR POLLUTION CONTROL SYSTEM (F99404) FOR HEADWORKS, CONSISTING OF:

1. SCRUBBER NOS. 9, VERTICAL TYPE, PACKED TOWER, 6'-0" DIA. X 34'- 0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

2. BIOTRICKLING FILTER NO. 10 WITH POLYURETHANE FOAM PACKING, 6'-0" DIA. X 34'-0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

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[RULE 204]

Note: Equip. description and conditions revised, as deemed appropriate, based on OCSD's comments, 9/19/14 E-mail.

BACKGROUND:
On June 25, 2014, the above application No. 565934 was submitted for the modifications of the existing P/O F99404 (A/N 444109) for the Headworks APC system. The proposed modifications are for the odor control improvements for the Headworks facility (OCSD Project No. P1-123). As per the application submittal, number of email exchanges and reconfirmation by OCSD there is no net increase for the final exhaust flow rate and for the improved odor control system no impact on H2S emission is expected (reduced H2S emission is expected).

- This is a Title V facility. OCSD has also submitted A/N 565933 for Title V permit revision. Most recent Title V revision was issued on 4/17/2014.
- Review of the District's records did not show complaints for the period 01/01/2012 through 08/301/2014 (todate).
- As per District records, no NOV or NC was issued during the past several years.
- Inspector's report, dated 7/29/2014, for annual Title V compliance stated that the facility was operating in compliance with Title V permit conditions and no violations were determined. A copy of the report is included in folder.

Previous permits;

444109/F99404	issued 10-10-2008
341105/F21630	issued 08-10-1999
276518/R-D72255,	issued 04-08-1993
221814/D38743	issued 05-29-1991

Odor Control Equipment for Headworks Facility:
At present foul-air from various source, as described under equipment description item #5, is treated by the existing APC-odor control system (PO F99404, A/N 444109) that consists of scrubber #9 (vertical type packed scrubber), biotrickling filter (scrubber) #10 and treated air pass through the four scrubbers #1 - #4 (vertical packed tower, May 1991 design criteria for each scrubber, - 24000 cfm exhaust fan, 10 HP, caustic injection, exhaust stack 4' dia. X 37' and 1 stack 40' H.- extension was added for VOC testing) and treated air is discharged into the atmosphere (96,000 cfm, total). Main function for the APC is to control H2S emission.

For the odor control improvements, the existing scrubber #9 and #10 (biotrickling filter) will be removed and replaced with new rectangular bioscrubbers (#9 & #10) that will have lava rock media, water recirculation and irrigation system to provide for H2S removal. Also, there will be two new exhaust fans (19,000 cfm, VFD, 100 HP, each) for the bioscrubbers and new foul-air duct work.

The proposed improvements will divert foul-air from the existing Steve Anderson Lift (SAL) station and Waste Haul (WH) station and first treated by the new bioscrubbers (#9 & #10) that vent to the existing scrubbers #1-#4. Existing scrubber (F94280) for SAL station and scrubber (G25417) for the WH station will be demolished.

Treated air from the two new bioscrubbers (38,000 cfm combined) and foul-air from the Headworks facility (53,400 cfm), total 91,400 cfm, will be further treated by the existing chemical scrubbers #1-#4 before discharged into the atmosphere. As per OCSD, there is no change for the existing scrubbers #1-#4 and its' exhaust fan capacity (total 96,000 cfm capacity), thereby, no increase in emission.

BIOSCRUBBERS #9 and #10: (that will replace existing scrubbers #9 & #10)

Mfgr.: Daniel Mechanical Company or equal
Capacity: 19000 cfm maximum, 15,500 cfm nominal
Size: 40' L. x 12' W. x 16' H.
Media Depth: 10' Lava Rock-single stage or split into two stages
EBRT*: 15 seconds
Max. Delta P: 9 in. water column
Inlet H2S: 100 ppmv max, 50 ppmv avg.
H2S removal efficiency: >90%
*Empty Bed Residence Time
Exhaust Fan (2): 19,000 cfm, total 38,000 cfm
Mfgr.: Hartzell, New York Blower or equal
Motor HP: 100, Variable Frequency Drive -for better airflow balancing and flow controls
Recirculation pumps- Irrigation system
Pumps: Two, 1 Duty + 1 standby
Capacity: 200 gpm max, continuous flow
Motor HP: 15
Total Dynamic Head (TDH): 80'

Existing chemical scrubber #1 through #4: (No Change, specs. per May 1991 a/n submittal)

Exhaust Fans: 4
Capacity: 24,000 cfm each (Total 96,000cfm)
Motor HP: 40
Packing: Tri Pack
Packing Depth: 15'
Caustic Injection: 80 GPH @ 50 psig
Recir. Pump HP: 0.5
H2S Loading: 100 ppmv
Internal Demister at the top part of scrubber (exhaust)

Following information is provided by OCSD, e-mail, 8-21-2014

Foul Air Sources	Pre-modification			Post-modification		
	Flow Rate (cfm)	Stage 1 Treatment	Stage 2/Final Exhaust Point and Flow Rate	Flow Rate (cfm)	Stage 1 Treatment	Stage 2/Final Exhaust Point and Flow Rate
M&D Structure	17,000	Pre-treated by Scrubbers 9 and 10.	Combined air flow rate of 72,000 cfm from Scrubbers 9 and 10 exhaust (17,000 + 1,600) and Headworks (53,400) is treated by Scrubbers 1 thru 4. Scrubbers 1 thru 4 have a total design treatment capacity of 96,000 cfm. Each Scrubber has its own exhaust stack.	21,100	Will be pre-treated by new Scrubbers 9 and 10.	Combined air flow rate of 91,400 cfm from Scrubbers 9 and 10 exhaust (21,100 + 1,600 + 53,400 + 800 + 7000 future + 7,500) and Headworks (53,400) will be treated by existing Scrubbers 1 thru 4. Scrubbers 1 thru 4 have a total design treatment capacity of 96,000 cfm. Each Scrubber has its own exhaust stack.
Sunflower Pump Station	1,600	Pre-treated by Scrubbers 9 and 10.		1,600	Will be pre-treated by new Scrubbers 9 and 10.	
Headworks	53,400	No pre-treatment		53,400	No pre-treatment	
Waste Hauler Station	300	No pre-treatment	300 cfm is treated by a biofilter with 300 cfm capacity	800	Will be pre-treated by new Scrubbers 9 and 10.	
				7000 (future option)	Will be pre-treated by new Scrubbers 9 and 10.	
Steve Anderson Lift Station	15,000	No pre-treatment	15,000 cfm is treated by two carbon vessels with 15,000 cfm capacity total	7,500	Will be pre-treated by new Scrubbers 9 and 10.	
Total Flow Rate	87,300 cfm (less than existing treatment capacity of 96,000 cfm for Scrubbers 1 thru 4)			91,400 cfm (less than existing treatment capacity of 96,000 cfm)		

EMISSIONS:

For the proposed modifications, no increase in exhaust flow rate is expected and final scrubbers' #1-#4 exhaust flow rate capacity remains same 96,000 cfm and post-modification total exhaust flow rate is 91,400.
No net increase in H2S emission is expected (with improved scrubber operations and efficiency H2S emission is expected to be lower than current permit limit; 3.5 ppmv H2S). Please note that this application addresses only H2S odor control improvements and other potential pollutants' emissions are believed to be considered under POTW plant emissions (basic equipment emission source).
For information purpose, following is the H2S emission limit for the previous permits,

444109/F99404	issued 10-10-2008	3.5 ppmv H2S
341105/F21630	issued 08-10-1999	3.5 ppmv H2S
276518/R-D72255,	issued 04-08-1993	3.5 ppmv H2S
221814/D38743	issued 05-29-1991	N/A

SAL Station F94280	(To be demolished and foul-air diverted to scrubbers) 2 GACs in parallel, 7500 cfm each, 0.4 ppmv H2S, 0.2 ppmv TOC 1.0 ppmv NH_3
WH Station G25417	(To be demolished and foul-air diverted to scrubbers) Biofilter, 300 scfm, 2.0 ppmv H2S

As per OCSD e-mail, 9/05/14, and review of the current H2S monitoring data (pre-modification), OCSD believes that with new improved odor control system 2 to 2.5 ppmv, daily average H2S limit, seems achievable. A typical H2S measuring chart is provided for scrubber #4 (8-12-2014). About 95%-98% of data are below 2 ppmv, occasionally showing higher peaks (momentarily) > 2.5-3 ppmv.

Current NSR, ROG R1 = R2 = 0 will be kept same.

For information; @ 2 ppmv H2S limit
[H2S = 96000 scfm x **(2.0E-06)** x 1/379 x 34 x 60 = 1.03 lbs/hr = 24.72 lbs/day @ 24 hrs].

RULES EVALUATION:

With no increase in exhaust flow rates and no emission increase, compliance with all applicable rules and regulations is expected.

Rule 212: This is not a significant project. There are no schools within 1000' of emission source. H_2S is not a carcinogen; application is not subject to MICR analysis. No other criteria pollutants considered for this odor control improvement project. Compliance is expected.

Rule 401: The equipment is not expected to emit visible emissions with proper operation and maintenance.

Rule 402: With proper operation, monitoring and maintenance of the equipment no odor complaints are anticipated.

Reg. 13: Foul air treatment by bioscrubbers followed by chemical scrubbers is considered BACT for H2S control. However, there will be a net decrease in H2S emission (3.5 ppmv H2S for the

current permit to 2 ppmv H2S for post-modification odor control system), no BACT is required. No offset or modeling is triggered.

CEQA: Odor control improvement project (P1-123) has Categorical Exemption, Class 2, Replacement or Reconstruction. Notice of Exemption (NOE), 8/31/2012, is provided by the applicant. Compliance is expected.

Rule 1401: With reduced H2S emission for post-modification (2 ppmv from 3.5 ppmv H2S, equipment is exempt from this rule.

Reg. XXX: Title V Renewal/revision was issued April 7, 2014.
A/N 565933 is filed for Title V permit revision to include proposed odor control system.
Annual Title V compliance inspection report, 7/29/14, stated that the facility had submitted required monitoring reports and facility was operating in compliance. Compliance with this regulation is expected.

CONCLUSIONS/RECOMMENDATION:

A permit to construct is recommended subject to above listed conditions.
Approved PC to be included under TV Revision A/N 565933 upon completion of EPA review period.

Gaurang Rawal

From: Gaurang Rawal
Sent: Tuesday, October 07, 2014 1:03 PM
To: 'Ahn, Terry'
Cc: Kogan, Vlad; Charles Tupac
Subject: FW: Orange County Sanitation District (OCSD) Sewage Treament Plant Fountain Valley (17301) Proposed Minor
Attachments: ID 17301 OCSD Fountain Valley - EPA Cover Letter AN 565934 565933.pdf; ID 17301 OCSD Fountain Valley - Proposed TV Permit Revision AN 565934 565933.pdf; ID 17301 OCSD Fountain Valley Engr Eval AN 565933.pdf; ID 17301 OCSD Fountain Valley - Engr Eval AN 565934.pdf

FYI

From: Catherine Rodriguez
Sent: Tuesday, October 07, 2014 12:16 PM
To: R9AirPermits_SC@epa.gov
Cc: Gaurang Rawal; Charles Tupac; Andrew Lee; Charlene Delgado; Helen Quintana
Subject: Orange County Sanitation District (OCSD) Sewage Treament Plant Fountain Valley (17301) Proposed Minor

Facility Name: Orange County Sanitation District (OCSD) Sewage Treatment Plant, Fountain Valley
Facility ID: 17301
Address: 10844 Ellis Ave., Fountain Valley, CA
Type of Mod: Proposed Minor
Description: Section H: Permit to Construct and Temporary Permit to Operate:
AN: 565934 – Air Pollution Control System to treat foul-air from the Headworks Facility – Modification to permit to operate, F99404, by the removal of the existing scrubbers #9 and #10 and replacing with new rectangular bioscrubbers (#9 & #10), adding new exhaust blowers, duct work to treat foul air from various sources (OCSD Job No. P1-123).
Title V Application #: 565933
Attachments:

1. EPA Cover Letter
2. Proposed Title V Permit Revision
3. Engineering Evaluations

Please call or email me if there are any problems with the transmission of the attached files
Thank you.
Catherine

Catherine Rodriguez
Secretary to
Andrew Lee, P.E.
Sr. AQ Engineering Manager
South Coast AQMD
Energy/Public Services/Waste Mgmt/Terminals-Permitting
Engineering and Compliance Division
21865 Copley Drive
Diamond Bar, CA 91765
(909) 396-2735; crodriguez@aqmd.gov

NSR DATA SUMMARY SHEET

Application No	565933
Application Type	55
Application status	PENDAPPRV
Previous Apps, Dev	,

Company Name	ORANGE COUNTY SANITATION DISTRICT
Company ID	17301
Address	10844 ELLIS AVE, FOUNTAIN VALLEY, CA 92708-7018
Reclaim	NO
Reclaim Zone	01
Air Basin	SC
Zone	18
Title V	YES

Device ID	0 - TITLE-V
Estimated Completion Date	03-31-2016
Heat Input Capacity	0 Millions BTU/Hr
Priority Reserve	NONE - No Priority Access Requested
Recommended Disposition	32 - BANKING/ PLAN GRANTED
PR Expiration	12-31-9999
School within 1,000 feet	NO
Operating Weeks per year	52
Operating Days per week	5
Operating Hours	
Monday	08:00 to 16:00
Tuesday	08:00 to 16:00
Wednesday	08:00 to 16:00
Thursday	08:00 to 16:00
Friday	08:00 to 16:00
Saturday	00:00 to 00:00
Sunday	00:00 to 00:00

Application No	565933	Company ID	17301

Emittant	ROG	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	0	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	0.00	Lbs/Hr
Max Daily	0.00	Lbs/day
Uncontrolled Emission		
Max Hourly	0.00	Lbs/Hr
Max Daily	0.00	Lbs/day
Current Emission		
BACT 30 Day Avg	0.00	Lbs/day
Annual Emission	0.00	Lbs/year
District Emission		

Supervisor's Approval _____ Supervisor's Review Date _____

Processed By gaurangr

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	PAGES 2	PAGE 1
ENGINEERING AND COMPLIANCE DIVISION	APPL NO 565933	DATE 10/02/2014
PERMIT APPLICATION EVALUATION AND CALCULATIONS	PROCESSED BY GCR	CHECKED BY

TITLE V PERMIT REVISION EVALUATION
(Minor Permit Revision)

APPLICANT'S NAME: ORANGE COUNTY SANITATION DISTRICT (OCSD)

MAILING ADDRESS: 10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708-7018
ATTN.: TERRY AHN, REGULATORY SPECIALIST

EQUIPMENT ADDRESS: 10844 ELLIS AVENUE (PLANT NO. 1)
FOUNTAIN VALLEY, CA 92708

FACILITY ID. NO.: 017301

Background:
This application 565933 was submitted for Title V permit revision on 6/25/2014. This revision is to include proposed modifications (A/N 565934) to the existing permit to operate F99404, odor control equipment to treat foul-air from the Headworks facility. Proposed odor control improvements for the Headworks facility is identified as OCSD Job No. P1-123.

Most recent Title V permit Renewal/Revision for this facility was issued on 4/17/2014 (A/Ns 554225 - Renewal and 546359-de minimis significant revision).

Evaluation:
For the odor control improvements, the existing scrubber #9 and #10 (biotrickling filter) will be removed and replaced with new rectangular bioscrubbers (#9 & #10) that will have lava rock media, water recirculation and irrigation system to provide for H2S removal. Also, there will be two new exhaust fans (19,000 cfm, VFD, 100 HP, each) for the bioscrubbers and new foul-air duct work.

The proposed improvements will divert foul-air from the existing Steve Anderson Lift (SAL) station and Waste Haul (WH) station and first treated by the new bioscrubbers (#9 & #10) that vent to the existing scrubber's #1-#4. Existing scrubber (F94280) for SAL station and scrubber (G25417) for the WH station will be demolished.

Treated air from the two new bioscrubbers (38,000 cfm combined) and foul-air from the Headworks facility (53,400 cfm), total 91,400 cfm, will be further treated by the existing chemical scrubbers #1-#4 before discharged into the atmosphere. As per OCSD, there is no change for the existing scrubbers #1-#4 and its' exhaust fan capacity (total 96,000 cfm capacity), thereby, no increase in emission.

Please refer to the permit evaluation for the proposed scrubbers' operations under A/N 565934 .

This is considered a minor permit revision with no change in permitted wastewater treatment plant throughput and no net increase in total foul-air (cfm) treated by the final chemical scrubbers, #1 through #4, and no net increase in H2S emission. With no net increase in emissions, new odor control system is not subject to additional requirements for NSPS or NESHAP, pursuant to 40 CFR 60 and 40 CFR 63. No public notice is required for this minor revision; however, EPA 45-day review is required.

Rules Evaluation:

Reg. XXX: Title V Permits

Title V Renewal/revision was issued April 7, 2014.

A/N 565933 is filed for Title V permit revision to include proposed odor control system.

Annual Title V compliance inspection report, 7/29/14, stated that the facility had submitted required monitoring reports and facility was operating in compliance. Compliance with this regulation is expected.

Conclusions & Recommendations:

Issue a Title V minor permit revision with (Section H, 07) upon completion of EPA review and commenting period.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 565934
Granted as of TBD

Equipment Description:

MODIFICATIONS TO AIR POLLUTION CONTROL SYSTEM (F99404) FOR HEADWORKS, CONSISTING OF:

1. SCRUBBER NOS. 9, VERTICAL TYPE, PACKED TOWER, 6'-0" DIA. X 34'- 0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

2. BIOTRICKLING FILTER NO. 10 WITH POLYURETHANE FOAM PACKING, 6'-0" DIA. X 34'-0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

3. FOUR SCRUBBERS, NOS. 1 THROUGH 4, EACH VERTICAL TYPE, PACKED TOWER, 9'-0" DIA. X 36'-9" H., INTERNAL DEMISTER AT THE TOP, AND WITH ASSOCIATED PUMPS AND INLET BLOWERS.

4. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H2S) MONITORING SYSTEM.

5. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING THE EXISTING METERING AND DIVERSION STRUCTURE, HEADWORKS NO. 1, SUNFLOWER PUMP STATION, BAR SCREEN BUILDING, BIN LOADING AND GRIT WASHER FACILITY AND GRIT CHAMBER/SPLITTER BOX BUILDING.

BY THE REMOVAL OF:

6. ABOVE ITEM No. 1 (SCRUBBER NO. 9) AND NO. 2 (BIOTRICKLING FILTER No. 10).

AND BY THE ADDITION OF:

7. BIOSCRUBBERS, NO. 9 AND NO. 10, EACH DANIEL MECHANICAL COMPANY OR EQUAL, APPROXIMATELY 40' L. X 12' W. X 16' H., WITH APPROXIMATELY TOTAL HEIGHT OF 10' MEDIA (LAVA ROCK OR EQUAL), WATER RECIRCULATION AND IRRIGATION SPRAY SYSTEMS, ASSOCIATED PUMPS, AUXILIARY SYSTEMS AND CONTROLS.

   EXHAUST FANS (2), EACH HARTZELL, NEW YORK BLOWER OR EQUAL, APPROXIMATELY 100 H.P., VFD, 19000 CFM CAPACITY.

   ITEM NO. 5 ABOVE WILL INCLUDE FOUL-AIR FROM STEVE ANDERSON LIFT (SAL) AND WASTE HAULER (WH) STATIONS.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION 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, 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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, EXTENSION REQUEST SHALL INCLUDE PROGRESS MADE AND THE WORK COMPLETED AND EXPECTED CONSTRUCTION COMPLETION DATE.
   [RULE 204]

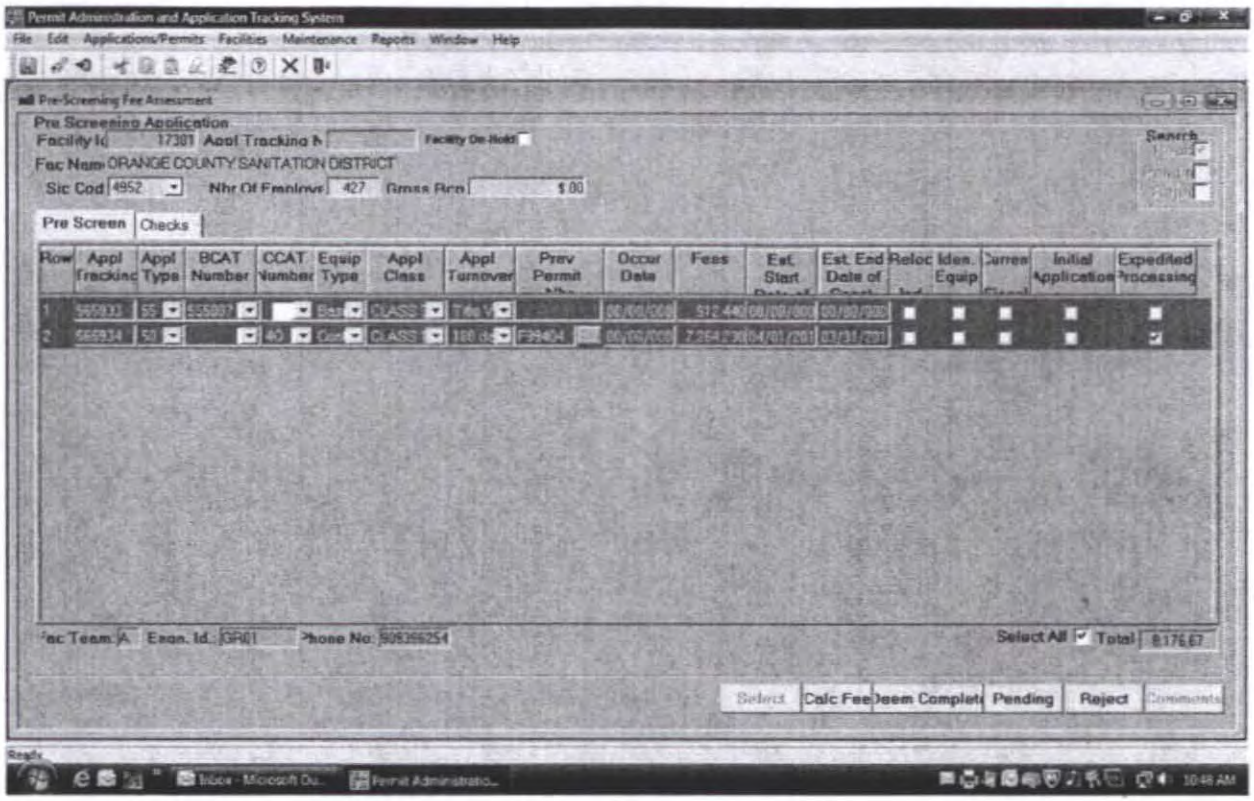
5. WHEN IN OPERATION, BIOSCRUBBERS (NO. 9 AND 10) SHALL ONLY EXHAUST INTO THE SCRUBBER NOS. 1 THROUGH 4.
   [RULE 402]

6. WHEN THE CHEMICAL SCRUBBERS 1 THROUGH 4 ARE IN OPERATION, AUTOMATIC HYDROGEN SULFIDE (H2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE OUTLET H2S CONCENTRATION, IN PPMV. THE H2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
   [RULE 204]

7. WHEN THE AUTOMATIC H2S MONITORING SYSTEM IS NOT OPERATING, PH OF THE SCRUBBING OR RECYCLING LIQUID, DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN) AND H2S CONCENTRATION IN EXHAUST, FOR SCRUBBERS 1 THROUGH 4 SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS AS DESCRIBED SHALL BE MEASURED AND RECORDED AT LEAST ONCE A DAY.
   [RULE 402]

8. THE DAILY AVERAGE CONCENTRATION MEASURED FOR H2S EMISSION SHALL NOT EXCEED 2 PPMV.
   [RULE 402, 1401]

9. ALL RECORDS AS REQUIRED BY THIS PERMIT SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
   [RULE 204]



7/9/14

Type 55 TV Rev, minor = 912.44

Odor control (Sch D) Altn/mod, XPP. = 9264.23
(CCat 49)

FY 2013 - 2014

South Coast
Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

April 17, 2014

James Herberg
General Manager
Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708-7018

Re: Transmittal of Title V Permit Renewal and Revision for Orange County Sanitation District (ID # 017301)

Dear Mr. Herberg,

Enclosed is the Title V Permit for the Orange County Sanitation District (OCSD), located at 10844 Ellis Avenue, Fountain Valley, CA, that has been issued by the South Coast Air Quality Management District (SCAQMD). This Title V Permit includes a renewal and revision and supersedes the previous Title V Permit issued by the SCAQMD.

The draft copy of this permit was submitted to EPA Region IX for a 45-day review period (Electronic submittal on February 28, 2014) and made available for a 30-day public comment period (March 5, 2014). The draft included the renewal under application number 554225 and de-minimis significant revision under application number 546359.

The SCAQMD did not receive any comments from the EPA or public on the draft permit.

This Title V Permit Renewal includes the following revised Sections;

SECTION A: FACILITY INFORMATION

- Updated the Contact Person Title.

SECTION D: FACILITY EQUIPMENT AND REQUIREMENTS

- Facility Wide Conditions-Revised Condition No. 6 for clarification.
- Added three categories of Rule 219 equipment that are exempt from written permit requirement (abrasive blasting, less than 2 mmbtuh boilers/heaters, fire extinguishing) and subject to enforceable requirements.
- Revised Permit F00876 condition #7. Periodic monitoring was removed because it is duplicative of current SCAQMD Rule 1146 testing.
- Revised Permit F00876 emissions to clarify/include current and future Rule 1146 NOx limits
- Revised Permit G9737 condition #4 reference from condition #8 to condition #7

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

- Includes the modifications and new constructions that were categorized under the de-minimis significant permit revision.

Appl. No.	Equipment	Description
546360-62	Three ICE-generators	Modifications to include digester gas fuel cleaning system (common to 3 engines)
557227-28	Two Storage Tanks, aqueous Urea Solution	New construction
559225-27	Three CatOx/SCR systems with aqueous urea injection	New construction of 3 Post Combustion Catalysts and aqueous urea injection system

SECTION J: AIR TOXICS
Update to 40 CFR Part 63 Subpart ZZZZ requirements.

SECTION K: Title V Administrative
Update to applicable rules.

Please review this facility permit carefully. If you determine that there are administrative errors in the permit, have any questions, or need additional information concerning this permit, please contact Gaurang Rawal, Air Quality Engineer, at (909) 396-2543 or by e-mail grawal@aqmd.gov within 30 days of the receipt of your permit.

Sincerely,

Charles Tupac, for

Andrew Y. Lee, P.E.
Senior AQ Engineering Manager
Energy/Public Services/Waste Mgmt/Terminals-Permitting

AYL: CDT: GCR
Enclosures
cc: (w/ enclosure)
Geraldo Rios, EPA Region IX
Compliance-SCAQMD
Title V Central File
Files A/N 554225 and 546359
(W/o enclosure)
Mohan Balagopalan

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Reference

Facility Equipment and Requirements
(Section D)

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, all individual Permits to Construct and Permits to Operate issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit and Rule 219-exempt equipment will list operating conditions including periodic monitoring requirements, and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

This section consists of a table listing all equipment with Permits to Construct and copies of all individual Permits to Construct issued to various equipment at the facility. Each permit will list operating conditions including periodic monitoring requirements and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Construct Granted On	Equipment Description	Page Number
432418	11-18-2004	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	5
453210	10-17-2006	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	8
494460	02-09-2010	BOILER, 10.5 MMBTU/HR, DIGESTER GAS AND NATURAL GAS FIRED	13
504150	05-05-2010	ODOR CONTROL SYSTEM FOR ELLIS PUMP STATION	17
520793	08-16-2012	ODOR CONTROL SYSTEM, FOR NEW SLUDGE THICKENING AND DEWATERING FACILITY	20
520794	08-16-2012	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	24
546360	04-16-2014	ICE CG-1, 3471 HP, DIGESTER GAS AND NATURAL GAS FIRED WITH DG FUEL PRETREATMENT	26
546361	04-16-2014	ICE CG-2, 3471 HP, DIGESTER GAS AND NATURAL GAS FIRED WITH DG FUEL PRETREATMENT	34
546362	04-16-2014	ICE CG-3, 3471 HP, DIGESTER GAS AND NATURAL GAS FIRED WITH DG FUEL PRETREATMENT	38
557227	04-16-2014	STORAGE TANK, AQUEOUS UREA	42
557228	04-16-2014	STORAGE TANK, AQUEOUS UREA	43
559225	04-16-2014	APC SYSTEM 1, SCR/CO CATALYST	44
559226	04-16-2014	APC SYSTEM 2, SCR/CO CATALYST	47
559227	04-16-2014	APC SYSTEM 3, SCR/CO CATALYST	50

NOTE: EQUIPMENT LISTED ABOVE THAT HAVE NO CORRESPONDING PERMITS TO OPERATE NUMBER ARE ISSUED PERMITS TO CONSTRUCT. THE ISSUANCE OR DENIAL OF THEIR PERMITS TO OPERATE IS SUBJECT TO ENGINEERING FINAL REVIEW. ANY OTHER APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

Serving:
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County of Orange
Costa Mesa Sanitary District
Midway City Sanitary District
Irvine Ranch Water District

Orange County Sanitation District
10844 Ellis Avenue, Fountain Valley, CA 92708
(714) 962-2411 www.ocsewers.com

June 24, 2014

Permit Services
South Coast Air Quality Management District
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

SUBJECT: Application for Title V Permit Revision for Orange County Sanitation District Plant No. 1 (Facility ID No. 017301): Modification of Existing Odor Control System at the Headworks Facility (Permit No. F99404)

Enclosed with this letter is an application for Title V permit revision for Orange County Sanitation District's Wastewater Treatment Plant No. 1. The Title V permit revision is requested for the modification of the Permit-to-Operate No. F99404 for the replacement of the existing Scrubbers 9 and 10 with two new bioscrubbers including new exhaust fans and new foul air ductwork to improve the performance of the existing odor control system at the Headworks Facility.

Enclosed with this letter are:

- (2) SCAQMD Form 400-A: Application for Permit to Construct and Permit to Operate
- (1) SCAQMD Form 500-A2: Title V Application Certification
- (1) SCAQMD Form 500-C1: Title V Compliance Status Report
- (1) SCAQMD Form 400-CEQA
- (1) SCAQMD Form 400-E-3: Scrubber
- (1) SCAQMD Form 400-XPP: Express Permit Processing Request
- Supplemental Information
- A check in the amount of $8,176.67 for the processing fee

If you have any questions or require further information, please contact Terry Ahn at (714) 593-7082 or tahn@ocsd.com.

James Colston
Environmental Compliance Manager

TA:JC:jb
H:\dept\eng\790\Groups\Compliance\Staff\ahn\Permitting Projects\P1-123 Scrubbers 9_10 Replacement\Permitting\P1-123_ApplCvr.doc

Enclosure(s)

cc: V. Kogan (w/o enclosures)
Gaurang Rawal (SCAQMD)

South Coast Air Quality Management District

Form 400-CEQA

California Environmental Quality Act (CEQA) Applicability

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.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[1] has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].[2] Refer to the attached instructions for guidance in completing this form.[3] 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 Permit Services at (909) 396-3385 or (909) 396-2668.

Section A - Facility Information

1. Facility Name (Business Name of Operator To Appear On The Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

3. Project Description:

Replacement of the existing Scrubbers 9 and 10 with two new Bioscrubbers to improve the existing odor control system at the Headworks facility (OCSD Job No. P1-123)

Section B - Review For Exemption From Further CEQA Action

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
1.	◉	○	**A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project?** If yes, attach a copy of the signed Notice of Determination to this form.
2.	○	◉	**A request for a change of permittee only (without equipment modifications)?**
3.	○	◉	**A functionally identical permit unit replacement with no increase in rating or emissions?**
4.	○	◉	**A change of daily VOC permit limit to a monthly VOC permit limit?**
5.	○	◉	**Equipment damaged as a result of a disaster during state of emergency?**
6.	○	◉	**A Title V (i.e., Regulation XXX) permit renewal (without equipment modifications)?**
7.	○	◉	**A Title V administrative permit revision?**
8.	○	◉	**The conversion of an existing permit into an initial Title V permit?**

If "Yes" is checked for any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on page 2 and sign and date this form.

Section C - Review of Impacts Which May Trigger CEQA

Complete Parts 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	Part I - General
1.	○	○	**Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project?** 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.
2.	○	○	**Is this project part of a larger project?** If yes, attach a separate sheet to briefly describe the larger project.
			Part II - Air Quality
3.	○	○	**Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?**
4.	○	○	**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.

[1] 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.

[2] To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

[3] To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

© South Coast Air Quality Management District, Form 400-CEQA (2009.04)

Section C - Review of Impacts Which May Trigger CEQA (cont.)			
	Yes	No	Part II - Air Quality (cont.)
5.	○	⊙	**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.	○	⊙	**Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?**
7.	○	○	**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?[4]**
			Part III – Water Resources
8.	○	○	**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.	○	○	**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.
			Part IV – Transportation/Circulation
10.			**Will the project result in** (Check all that apply):
	○	○	**a. the need for more than 350 new employees?**
	○	○	**b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?**
	○	○	**c. increase customer traffic by more than 700 visits per day?**
			Part V – Noise
11.	○	○	**Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?**
			Part VI – Public Services
12.			**Will the project create a permanent need for new or additional public services in any of the following areas** (Check all that apply):
	○	⊙	**a. Solid waste disposal?** Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	○	○	**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" response in Section C, attach all pertinent information including but not limited to estimated quantities, volumes, weights; etc.*"

Section D - Signatures

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.

1. Signature of Responsible Official of Firm:		2. Title of Responsible Official of Firm:
		General Manager
3. Print Name of Responsible Official of Firm:		4. Date Signed:
James Herberg		06.24.2014
5. Phone # of Responsible Official of Firm:	6. Fax # of Responsible Official of Firm:	7. Email of Responsible Official of Firm:
(714) 593-7300	(714) 962-0356	jherberg@ocsd.com
8. Signature of Preparer, (if prepared by person other than responsible official of firm):		9. Title of Preparer:
		Regulatory Specialist
10. Print Name of Preparer:		11. Date Signed:
Terry Ahn		6/24/14
12. Phone # of Preparer:	13. Fax # of Preparer:	14. Email of Preparer:
(714) 593-7082	(714) 593-7773	tahn@ocsd.com

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

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

© South Coast Air Quality Management District, Form 400-CEQA (2009.04)

Print Form

Notice of Exemption

Appendix E

To: Office of Planning and Research
P.O. Box 3044, Room 113
Sacramento, CA 95812-3044

County Clerk
County of: Orange
12 Civic Center Plaza, Room 101
Santa Ana, CA 92701

APPLICANT
From: (Public Agency): Orange County Sanitation District
10844 Ellis Avenue
Fountain Valley, CA 92708-7018
(Address)

Project Title: Trunk Line Odor Control Improvements - P1-123

Project Applicant: Orange County Sanitation District

Project Location - Specific:
OCSD - Plant No. 1

Project Location - City: Fountain Valley Project Location - County: Orange

Description of Nature, Purpose and Beneficiaries of Project:
This project will replace scrubbers 9 and 10 with new biotowers. The new biotowers will treat air from the Steve Anderson Lift Station, Waste Hauler Station, Sunflower Pump Station and Metering & Diversion Structure. The treated air will then continue to Chemical Scrubbers 1 through 4 for further treatment. The air base air jumper

Name of Public Agency Approving Project: Orange County Sanitation District

Name of Person or Agency Carrying Out Project: Orange County Sanitation District

Exempt Status: **(check one):**

- ☐ Ministerial (Sec. 21080(b)(1); 15268);
- ☐ Declared Emergency (Sec. 21080(b)(3); 15269(a));
- ☐ Emergency Project (Sec. 21080(b)(4); 15269(b)(c));
- ☒ Categorical Exemption. State type and section number: Class 2, Replacement or Reconstruction
- ☐ Statutory Exemptions. State code number:

Reasons why project is exempt:
Replacement of existing utility systems and/or facilities involving negligible or no expansion of capacity.

Lead Agency
Contact Person: James Burror Area Code/Telephone/Extension: 714.593.7335

If filed by applicant:
1. Attach certified document of exemption finding.
2. Has a Notice of Exemption been filed by the public agency approving the project?. ☐ Yes ☐ No

Signature: [signature] Date: 8/31/12 Title: ENGINEERING SUPERVISOR

☒ Signed by Lead Agency ☐ Signed by Applicant

Authority cited: Sections 21083 and 21110, Public Resources Code.
Reference: Sections 21108, 21152, and 21152.1, Public Resources Code.

Date Received for filing at OPR:

FILED
AUG 31 2012
TOM DALY, CLERK-RECORDER
By [signature] DEPUTY

POSTED
AUG 31 2012
TOM DALY, CLERK-RECORDER
By [signature] DEPUTY

Recorded in Official Records, Orange County
Tom Daly, County Recorder
* $ R 0 0 0 5 1 1 2 2 9 1 $ *
NO FEE
201285000842 10:27 am 08/31/12
214 OR03 Z01

State of California—The Resources Agency
DEPARTMENT OF FISH AND GAME

2012 ENVIRONMENTAL FILING FEE CASH RECEIPT

RECEIPT# 430826

STATE CLEARING HOUSE # (If applicable) N/A

SEE INSTRUCTIONS ON REVERSE. TYPE OR PRINT CLEARLY

LEAD AGENCY: Orange County Sanitation District — DATE: 8-31-12

COUNTY/STATE AGENCY OF FILING: Orange County / CA — DOCUMENT NUMBER: 2012000388842

PROJECT TITLE: Trunk Line Odor Control Improvements - P1-123

PROJECT APPLICANT NAME: Orange County Sanitation District — PHONE NUMBER: ( )

PROJECT APPLICANT ADDRESS: 10844 Ellis Avenue — CITY: Fountain Valley — STATE: CA — ZIP CODE: 92708

PROJECT APPLICANT *(Check appropriate box)*:

☐ Local Public Agency ☐ School District ☒ Other Special District ☐ State Agency ☐ Private Entity

CHECK APPLICABLE FEES:

☐ Environmental Impact Report (EIR)	$2,919.00	$
☐ Mitigated/Negative Declaration (ND)(MND)	$2,101.50	$
☐ Application Fee Water Diversion *(State Water Resources Control Board Only)*	$850.00	$
☐ Projects Subject to Certified Regulatory Programs (CRP)	$992.50	$
☐ County Administrative Fee	$50.00	$
☒ Project that is exempt from fees		
☒ Notice of Exemption		
☐ DFG No Effect Determination (Form Attached)		
☐ Other _____		$

PAYMENT METHOD:

☐ Cash ☐ Credit ☐ Check ☐ Other _____ TOTAL RECEIVED $

SIGNATURE: X [signature] — TITLE: Deputy

WHITE - PROJECT APPLICANT YELLOW - DFG/ASB PINK - LEAD AGENCY GOLDEN ROD - COUNTY CLERK DFG 753.5a (Rev. 11/11)

South Coast Air Quality Management District

Form 500-A2
Title V Application Certification

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section I - Operator Information

1. **Facility Name** (Business Name of Operator That Appears On Permit): Orange County Sanitation District

2. **Valid AQMD Facility ID** (Available On Permit Or Invoice Issued By AQMD): 017301

3. **This Certification is submitted with a** (Check one):
   - a. (●) Title V Application (Initial, Revision or Renewal)
   - b. ( ) Supplement/Correction to a Title V Application
   - c. ( ) MACT Part 1

4. **Is Form 500-C2 included with this Certification?** ( ) Yes (●) No

Section II - Responsible Official Certification Statement

Read each statement carefully and check each that applies – ***You must check 3a or 3b.***

1. **For Initial, Permit Renewal, and Administrative Application Certifications:**
   - a. ( ) The facility, including equipment that are exempt from written permit per Rule 219, is currently operating and will continue to operate in compliance with all applicable requirement(s) identified in Section II and Section III of Form 500-C1,
     - i. [ ] except for those requirements that do not specifically pertain to such devices or equipment and that have been identified as "Remove" on Section III of Form 500-C1.
     - ii. [ ] except for those devices or equipment that have been identified on the completed and attached Form 500-C2 that will not be operating in compliance with the specified applicable requirement(s).
   - b. ( ) The facility, including equipment that are exempt from written permit per Rule 219, will meet in a timely manner, all applicable requirements with future effective dates.
2. **For Permit Revision Application Certifications:**
   - a. [✓] The equipment or devices to which this permit revision applies, will in a timely manner comply with all applicable requirements identified in Section II and Section III of Form 500-C1.
3. **For MACT Hammer Certifications:**
   - a. ( ) The facility is subject to Section 112(j) of the Clean Air Act (Subpart B of 40 CFR part 63), also known as the MACT "hammer." The following information is submitted with a Title V application to comply with the Part 1 requirements of Section 112(j).
   - b. ( ) The facility is not subject to Section 112(j) of the Clean Air Act (Subpart B of 40 CFR part 63).

Section III - Authorization/Signature

I certify under penalty of law that I am the responsible official for this facility as defined in AQMD Regulation XXX and that based on information and belief formed after reasonable inquiry, the statement and information in this document and in all attached application forms and other materials are true, accurate, and complete.

1. Signature of Responsible Official:	2. Title of Responsible Official:
James Herberg	General Manager
3. Print Name:	**4. Date:**
James Herberg	06-24-2014
5. Phone #:	**6. Fax #:**
(714) 593-7300	(714) 962-0356

7. Address of Responsible Official:

Street #	City	State	Zip
10844 Ellis Avenue	Fountain Valley	CA	92708-7018

Acid Rain Facilities Only: Please Complete Section IV

© South Coast Air Quality Management District, Form 500-A2 (2009.04)

Acid Rain facilities must certify their compliance status of the devices subject to applicable requirements under Title IV by an individual who meets the definition of Designated (or Alternate) Representative in 40 CFR Part 72.

Section IV - Designated Representative Certification Statement	
For Acid Rain Facilities Only: I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.	
1. Signature of Designated Representative or Alternate:	2. Title of Designated Representative or Alternate:
3. Print Name of Designated Representative or Alternate:	4. Date:
5. Phone #:	6. Fax #:
7. Address of Designated Representative or Alternate:	

Street #	City	State	Zip
		CA	

South Coast Air Quality Management District

Form 500-C1

Title V Compliance Status Report

To provide the compliance status of your facility with applicable federally enforceable requirements and identify other local-only requirements, complete this form and attach it to a completed compliance certification Form 500-A2. As appropriate, all submittals of Form 500-C2 as appropriate should also be attached to this form.

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

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

Section I - Operator Information

1. Facility Name (Business Name of Operator That Appears On Permit): Orange County Sanitation District

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 017301

PROCEDURES FOR DETERMINING COMPLIANCE STATUS

1. **Equipment verification:** Review the list of pending applications, and either the preliminary Title V facility permit or the list of current permits to operate that the AQMD provided you, to determine if they completely and accurately describe all equipment operating at the facility. Attach a statement to describe any discrepancies.
2. **Identify applicable requirements*:** Use the checklist in Section II to identify all applicable and federally-enforceable local, state, and federal rules and regulations, test methods, and monitoring, recordkeeping and reporting (MRR) requirements that apply to any equipment or process (including equipment exempt from a permit by Rule 219) at your facility.
   The potential applicable requirements, test methods and MRR requirements are identified and listed adjacent to each given equipment/process description. Check off each box adjacent to the corresponding requirement as it applies to your particular equipment/process.
   Note: Even if there is only one piece of equipment that is subject to a particular requirement, the appropriate box should be checked.
3. **Identify additional applicable requirements*:** Use Section III to identify any additional requirements not found in Section II. Section II is not a complete list of all applicable requirements. It does not include recently adopted NESHAP regulations by EPA or recent amendments to AQMD rules. Do not add rules listed in Section V here.
4. **Identify any requirements that do not apply to a specific piece of equipment or process:** Also use Section III to identify any requirements that are listed in Section II but that do not apply to a specific piece of equipment or process. Fill out Section III of this form and attach a separate sheet to explain the reason(s) why the identified rules do not apply. Note: Listing any requirement that does not apply to a specific piece of equipment will not provide the facility with a permit shield unless one is specifically requested by completing Form 500-D and is approved by AQMD.
5. **Identify SIP-approved rules that are not current AQMD rules:** Use Section IV to identify older versions of current AQMD rules that are the EPA-approved versions in the State Implementation Plan (SIP), and that are still applicable requirements as defined by EPA. The facility is not required to certify compliance with the items checked in Section IV provided that the non-SIP approved rule in Section II is at least as stringent as the older SIP-approved version in Section IV. **
6. **Identify Local-Only Enforceable Regulatory Requirements:** Use Section V to identify AQMD rules that are not SIP-approved and are not federally enforceable.
7. **Determine compliance:** Determine if all equipment and processes are complying with all requirements identified in Sections II and III. If each piece of equipment complies with all applicable requirements, complete and attach Form 500-A2 to certify the compliance status of the facility. If any piece of equipment is not in compliance with any of the applicable requirements, complete and attach Form 500-C2 in addition to Form 500-A2.

* The following AQMD rules and regulations are not required to be included in Section II and do not have to be added to Section III: Regulation I, List and Criteria in Regulation II, Rule 201, Rule 201.1, Rule 202, Rule 203, Rule 205, Rule 206, Rule 207, Rule 208, Rule 209, Rule 210, Rule 212, Rule 214, Rule 215, Rule 216, Rule 217, Rule 219, Rule 220, Rule 221, Regulation III, Regulation V, Regulation VIII, Regulation XII, Regulation XV, Regulation XVI, Regulation XIX, Regulation XXI, Regulation XXII, and Regulation XXX.

** Emission units adversely affected by the gap between current and SIP-approved versions of rules may initially be placed in a non-Title V portion of the permit

© South Coast Air Quality Management District, Form 500-C1 (2011.02)

Section II - Applicable Requirements, Test Methods, & MRR Requirements

Equipment/Process	Applicable Requirement	Test Method	MRR Requirement
☐ All Air Pollution Control Equipment Using Combustion (RECLAIM & non-RECLAIM sources)	☐ Rule 480 (10/07/77)	N/A	N/A
☐ All Coating Operations (12/15/00)	☐ Rule 442	☐ Rule 442(f)	☐ Rule 442(g)
☐ All Combustion Equipment, ≥ 555 Mmbtu/Hr (except for NOx RECLAIM sources)	☐ Rule 474 (12/04/81)	☐ AQMD TM 7.1 or 100.1	
☐ All Combustion Equipment Except Internal Combustion Engines (RECLAIM & non-RECLAIM sources)	☐ Rule 407 (04/02/82) ☐ Rule 409 (08/07/81)	☐ AQMD TM 100.1 or 10.1, 307-91 ☐ AQMD TM 5.1, 5.2, or 5.3	
☐ All Combustion Equipment Using Gaseous Fuel (except SOx RECLAIM sources)	☐ Rule 431.1 (06/12/98)	☐ Rule 431.1(f)	☐ Rule 431.1(d) & (e)
☐ All Combustion Equipment Using Liquid Fuel (except SOx RECLAIM sources)	☐ Rule 431.2 (09/15/00)	☐ Rule 431.2(g)	☐ Rule 431.2(f)
☐ All Combustion Equipment Using Fossil Fuel (except SOx RECLAIM sources)	☐ Rule 431.3 (05/07/76)		
☑ All Equipment	☑ Rule 401 (11/09/01) ☐ Rule 405 (02/07/86) ☑ Rule 408 (05/07/76) ☑ Rule 430 (07/12/96) ☑ Rule 701 (06/13/97) ☐ New Source Review, BACT ☐ Rule 1703 (10/07/88) ☐ 40 CFR68 - Accidental Release Prevention	☑ California Air Resources Board Visible Emission Evaluation ☐ AQMD TM 5.1, 5.2, or 5.3 N/A See Applicable Subpart	☑ Rule 430(b) See Applicable Subpart
☐ All Equipment Processing Solid Materials	☐ Rule 403 (06/03/05)	☐ Rule 403(d)(3)	☐ Rule 403(f)
☐ All Equipment With Exhaust Stack (except cement kilns subject to Rule 1112.1)	☐ Rule 404 (02/07/86)	☐ AQMD TM 5.1, 5.2, or 5.3	
☐ All Facilities Using Solvents to Clean Various Items or Equipment	☐ Rule 109 (05/02/03) ☐ Rule 1171 (05/01/09) ☐ 40 CFR63 SUBPART T	☐ Rule 109(g) ☐ Rule 1171(e) See Applicable Subpart	☐ Rule 109(c) ☐ Rule 1171(c)(6) See Applicable Subpart
☐ All RECLAIM Equipment (NOx & SOx)	☐ Reg. XX - RECLAIM	☐ Rule 2011, App. A (05/06/05) ☐ Rule 2012, App. A (05/06/05)	☐ Rule 2011, App. A (05/06/05) ☐ Rule 2012, App. A (05/06/05)
☐ Abrasive Blasting	☐ Rule 1140 (08/02/85)	☐ Rule 1140(d) & (e), AQMD Visible Emission Method	

KEY ABBREVIATIONS: **Reg.** = AQMD Regulation; **Rule** = AQMD Rule; **App.** = Appendix; **AQMD TM** = AQMD Test Method; **CFR** = Code of Federal Regulations; **CCR** = California Code of Regulations

Orange County Sanitation District
10844 Ellis Ave, Fountain Valley, CA 92708
(714) 962-2411

PAYMENT STUB
Vendor:
SCAQMD

Check No.: 1000065887
Check Date: 6/18/2014
Vendor No.: 14146

Invoice Number	Invoice Date	Description	Gross	Discount	Payment Amount
JOB NO. P1-123 2014	6/11/2014	OCSD Job No. P1-123 Pe	8,176.67		8,176.67
		Total Amount			U.S. $*****8,176.67

ORANGE COUNTY
SANITATION DISTRICT
10844 ELLIS AVENUE
FOUNTAIN VALLEY, CA 92708-7018

Hasler
06/24/2014
US POSTAGE

FIRST-CLASS MAIL
$01.82⁰

ZIP 92708
011D11619321

Permit Services
South Coast Air Quality Management
District
21865 E. Copley Drive
Diamond Bar, CA 91765-4182

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

Title Page	
Facility ID:	017301
Revision #:	9
Date:	May 15, 2015

FACILITY PERMIT TO OPERATE

ORANGE COUNTY SANITATION DISTRICT
10844 ELLIS AVE
FOUNTAIN VALLEY, CA 92708

NOTICE

IN ACCORDANCE WITH RULE 206, THIS PERMIT TO OPERATE OR A COPY THEREOF MUST BE KEPT AT THE LOCATION FOR WHICH IT IS ISSUED.

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 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT. THIS PERMIT SHALL NOT BE CONSTRUED AS PERMISSION TO VIOLATE EXISTING LAWS, ORDINANCES, REGULATIONS OR STATUTES OF ANY OTHER FEDERAL, STATE OR LOCAL GOVERNMENTAL AGENCIES.

Barry R. Wallerstein, D. Env.
EXECUTIVE OFFICER

By FOR
Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

TABLE OF CONTENTS

Section	Description	Revision #	Date Issued
A	Facility Information	1	04/16/2014
B	RECLAIM Annual Emission Allocation	1	04/16/2014
C	Facility Plot Plan	TO BE DEVELOPED	
D	Facility Description and Equipment Specific Conditions	6	05/15/2015
E	Administrative Conditions	1	04/16/2014
F	RECLAIM Monitoring and Source Testing Requirements	1	04/16/2014
G	Recordkeeping and Reporting Requirements for RECLAIM Sources	1	04/16/2014
H	Permit To Construct and Temporary Permit to Operate	7	12/10/2014
I	Compliance Plans & Schedules	1	04/16/2014
J	Air Toxics	1	04/16/2014
K	Title V Administration	1	04/16/2014
Appendix			
A	NOx and SOx Emitting Equipment Exempt From Written Permit Pursuant to Rule 219	1	04/16/2014
B	Rule Emission Limits	1	04/16/2014

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION A: FACILITY INFORMATION

LEGAL OWNER &/OR OPERATOR:	ORANGE COUNTY SANITATION DISTRICT
LEGAL OPERATOR (if different than owner):	
EQUIPMENT LOCATION:	10844 ELLIS AVE FOUNTAIN VALLEY, CA 92708-7018
MAILING ADDRESS:	P O BOX 8127 FOUNTAIN VALLEY, CA 92728
RESPONSIBLE OFFICIAL:	JAMES HERBERG
TITLE:	GENERAL MANAGER
TELEPHONE NUMBER:	(714) 593-7300
CONTACT PERSON:	LISA ROTHBART
TITLE:	ENVIRONMENTAL SUPERVISOR
TELEPHONE NUMBER:	(714) 593-7405
TITLE V PERMIT ISSUED:	April 16, 2014
TITLE V PERMIT EXPIRATION DATE:	April 15, 2019

TITLE V	RECLAIM	
YES	NOx:	NO
	SOx:	NO
	CYCLE:	0
	ZONE:	COASTAL

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION B: RECLAIM ANNUAL EMISSION ALLOCATION

NOT APPLICABLE

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION C: FACILITY PLOT PLAN

(TO BE DEVELOPED)

~~FACILITY PERMIT TO OPERATE~~
ORANGE COUNTY SANITATION DISTRICT

Facility Equipment and Requirements
(Section D)

This section consists of a table listing all permitted equipment at the facility, facility wide requirements, all individual Permits to Construct and Permits to Operate issued to various equipment at the facility, and Rule 219-exempt equipment subject to source-specific requirements. Each permit and Rule 219-exempt equipment will list operating conditions including periodic monitoring requirements, and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Operate Number	Equipment Description	Page Number
299283	G9737	SCRUBBER, ODOR CONTROL FOR PRIMARY BASINS	5
06049A	M30530	GAS TURBINE, EMERGENCY, >= 0.3 MW	7
06050A	M30531	GAS TURBINE, EMERGENCY, >= 0.3 MW	8
133994	R-D11231	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	9
133995	R-D11232	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	10
134619	R-D11233	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	11
135464	R-D11234	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	12
13973X	743973	SPRAY BOOTH PAINT AND SOLVENT	13
223413	F00876	BOILER (5-20 MMBTU/HR) DIGESTER GAS	14
356878	F66565	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	16
386679	F40906	SCRUBBER, ODOR CONTROL FOR DEWATERING	19
394229	G25417	ODOR CONTROL SYSTEM, BIOFILTER	20
408166	F55982	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	21
428945	F68430	I C E (>500 HP) EMERGENCY ELEC GEN DIESEL	22
429662	F71054	FLARE, ENCLOSED LANDFILL/DIGESTER GAS	23
444109	F99404	SCRUBBER, ODOR CONTROL FOR HEADWORKS	28
459958	F94280	ODOR CONTROL UNIT FOR ELLIS PUMP STATION	30
486760	G2955	I C E (>500 HP) NAT & DIGESTER GAS	32
486792	G2956	I C E (>500 HP) NAT & DIGESTER GAS	35
486793	G2957	I C E (>500 HP) NAT & DIGESTER GAS	38
512830	G19907	STORAGE TANK, HCl, 8000 GALLON CAPACITY, HCl	41
512831	G19908	STORAGE TANK, HCl, 2000 GALLON CAPACITY, HCl	42
568969	G35620	ABRASIVE BLASTING CABINET WITH DUST COLLECTOR	43

NOTE: APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

FACILITY WIDE CONDITION (S)

Condition(s):

1. EXCEPT FOR OPEN ABRASIVE BLASTING OPERATIONS, THE OPERATOR SHALL NOT DISCHARGE INTO THE ATMOSPHERE FROM ANY SINGLE SOURCE OF EMISSIONS WHATSOEVER ANY AIR CONTAMINANT FOR A PERIOD OR PERIODS AGGREGATING MORE THAN THREE MINUTES IN ANY ONE HOUR WHICH IS:

   A. AS DARK OR DARKER IN SHADE AS THAT DESIGNATED NO. 1 ON THE RINGLEMANN CHART, AS PUBLISHED BY THE UNITED STATES BUREAU OF MINES; OR
   B. OF SUCH OPACITY AS TO OBSCURE AN OBSERVER'S VIEW TO A DEGREE EQUAL TO OR GREATER THAN DOES SMOKE DESCRIBED IN SUBPARAGRAPH (A) OF THIS CONDITION.
   [RULE 401]

2. THE OPERATOR SHALL NOT COMBUST DIGESTER GAS CONTAINING SULFUR COMPOUNDS IN EXCESS OF 40 PPMV CALCULATED AS HYDROGEN SULFIDE AVERAGED DAILY.
   [RULE 431.1]

3. THE OPERATOR SHALL NOT USE FUEL OIL CONTAINING SULFUR COMPOUNDS IN EXCESS OF 15 PPM BY WEIGHT AS SUPPLIED BY THE SUPPLIER.
   [RULE 431.2, 1470]

4. THE OWNER/OPERATOR SHALL COMPLY WITH ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART VVV - NON-INDUSTRIAL POTW PLANT NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) AND ALL APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART ZZZZ – STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES NESHAP.
   [40 CFR 63 SUBPART VVV, AND 40 CFR 63 SUBPART ZZZZ]

5. THE OPERATOR SHALL MEASURE THE SULFUR CONTENT OF THE DIGESTER GAS ACCORDING TO THE FOLLOWING:

   A. FOR READINGS UP TO 36 PPM AS H2S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H2S, USING COLORIMETRIC TUBES, AND WEEKLY ANALYSIS OF THE DIGESTER GAS BY AQMD METHOD 307 – TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY AND SULFUR CHEMILUMINESCENCE DETECTOR.

   B. FOR READINGS ABOVE 36 PPM AS H2S, DAILY ANALYSIS OF THE DIGESTER GAS FOR H2S BY AQMD METHOD 307 – TOTAL SULFUR COMPOUNDS IN FUEL GAS BY GAS CHROMATOGRAPHY AND SULFUR CHEMILUMINESCENCE DETECTOR. A MINIMUM OF THREE CONSECUTIVE DAILY SAMPLES ARE REQUIRED TO DEMONSTRATE THE TOTAL SULFUR CONTENT IS BELOW 36 PPM.
   [RULE 431.1]

6. A COMPLETE APPLICATION FOR COMPLIANCE ASSURANCE MONITORING (CAM, 40 CFR PART 64) SHALL BE SUBMITTED WHENEVER ANNUAL MASS OF VOC OF THE DIGESTER GAS EXCEEDS 19,999 LBS/YR. THE VOC CONTENT OF THE DIGESTER GAS SHALL BE ANALYZED IN CONJUNCTION WITH THE ANNUAL SOURCE TESTING OF THE CGS ENGINES USING THE

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APPROVED METHODS. FOR EACH CALENDAR YEAR, THE VOC EMISSIONS SHALL BE CALCULATED BY MARCH 31ST OF THE SUBSEQUENT CALENDAR YEAR BASED ON THE DIGESTER GAS CONCENTRATION DATA FROM THE MOST RECENT ANNUAL RULE 1110.2 SOURCE TESTING OF THE ENGINES. IF THE VOC EMISSIONS EXCEED 19,999 LBS/YR, THE CAM APPLICATION SHALL BE SUBMITTED BY MAY 31ST (WITHIN 60 DAYS AFTER THE CALCULATION DUE DATE).
[40 CFR PART 64, CAM]

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Permit No. G9737
A/N 299283

Equipment Description:

AIR POLLUTION CONTROL SYSTEM (PRIMARY BASINS) CONSISTING OF:

1. FOUR SCRUBBERS, NOS. 5 THROUGH 8, EACH VERTICAL TYPE, PACKED TOWER, 10'- 0" DIA. X 33'- 0" H., WITH ASSOCIATED PUMPS.

2. CHEMICAL FEED WHICH MAY INCLUDE CAUSTIC, HYDROGEN PEROXIDE OR BLEACH.

3. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H_2S) MONITORING SYSTEM.

4. EXHAUST SYSTEM WITH ASSOCIATED TWO-SPEED BLOWERS, 116, 200 CFM MAXIMUM FOUL-AIR VENTILATION RATE, VENTING PRIMARY SEDIMENTATION BASINS NOS. 1 THROUGH 31.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THIS EQUIPMENT SHALL BE IN OPERATION, WHEN THE BASIC EQUIPMENT DESCRIBED UNDER PC 453210 ARE IN OPERATION, TO MAINTAIN THE SCRUBBER OUTLET H2S CONCENTRATIONS SPECIFIED UNDER CONDITION NO. 8, AS MEASURED BY THE AUTOMATIC CHEMICAL FEED AND H2S MONITORING SYSTEM EXCEPT DURING UNFORESEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT, THAT REQUIRES THE SCRUBBERS TO BE SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50 HOURS PER YEAR PER EQUIPMENT.
[RULE 402]

5. WHEN THE SCRUBBERS ARE IN OPERATION, AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H_2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE SCRUBBER OUTLET H2S CONCENTRATION, IN PPMV, EXCEPT DURING SHUTDOWN FOR MAINTENANCE. THE H_2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
[RULE 402]

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6. WHEN THE AUTOMATIC CHEMICAL FEED AND H_2S MONITORING SYSTEM IS NOT OPERATING, THE PH OF THE SCRUBBING OR RECYCLING LIQUID, MAKEUP WATER FLOW RATE (GPM), DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN), SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS AS DESCRIBED, AND THE SCRUBBER OUTLET H_2S CONCENTRATION SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.
[RULE 402]

7. WHEN THE SCRUBBERS ARE IN OPERATION, THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS, CALCULATED AS H2S MEASURED AT THE OUTLET OF EACH SCRUBBER SHALL NOT EXCEED 2 PPMV AND 3 PPMV WHEN THE EXHAUST BLOWER IS OPERATING AT LOW AND HIGH SPEED, RESPECTIVELY.
[RULE 402]

8. RECORDS SHALL BE KEPT AND MAINTAINED FOR DAILY AVERAGE H_2S CONCENTRATION, IN PPMV, AT THE OUTLET OF EACH SCRUBBER IN OPERATION. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

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PERMIT TO OPERATE

Permit No. M30530
A/N 06049A

Equipment Description:

GAS TURBINE #1, SOLAR, MODEL NO. GSE l000, 14,000,000 BTU PER HOUR, OIL FIRED, DRIVING A 900 KW EMERGENCY ELECTRIC GENERATOR.

Conditions:

1. THIS EMERGENCY STAND BY EQUIPMENT MAY ONLY OPERATE FOR MAINTENANCE TESTING OF THE EQUIPMENT, DURING MAINTENANCE AND RELIABILITY TESTING OF PLANT NO. 1 OR PLANT NO. 2 CENTRAL POWER GENERATION SYSTEMS, DURING EXCESS POWER DEMANDS, OR DURING A UTILITY POWER OUTAGE.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

2. THIS EQUIPMENT SHALL BE OPERATED LESS THAN 199 HOURS PER CALENDAR YEAR.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

Periodic Monitoring:

3. THE OPERATOR SHALL INSTALL AND MAINTAIN A NON-RESETTABLE ELAPSED TIME METER TO ACCURATELY INDICATE THE ELAPSED OPERATING TIME OF THE EQUIPMENT.
   [RULE 3004 (a)(4)]

4. RECORDS OF DAILY HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO THE EXECUTIVE OFFICER UPON REQUEST.
   [RULE 3004(a) (4)]

Emissions and Requirements:

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

   SULFUR COMPOUNDS: 500 PPMV, CALCULATED AS SO2
   [RULE 53]

FACILITY PERMIT TO OPERATE
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PERMIT TO OPERATE

Permit No. M30531
A/N 06050A

Equipment Description:

GAS TURBINE #2, SOLAR, MODEL NO. GSE l000, 14,000,000 BTU PER HOUR, OIL FIRED, DRIVING A 900 KW EMERGENCY ELECTRIC GENERATOR.

Conditions:

1. THIS EMERGENCY STAND BY EQUIPMENT MAY ONLY OPERATE FOR MAINTENANCE TESTING OF THE EQUIPMENT, DURING MAINTENANCE AND RELIABILITY TESTING OF PLANT NO. 1 OR PLANT NO. 2 CENTRAL POWER GENERATION SYSTEMS, DURING EXCESS POWER DEMANDS, OR DURING A UTILITY POWER OUTAGE.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

2. THIS EQUIPMENT SHALL BE OPERATED LESS THAN 199 HOURS PER CALENDAR YEAR.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

Periodic Monitoring:

3. THE OPERATOR SHALL INSTALL AND MAINTAIN A NON-RESETTABLE ELAPSED TIME METER TO ACCURATELY INDICATE THE ELAPSED OPERATING TIME OF THE EQUIPMENT.
   [RULE 3004 (a)(4)]

4. RECORDS OF DAILY HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO THE EXECUTIVE OFFICER UPON REQUEST.
   [RULE 3004(a) (4)]

Emissions and Requirements:

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

   SULFUR COMPOUNDS: 500 PPMV, CALCULATED AS SO2
   [RULE 53]

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Permit No. R-D11231
A/N 133994

Equipment Description:
INTERNAL COMBUSTION ENGINE NO. 2, CATERPILLAR, COMPRESSION-IGNITION, FOUR- STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SER. NO. 24Z01551, 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.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL ONLY BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 199 HOURS IN ANY ONE YEAR.
   [RULE 1110.2, 1304(a) (4)-MODELING & OFFSET EXEMPTION]

5. A NON RESETTABLE TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1110.2, 1304(a) (4)-MODELING & OFFSET EXEMPTION]

6. RECORDS OF HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

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.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

This Permit to Operate No. R-D11231 supersedes Permit to Operate No. R-D11231 reissued on 10/15/96.

Emissions and Requirements:

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

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
   PM: RULE 1470.

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PERMIT TO OPERATE

Permit No. R-D11232
A/N 133995

Equipment Description:
INTERNAL COMBUSTION ENGINE NO. 1, CATERPILLAR, COMPRESSION-IGNITION, FOUR- STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SER. NO. 24Z01548, 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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL ONLY BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 199 HOURS IN ANY ONE YEAR.
[RULE 1110.2, 1304(a) (4)-MODELING & OFFSET EXEMPTION]

5. A NON RESETTABLE TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2, 1304(a) (4)-MODELING & OFFSET EXEMPTION]

6. RECORDS OF HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

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.
[RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

This Permit to Operate No. R-D11232 supersedes Permit to Operate No. R-D11232 reissued on 10/15/96.

Emissions and Requirements:

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

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
   PM: RULE 1470.

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PERMIT TO OPERATE

Permit No. R-D11233
A/N 134619

Equipment Description:
INTERNAL COMBUSTION ENGINE NO. 3, CATERPILLAR, COMPRESSION-IGNITION, FOUR- STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SER. NO. 24Z01552, 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.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL ONLY BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 199 HOURS IN ANY ONE-YEAR.
   [RULE 1110.2, 1304(a) (4)-MODELING & OFFSET EXEMPTION]

5. A NON RESETTABLE TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1110.2, 1304(a) (4)-MODELING & OFFSET EXEMPTION]

6. RECORDS OF HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

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.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

This Permit to Operate No. R-D11233 supersedes Permit to Operate No. R-D11233 reissued on 10/15/96.

Emissions and Requirements:

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

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
   PM: RULE 1470.

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Permit No. R-D11234
A/N 135464

Equipment Description:
INTERNAL COMBUSTION ENGINE NO. 4, CATERPILLAR, COMPRESSION-IGNITION, FOUR- STROKE, TURBOCHARGED-AFTERCOOLED, V-12 TYPE, MODEL NO. 3512, SER. NO. 24Z01540, 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.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. THIS EQUIPMENT SHALL ONLY BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL NOT BE OPERATED MORE THAN 199 HOURS IN ANY ONE YEAR.
   [RULE 1110.2, 1304(a) (4)-MODELING & OFFSET EXEMPTION]

5. A NON RESETTABLE TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1110.2, 1304(a) (4)-MODELING & OFFSET EXEMPTION]

6. RECORDS OF HOURS OF ENGINE OPERATION SHALL BE MAINTAINED AND KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

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.
   [RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

This Permit to Operate No. R-D11234 supersedes Permit to Operate No. R-D11234 reissued on 10/15/96.

Emissions and Requirements:

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

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
   PM: RULE 1470.

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Permit No. 743973
A/N 13973X

Equipment Description:
PAINT SPRAY BOOTH, WITH EXHAUST FILTERS AND ONE 7.5 HP EXHAUST FAN

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.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

Emissions and Requirements:

3. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
   VOC: RULE 109
   VOC: RULE 442
   VOC: RULE 1107, SEE APPENDIX B FOR EMISSION LIMITS
   VOC: RULE 1136, SEE APPENDIX B FOR EMISSION LIMITS
   VOC: RULE 1151, SEE APPENDIX B FOR EMISSION LIMITS
   VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS
   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
   PM: RULE 481

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Permit No. F00876
A/N 223413

Equipment Description:

BOILER, NO. 1, CLEAVER BROOKS, MODEL NO. NCB-700-150, SERIAL NO. L-26853, 150 HP, 6.28 MMBTU/HR, DIGESTER GAS FIRED WITH A NATURAL GAS FIRED PILOT.

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THE MAXIMUM QUANTITY OF DIGESTER GAS FUEL FIRED IN THIS BOILER SHALL NOT EXCEED 16,363,000 CUBIC FEET PER YEAR NOR A HEAT INPUT OF 9,000,000,000 BTU'S PER YEAR.
[RULE 1146 (c) (6)]

4. THIS BOILER SHALL ONLY BURN DIGESTER GAS.
[RULE 204]

5. THE COUNTY SANITATION DISTRICTS OF ORANGE COUNTY (CSDOC) SHALL INSTALL AND MAINTAIN A NON-RESETTABLE, TOTALIZING GAS METER TO MEASURE THE QUANTITY (IN CFM) OF DIGESTER GAS USED IN THIS EQUIPMENT.
[RULE 1146], [RULE 1303(b) (1) AND 1303(b) (2)-MODELING & OFFSET]

6. RECORDS OF THE DAILY FUEL USAGE OF THIS EQUIPMENT AND THE TOTAL HOURS PER DAY OF STEAMING OF THE PLANT SLUDGE LINES SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

Periodic Monitoring:

7. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE NOx AND CO EMISSION LIMIT(S) BY CONDUCTING A TEST AT LEAST ONCE EVERY FIVE YEARS USING A PORTABLE ANALYZER AND AQMD-APPROVED TEST METHOD OR , IF NOT AVAILABLE, A NON-AQMD APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS TO DEMONSTRATE COMPLIANCE WITH RULE 1146 CONCENTRATION LIMIT. THE OPERATOR SHALL COMPLY WITH ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.
[RULE 1146, 3004 (a) (4)]

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Emissions and Requirements:

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

CO: 2000 PPMV, RULE 407
CO: 400 PPMV, RULE 1146
NOx: 30 PPMV, RULE 1146
PM: 0.1 gr/scf, RULE 409

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F66565
A/N 356878

Equipment Description:

SEWAGE TREATMENT PLANT, 216 MGD CAPACITY, CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'- 0" L. X 20'- 0" W. X 14' -0" D., TWO SPLITTER BOXES, 15'- 0" L. X 4'- 0" W. X 7' - 6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.

2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'- 0" L. X 20'- 0" W. X 14' -0" D., THREE SPLITTER BOXES, 15'- 0" L. X 8'- 0" W. X 15' - 0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.

3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'- 0" L. X 40'- 0" W. X 9' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140' - 0" DIA. X 9' -0" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'- 0" L. X 195'- 0" W. X 10' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.

4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6' - 0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.

5. FIFTEEN SECONDARY CLARIFIERS CONSISTING OF ONE 140' - 0" DIA. X 9' - 0" D. AND TWENTY-FOUR 150'- 0" L. X 40'- 0" W. X 10' -0" D. WITH ASSOCIATED PUMPS.

6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.

7. TEN AERATION BASINS, EACH 275'- 0" L. X 45'- 0" W. X 15' -0" D. WITH ASSOCIATED BLOWERS.

8. SIX SLUDGE THICKENERS, EACH 40' -0" DIA. X 8' - 0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.

9. TWELVE DIGESTER TANKS CONSISTING OF FOUR 90' -0" DIA. X 30' - 0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110' -0" DIA. X 30' - 0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMINUTERS.

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.

11. DIGESTER GAS STORAGE TANK, 25,000 CUBIC FEET CAPACITY, 42' -0" DIA. X 33' - 6" H. WITH THREE COMPRESSORS.

12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.

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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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. HEADWORKS, PRIMARY TREATMENT AND SOLIDS HANDLING PROCESS SHALL NOT BE OPERATED UNLESS IT IS VENTED TO AIR POLLUTION CONTROL SYSTEMS WHICH ARE IN FULL OPERATION AND GOVERNED BY THEIR VALID PERMITS TO CONSTRUCT/OPERATE ISSUED BY THE SCAQMD.
[RULE 402]

5. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]

6. THE DAILY INFLUENT FLOW TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MGD EXCEPT DURING WET WEATHER PERIODS.
[RULE 1303(b) (1)-MODELING, RULE 1303 (b) (2) - OFFSET]

7. ALL OF THE DIGESTER GAS PRODUCED AT THIS FACILITY SHALL BE INCINERATED IN THE FACILITY FLARES, ENGINES OR BOILERS OR OTHER COMBUSTION EQUIPMENT WHICH HAVE VALID PERMITS TO CONSTRUCT OR OPERATE, EXCEPT DURING MAINTENANCE WORK OR CLEANING OF THE DIGESTERS AND RELATED DIGESTER GAS SYSTEM WHICH REQUIRES ISOLATION OF THE DIGESTER GAS LINE.
[RULE 402]

Emissions and Requirements:

8. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
VOC: RULE 1179

PERMIT TO OPERATE

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Permit No. F40906
A/N 386679

Equipment Description:

STAND-BY AIR POLLUTION CONTROL SYSTEM (DEWATERING, P1-21) CONSISTING OF:

1. THREE SCRUBBERS, EACH 10'- 0" DIA. X 38'- 0" H., PACKED TOWER WITH ASSOCIATED PUMPS.

2. CHEMICAL FEED SYSTEM WHICH MAY CONTAIN CAUSTIC SODA, HYDROGEN PEROXIDE AND BLEACH.

3. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H2S) MONITORING SYSTEM.

4. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING DEWATERING BUILDINGS AND SLUDGE TRANSFER, STORAGE AND TRUCK LOADING SUPPLY FANS.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. WHEN THE SCRUBBERS ARE IN OPERATION, AUTOMATIC CHEMICAL FEED AND H2S MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE SCRUBBER OUTLET H2S CONCENTRATION, IN PPMV, EXCEPT DURING SHUTDOWN FOR MAINTENANCE. THE H2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
[RULE 402]

5. WHEN THE AUTOMATIC CHEMICAL FEED AND H2S MONITORING SYSTEM IS NOT OPERATING, PH OF THE SCRUBBING LIQUID AND THE SCRUBBER OUTLET H2S CONCENTRATION SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.
[RULE 402]

6. WHEN THE SCRUBBERS ARE IN OPERATION, THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS, CALCULATED AS H2S MEASURED AT THE OUTLET OF EACH SCRUBBER SHALL NOT EXCEED 2 PPMV.
[RULE 402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

7. RECORDS SHALL BE KEPT AND MAINTAINED FOR DAILY AVERAGE H2S CONCENTRATION, IN PPMV, AT THE OUTLET OF EACH SCRUBBER WHILE IN OPERATION. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G25417
A/N 394229

Equipment Description:

ODOR CONTROL SYSTEM CONSISTING OF (LOCATED AT PLANT NO. 1, WASTEHAULER STATION):

1. BIOFILTER, BIOREM, SINGLE MODULE, WITH INCOMING FOUL AIR HUMIDIFICATION CHAMBER, BIOFILTER, 5 FT. MEDIA DEPTH, IRRIGATION SYSTEM AND ASSOCIATED PUMPS.

2. TWO EXHAUST BLOWERS (ONE STAND-BY), 300 CFM CAPACITY.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THE CONCENTRATION OF H2S FOR THE INLET AND OUTLET OF THE BIOFILTER SHALL BE MEASURED AT LEAST ONCE PER WEEK. THE H2S CONCENTRATION IN BIOFILTER EXHAUST SHALL NOT EXCEED 2 PPMV AVERAGED OVER THE NUMBER OF MEASUREMENTS TAKEN OVER ANY GIVEN WEEK.
   [RULE 402]

5. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.
   [RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F55982
A/N 408166

Equipment Description:

INTERNAL COMBUSTION ENGINE, CATERPILLAR, 12 CYLINDERS, TURBOCHARGED, AFTERCOOLED, MODEL NO. 3512B DITA (1500 KW), 2155 BHP, DIESEL-FUELED, DRIVING AN 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.
   [RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
   [RULE 204]

3. A TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
   [RULE 1110.2, 1304(a) (4)-MODELING & OFFSET EXEMPTION]

4. THE OPERATING TIME OF THIS ENGINE SHALL NOT EXCEED 199 HOURS IN ANY ONE YEAR.
   [1304(a) (4)-MODELING & OFFSET EXEMPTION]

5. AN ENGINE OPERATING LOG LISTING THE DATE OF OPERATION, 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.
   [RULE 1110.2]

Emissions and Requirements:

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

   PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
   PM: RULE 1470.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

Permit No. F68430
A/N 428945

Equipment Description:

INTERNAL COMBUSTION ENGINE, CATERPILLAR, 12 CYLINDERS, TURBOCHARGED, AFTERCOOLED, MODEL NO. 3512B DITA, SERIAL NUMBER 1GZ01277, 2155 BHP, DIESEL-FUELED, DRIVING AN EMERGENCY ELECTRICAL GENERATOR (1500KW).

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. A TIMER SHALL BE MAINTAINED TO INDICATE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

4. THE OPERATING TIME OF THIS ENGINE SHALL NOT EXCEED 199 HOURS IN ANY ONE YEAR.
[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

5. AN ENGINE OPERATING LOG LISTING THE DATE OF OPERATION, 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.
[RULE 204, 1110.2]

6. THIS EQUIPMENT SHALL BE A US-EPA, NON-ROAD CERTIFIED COMPRESSION IGNITION ENGINE AS EVIDENCED BY THE MANUFACTURER'S ENGINE TAG.
[RULE 1303 (a) (1) - BACT]

Emissions and Requirements:

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

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
PM: RULE 1470
PM: 0.40 G/BHP-HR, RULE 1303(a) (1) - BACT
VOC: 1.0 G/BHP-HR, RULE 1303(a) (1) - BACT
NOx: 6.9 G/BHP-HR, RULE 1303(a) (1) - BACT
CO: 8.5 G/BHP-HR, RULE 1303(a) (1) - BACT

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F71054
A/N 429662

Equipment Description:

DIGESTER GAS FLARING SYSTEM (PLANT NO. 1) CONSISTING OF:

1. FLARE NO. 1, SUR-LITE CORP., VERTICAL TYPE, 6'-6" W. X 6'-6" L. X 24'-3" H., 27,000,000 BTU PER HOUR MAXIMUM HEAT INPUT, WITH A DIGESTER GAS PILOT BURNER, A NATURAL GAS PILOT BURNER, AN AUTOMATIC COMBUSTION AIR DAMPER AND A RESTART IGNITION SYSTEM.

2. FLARE NO. 2, SUR-LITE CORP., VERTICAL TYPE, 6'-6" W. X 6'-6" L. X 24'-3" H., 27,000,000 BTU PER HOUR MAXIMUM HEAT INPUT, WITH A DIGESTER GAS PILOT BURNER, A NATURAL GAS PILOT BURNER, AN AUTOMATIC COMBUSTION AIR DAMPER AND A RESTART IGNITION SYSTEM.

3. FLARE NO. 3, SUR-LITE CORP., VERTICAL TYPE, 6-6" W. X 6'-6" L. X 24'-3" H., 27,000,000 BTU PER HOUR MAXIMUM HEAT INPUT, WITH A DIGESTER GAS PILOT BURNER, A NATURAL GAS PILOT BURNER, AN AUTOMATIC COMBUSTION AIR DAMPER AND A RESTART IGNITION SYSTEM.

4. THREE GAS FILTERS, DOLLINGER, MODEL GP-188.

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THE HOURLY AVERAGE VOLUME OF DIGESTER GAS BURNED IN EACH FLARE SHALL NOT EXCEED 750 SCFM.
[RULE 1303 (b) (1) AND 1304 (b) (2)-MODELING & OFFSETS]

5. THE HOURLY AVERAGE TOTAL VOLUME OF DIGESTER GAS BURNED IN THE FLARING SYSTEM (3-FLARES) SHALL NOT EXCEED 2250 SCFM.
[RULE 1303 (b) (1) AND 1304 (b) (2)-MODELING & OFFSETS]

6. FLOW INDICATORS AND RECORDERS SHALL BE MAINTAINED TO MEASURE THE INDIVIDUAL FLOW RATE TO EACH FLARE AND TOTAL FLOW RATE TO THE FLARING SYSTEM.
[RULE 1304(a) (4)-MODELING & OFFSET EXEMPTION]

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7. WHEN THE FLARES ARE IN OPERATION, A TEMPERATURE OF NOT LESS THAN 1400 DEGREES F, AVERAGED OVER ONE HOUR, AS MEASURED BY THE TEMPERATURE INDICATOR SHALL BE MAINTAINED IN THE FLARE STACK, EXCEPT FOR A MAXIMUM OF THIRTY- MINUTES DURING START-UP AND FIFTEEN- MINUTES DURING SHUT-DOWN, AND THREE MINUTES WHEN THERMOCOUPLES SWITCH OCCURS. THE THERMOCOUPLE USED TO MEASURE THE TEMPERATURE SHALL BE ABOVE THE FLAME ZONE AND AT LEAST 0.6 SECONDS DOWNSTREAM OF THE BURNER.
[RULE 1303(a) (1) AND 1303 (a) (4) - BACT]

8. A TEMPERATURE INDICATOR AND RECORDER SHALL BE MAINTAINED TO MEASURE THE EXHAUST GAS TEMPERATURE IN EACH OF THE FLARE STACKS.
[RULE 1303(a) (1) AND 1303 (a) (4) - BACT]

9. AUTOMATIC DAMPERS TO REGULATE THE FLOW OF COMBUSTION AIR SHALL BE MAINTAINED FOR EACH FLARE.
[RULE 1303(a) (1) AND 1303 (a) (4) - BACT]

10. THE OPERATOR SHALL KEEP THE RECORDS OF DIGESTER GAS FLOW RATES AND OPERATING TEMPERATURE. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE UPON REQUEST TO SCAQMD PERSONNEL.
[RULE 204]

11. A FLARE FAILURE ALARM SYSTEM CONSISTING OF A FLAMEOUT WARNING LIGHT BY THE FLARE STATION AND AN AUDIBLE ALARM IN THE CONTROL ROOM SHALL BE MAINTAINED. THIS SAFETY SYSTEM SHALL BE TESTED MONTHLY FOR PROPER OPERATION AND THE RESULTS RECORDED AND MAINTAINED FOR TWO YEARS.
[RULE 1303(a) (1) AND 1303 (a) (4) - BACT]

12. THE ORANGE COUNTY SANITATION DISTRICT SHALL, AT LEAST ONCE EVERY FIVE YEARS, CONDUCT TEST ON ONE OF THE THREE FLARES IN ACCORDANCE WITH SCAQMD TEST PROCEDURES AND FURNISH THE AQMD WITH WRITTEN RESULTS OF SUCH PERFORMANCE TEST WITHIN 45 DAYS AFTER THE TESTING. SUBSEQUENT TESTS SHALL BE PERFORMED ON ALTERNATE FLARES AT THE MAXIMUM FIRING RATE. WRITTEN NOTICE OF THE PERFORMANCE TESTS SHALL BE PROVIDED TO THE AQMD 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. THE PERFORMANCE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO, A TEST OF THE DIGESTER GAS INLET TO THE FLARE AND THE FLARE EXHAUST FOR THE FOLLOWING:

A. METHANE (LBS/HR)
B. TOTAL NON-METHANE HYDROCARBONS (LB/HR)
C. OXIDES OF NITROGEN (AS NO_2, EXHAUST ONLY, PPMV @ 3% 02, DRY, LBS/HR)
D. CARBON MONOXIDE (EXHAUST ONLY, PPMV @3% 02, DRY, LBS/HR).
E. TOTAL PARTICULATES (EXHAUST ONLY, GR/DSCF, LBS/HR).
F. CHEMICAL COMPOUNDS CONCENTRATION IN UG/M3,-INCLUDING BUT NOT LIMITED TO:
a. ACETALDEHYDE
b. ACROLEIN
c. BENZENE
d. CARBON TETRACHLORIDE
e. CHLOROBENZENE

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f. CHLOROFORM
g. 1, 4 (p)-DICHLOROBENZENE
h. 1, 2 - DICHLOROETHANE
i. FORMALDEHYDE
j. METHYLENE CHLORIDE
k. STYRENE
l. TETRACHLOROETHYLENE
m. TOLUENE
n. TRICHLOROETHYLENE
o. 1, 1, 1 – TRICHLOROETHANE
p. VINYL CHLORIDE
q. XYLENES

[RULE 1303(a) (1)-BACT, RULE 1303(b) (2) - OFFSETS, RULE 1401]

13. EMISSIONS RESULTING FROM EACH FLARE OPERATION SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	LBS/HR
NOX, AS N02	1.75
SOX, AS S02	0.3
CO	8.33
PM	1.13
ROG	0.50

[RULE 1303(b) (1) – MODELING, RULE 431.1]

14. TOTAL EMISSIONS FROM THE FLARING OPERATION (3 FLARES) AND PLANT-1 CENTRAL POWER GENERATION ENGINES, WHEN OPERATED SIMULTANEOUSLY, SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	LBS/DAY
NOX, AS N02	408
SOX, AS S02	43
CO	1301
PM	63
ROG	288

[RULE 1303(b) (2) – OFFSETS, RULE 431.1]

15. SAMPLING PORTS SHALL BE MAINTAINED IN EACH FLARE STACK AT LEAST 3 FEET UPSTREAM OF FLARE OUTLET AND SHALL CONSIST OF 4-INCH COUPLINGS WITH PLUGS. AN EQUIVALENT METHOD OF EMISSION SAMPLING MAY BE USED UPON APPROVAL BY THE SCAQMD. ADEQUATE AND SAFE ACCESS TO THE TEST PORTS SHALL BE PROVIDED BY THE COUNTY SANITATION DISTRICTS OF ORANGE COUNTY.
[RULE 217]

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16. EMISSIONS RESULTING FROM THE FLARING OPERATION (3-FLARES) SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	LBS/DAY
NOX, AS N02	123
SOX, AS S02	22
CO	600
PM	81
ROG	36

[RULE 1303(b) (2) – OFFSETS, RULE 431.1]

17. THESE FLARES SHALL NOT OPERATE SIMULTANEOUSLY WITH THE PLANT CENTRAL POWER GENERATION SYSTEM ENGINES (AS DESCRIBED UNDER THEIR ACTIVE PERMITS) WITH THE FOLLOWING EXCEPTIONS:

I. DURING ROUTINE AND UNFORESEEN MAINTENANCE TESTING OF THE FLARES.

II. WHEN THERE IS EXCESS DIGESTER GAS DUE TO MAINTENANCE, START-UP, SHUTDOWN, OR TESTING OF ENGINE(S), WHEN DIGESTER GAS THAT CANNOT BE USED BY THE ENGINES OR OTHER PERMITTED DIGESTER GAS FUELED EQUIPMENT, OR DURING SHUTDOWN OF THE INTERPLANT DIGESTER GAS TRANSPORT LINE DUE TO LEAKS, MAINTENANCE OR CONSTRUCTION WORK.

III. WHEN THERE IS EXCESS DIGESTER GAS AT PLANT NO. 2 (HUNTINGTON BEACH, FACILITY ID. NO. 29110), DURING UNFORESEEN CIRCUMSTANCES, WHEN DIGESTER GAS CANNOT BE USED BY OTHER PERMITTED DIGESTER GAS FUELED EQUIPMENT AND HAS TO BE TRANSPORTED TO PLANT NO. 1 THROUGH INTERPLANT DIGESTER GAS TRANSPORT LINE.
[RULE 1304 (a) –MODELING $ OFFSET EXEMPTIONS]

18 ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF DAY.
[RULE 204]

19 A SAMPLING PORT SHALL BE MAINTAINED AT THE INLET GAS LINE TO THE FLARING SYSTEM TO ALLOW THE COLLECTION OF A DIGESTER GAS SAMPLE.
[RULE 217, RULE 431.1]

20. ALL RECORDS AS REQUIRED BY THIS PERMIT SHALL BE MAINTAINED ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO SCAQMD PERSONNEL UPON REQUEST.
[RULE 204]

21. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULE 431.1.
[RULE 431.1]

FACILITY PERMIT TO OPERATE
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Emissions and Requirements:

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

PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS
PM: RULE 409

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. F99404
A/N 444109

Equipment Description:

AIR POLLUTION CONTROL SYSTEM (HEADWORKS) CONSISTING OF:

1. FOUR SCRUBBERS, NOS. 1 THROUGH 4, EACH VERTICAL TYPE, PACKED TOWER, 9'-0" DIA. X 36'-9" H., WITH ASSOCIATED PUMPS AND INLET BLOWERS.

2. SCRUBBER NOS. 9, VERTICAL TYPE, PACKED TOWER, 6'-0" DIA. X 34'- 0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

3. BIOTRICKLING FILTER NO. 10 WITH POLYURETHANE FOAM PACKING, 6'-0" DIA. X 34'-0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

4. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H2S) MONITORING SYSTEM.

5. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING THE EXISTING METERING AND DIVERSION STRUCTURE, HEADWORKS NO. 1, SUNFLOWER PUMP STATION, BAR SCREEN BUILDING, BIN LOADING AND GRIT WASHER FACILITY AND GRIT CHAMBER/SPLITTER BOX BUILDING.

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3 THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. SCRUBBER NO. 9 AND BIOTRICKLING FILTER NO. 10 SHALL ONLY EXHAUST INTO THE SCRUBBER NOS. 1 THROUGH 4.
[RULE 402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

5. AT LEAST TWO APC EQUIPMENT (SCRUBBERS OR BIOTRICKLING FILTER) SHALL BE IN OPERATION WHEN THE BASIC EQUIPMENT ARE IN OPERATION EXCEPT DURING THE FOLLOWING EVENTS:

   UNFORESEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT THAT REQUIRES THE SCRUBBERS OR BIOTRICKLING FILTER SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50 HOURS PER YEAR PER EQUIPMENT, OR LONGER IF CHEMICAL TREATMENT OF THE BASIC EQUIPMENT REDUCES THE OUTLET H2S CONCENTRATION OF THE AIR POLLUTION CONTROL SYSTEM TO LESS THAN THE LIMIT AS SPECIFIED IN CONDITION NO. 8. A LOG OF SHUTDOWN DATE, DURATION, AND REASON FOR THE SHUTDOWN SHALL BE MAINTAINED.
   [RULE 402]

6. WHEN ANY OF THE SCRUBBERS 1 THROUGH 4 OR SCRUBBER 9 OR BIOTRICKLING FILTER ARE IN OPERATION, AUTOMATIC HYDROGEN SULFIDE (H2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE AIR POLLUTION CONTROL SYSTEM OUTLET H2S CONCENTRATION, IN PPMV. THE H2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
   [RULE 204]

7. WHEN THE AUTOMATIC CHEMICAL FEED AND H2S MONITORING SYSTEM IS NOT OPERATING, PH OF THE SCRUBBING OR RECYCLING LIQUID, MAKEUP WATER FLOW RATE (GPM), DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN), FOR SCRUBBERS 1 THROUGH 4 OR SCRUBBER 9 OR BIOTRICKLING FILTER SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS AS DESCRIBED SHALL BE MEASURED AND RECORDED AT LEAST ONCE PER SHIFT.
   [RULE 402]

8. THE DAILY AVERAGE CONCENTRATION OF SULFUR COMPOUNDS MEASURED, AND CALCULATED AS H2S, AT THE OUTLET OF THE AIR POLLUTION CONTROL SYSTEM SHALL NOT EXCEED 3.5 PPMV. EMISSIONS AT THE EXHAUST STACK SHALL BE MONITORED AND RECORDED AT LEAST ONCE PER SHIFT.
   [RULE 402, 1401]

9. RECORDS SHALL BE KEPT AND MAINTAINED FOR DAILY AVERAGE OPERATING PARAMETERS, AND H2S CONCENTRATION, IN PPMV, AT THE OUTLET OF EACH SCRUBBER OR BIOTRICKLING FILTER IN OPERATION. ALL RECORDS AS REQUIRED BY THIS PERMIT SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
   [RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT/ OPERATE

Permit No. F94280
A/N 459958

Equipment Description:

ODOR CONTROL SYSTEM CONSISTING OF;

1. FOUL AIR DUCT FROM WET WELL AND ASSOCIATED TRUNK LINES (ELLIS PUMP STATION, OCSD PLANT NO. 1).

2. TWO BLOWERS, IN PARALLEL, EACH 7500 SCFM FLOW RATE.

3. TWO ADSORBERS, IN PARALLEL, CONTAINING US FILTER/WESTATES MIDAS OCM OR CALGON CARBON MINOTAUR, EACH WITH A MINIMUM OF 8000 LBS OF HIGH H2S CAPACITY ACTIVATED CARBON.

4. TWO EXHAUST STACKS, EACH 2' - 6" DIA. X 6.5' H., WITH A RAIN CAP.

Conditions:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATIONS UNDER WHICH THIS PERMIT IS ISSUED.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.
[RULE 204]

3. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
[RULE 205]

4. IDENTIFICATION TAG (S) OR NAMEPLATE (S) SHALL BE DISPLAYED ON THE EQUIPMENT TO SHOW MANUFACTURER MODEL NO. AND SERIAL NO. THE TAG (S) OR PLATE (S) SHALL BE ISSUED BY THE MANUFACTURER AND SHALL BE AFFIXED TO THE EQUIPMENT IN A PERMANENT AND CONSPICUOUS POSITION.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

5. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE FOUL AIR TREATED, IN CUBIC FEET PER MINUTE (CFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.
[RULE 204]

6. MAXIMUM FOUL AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 7500 CFM.
[RULE 402]

7. FOR EACH CARBON ADSORBER, AMMONIA, H2S, AND TOTAL VOLATILE COMPOUNDS (TOCs) CONCENTRATIONS (PPMV) SHALL BE MONITORED AT EACH EXHAUST STACK AT LEAST ONCE A MONTH, USING AN APPROVED AND CALIBRATED INSTRUMENT OR APPROVED SAMPLING AND ANALYTICAL METHODS. RECORDS SHALL BE MAINTAINED AND KEPT ON FILE.
[RULE 204]

8. AMMONIA CONCENTRATION AT THE EXHAUST FROM EACH CARBON ADSORBER SHALL NOT EXCEED 1 PPMV.
[RULE 402, 1401]

9. THE HYDROGEN SULFIDE (H2S) CONCENTRATION MEASURED AT THE EXHAUST FROM EACH CARBON SHALL NOT EXCEED 0.4 PPMV.
[RULE 402, 1401]

10. THE TOC CONCENTRATION MEASURED AT THE EXHAUST FROM EACH CARBON SHALL NOT EXCEED 0.2 PPMV.
[RULE 204]

11. IF THE HYDROGEN SULFIDE (H2S) CONCENTRATION MEASURED AT THE EXHAUST STACK IS DETECTED ABOVE 0.36 PPMV, THEN FOUL AIR INLET DAMPER TO THE RESPECTIVE CARBON ADSORBER SHALL BE CLOSED AND IMMEDIATE CORRECTIVE MEASURES SHALL BE TAKEN INCLUDING ACTIVATED CARBON REPLACEMENT, WITH FRESH CARBON, BEFORE RESUMING OPERATION.
[RULE 402, 1401]

12. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.
[RULE 204]

13. IF THE OPERATION OF THIS EQUIPMENT RESULTS IN CONSIDERABLE NUMBER OF ODOR COMPLAINTS, THE WORK SHALL CEASE AND MITIGATION MEASURES SHALL BE IMPLEMENTED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL EMISSIONS CAUSING THE COMPLAINTS IS MITIGATED.
[RULE 402]

14. RECORDS SHALL BE MAINTAINED AS REQUIRED BY THIS PERMIT INCLUDING CARBON CHANGE OVER DATE(S) FOR COMPLIANCE. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G2955
A/N 486760

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 3 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
   [RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
   [RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
   [RULE 204]

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9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

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E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G2956
A/N 486792

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 2 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
   [RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
   [RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
   [RULE 204]

FACILITY PERMIT TO OPERATE
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9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G2957
A/N 486793

Equipment Description:

RESOURCE RECOVERY SYSTEM NO. 1 CONSISTING OF:

INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKE, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME FOR EACH FUEL BLEND BURNED.
   [RULE 1110.2]

5. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE FUEL GAS, OR FUEL BLEND, SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF EACH FUEL GAS (IN SCFM) BURNED.
   [RULE 204]

6. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS OR FUEL BLEND SAMPLES.
   [RULE 204]

7. MONTHLY READINGS OF THE BTU CONTENT OF FUEL GAS (BTU/SCF) AT THE COMBINED INLET TO THE CGS ENGINES SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
   [RULE 204]

8. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
   [RULE 204]

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ORANGE COUNTY SANITATION DISTRICT

9. THE TOTAL HEAT INPUT OF GASEOUS FUEL, OR FUEL BLEND, BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS, OR FUEL BLEND, BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

10. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULES 218, 431.1 AND 1110.2.
[RULE 218, 431.1 AND 1110.2]

11. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

12. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

13. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 218, RULE 1110.2]

14. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS ANNUALLY. WRITTEN NOTICE OF THE PERFORMANCE TEST SHALL BE PROVIDED TO THE AQMD AT LEAST 7 DAYS PRIOR TO THE TEST SO THAT AN OBSERVER MAY BE PRESENT. A COMPLETE FINAL REPORT OF THE TEST (LBS/HR, PPMVD AT 15% O2, LBS/MMBTU, ETC.) SHALL BE PROVIDED TO THE AQMD WITHIN 45 DAYS AFTER TESTING. ALL TEST RUNS REQUIRED BY AQMD SHALL BE REPORTED. THE TESTS SHALL INCLUDE BUT NOT BE LIMITED TO, A TEST OF THE FUELS BURNED AND ENGINE EXHAUST FOR:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).
D. OXIDES OF NITROGEN (EXHAUST ONLY).

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E. OXYGEN
F. FLOW RATE
G. MOISTURE
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (FUEL ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (FUEL ONLY)
M. POWER OUTPUT

[RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET], [RULE 1110.2], [RULE 404]

15 RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: 2000 PPMV, RULE 1110.2
NOx: 45 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
ROG: 313 PPMV, RULE 1110.2 (WITH 1.25 ECF ADJUSTMENT FACTOR).
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G19907
A/N 512830

Equipment Description:

STORAGE TANK, FIXED ROOF, ID NO. 10ITNK037 (P1 HEADWORKS), HYDROCHLORIC ACID, 12' - 0" DIA. X 10' - 0" H., 8,000-GALLON CAPACITY AND VENTING THROUGH A 55-GALLON DRUM CONTAINING (50% SULPHASORB XL AND 50% SAFETYSORB BLEND OR EQUAL) ACTIVATED CARBON.

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL STORE HYDROCHLORIC ACID WITH CONCENTRATION OF 38 WEIGHT PERCENT OR LESS ONLY.
[RULE 204]

4. THE MAXIMUM AMOUNT OF HYDROCHLORIC ACID FILLED INTO THIS STORAGE TANK SHALL NOT EXCEED 6,000 GALLONS PER MONTH.
[RULE 1303 (b) (1) - OFFSET]

5. THIS EQUIPMENT SHALL NOT BE FILLED UNLESS THE VENT GASES PASS THROUGH A 55-GALLON DRUM CONTAINING ACTIVATED CARBON.
[RULE 1303 (a) (1)-BACT]

6. THE OPERATOR SHALL REPLACE THE CARBON PER MANUFACTURER'S RECOMMENDATION.
[RULE 204]

7. RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G19908
A/N 512831

Equipment Description:

STORAGE TANK, FIXED ROOF, ID NO. 11ITNK100 (P1 PRIMARY), HYDROCHLORIC ACID, 6' - 0" DIA. X 11' - 0" H., 2,000-GALLON CAPACITY AND VENTING THROUGH A 55-GALLON DRUM CONTAINING (50% SULPHASORB XL AND 50% SAFETYSORB BLEND OR EQUAL) ACTIVATED CARBON.

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL STORE HYDROCHLORIC ACID WITH CONCENTRATION OF 38 WEIGHT PERCENT OR LESS ONLY.
[RULE 204]

4. THE MAXIMUM AMOUNT OF HYDROCHLORIC ACID FILLED INTO THIS STORAGE TANK SHALL NOT EXCEED 6,000 GALLONS PER MONTH.
[RULE 1303 (b) (1) - OFFSET]

5. THIS EQUIPMENT SHALL NOT BE FILLED UNLESS THE VENT GASES PASS THROUGH A 55-GALLON DRUM CONTAINING ACTIVATED CARBON.
[RULE 1303 (a) (1)-BACT]

6. THE OPERATOR SHALL REPLACE THE CARBON PER MANUFACTURER'S RECOMMENDATION.
[RULE 204]

7. RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO OPERATE

Permit No. G35620
A/N 568969

Equipment Description:

ABRASIVE BLASTING SYSTEM WITH INTEGRAL CONTROL, CONSISTING OF:

1. BLASTING CABINET, MEDIA BLAST & ABRASIVES, INC., MODEL POWER PEEN 6060, 4'- 3" W. X 5'- 0"L. X 3'- 4" H., WITH ONE NOZZLE, MAXIMUM INSIDE DIAMETER OF 1/4", PLANT AIR SUPPLIED AT 40 PSI., AND A 1 FT3 PRESSURE POT.

2. DUST COLLECTOR, WITH A CARTRIDGE FILTER, 440 SQUARE FEET AREA, A PNEUMATIC FILTER CLEANING SYSTEM, AND A 1160 CFM, 2 H.P. BLOWER.

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL NOT BE OPERATED UNLESS EXHAUST AIR IS VENTED THROUGH THE DUST COLLECTOR.
[RULE 1303 (a) (1) - BACT]

4. A DUST COLLECTOR CLEANING CYCLE GAUGE SHALL BE INSTALLED AND MONITORED TO TAKE APPROPRIATE CORRECTIVE MAINTENANCE ACTIONS PER MANUFACTURER'S OPERATOR'S MANUAL.
[RULE 204]

5. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH RULE 1140 AND 1155.
[RULE 1140, 1155]

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6. A LOG SHALL BE KEPT FOR THE HOURS OF EQUIPMENT OPERATION AND AMOUNT OF ABRASIVE MEDIA USED IN ONE MONTH.
[RULE 204]

7. EQUIPMENT OPERATION SHALL BE NOT EXCEED 60 HOURS IN ONE MONTH AND, ABRASIVE MEDIA USAGE SHALL NOT EXCEED 12, 920 LBS IN ONE MONTH.
[RULE 204, RULE 1304-OFFSET EXEMPTION]

8. DUST COLLECTED IN THE DUST COLLECTOR SHALL BE DISCHARGED INTO CLOSED CONTAINERS.
[RULE 401]

9. THE ABRASIVE BLASTING MEDIA SHALL NOT CONTAIN ANY FREE SILICA.
[RULE 1140]

10. MATERIAL PROCESSED THROUGH THIS EQUIPMENT SHALL NOT CONTAIN ANY TOXIC AIR CONTAMINANTS IDENTIFIED IN RULE 1401, TABLE I WITH AN EFFECTIVE DATE OF SEPTEMBER 10, 2010.
[RULE 1401]

11. ALL RECORDS AS REQUIRED BY THIS PERMIT SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, COATING EQUIPMENT, PORTABLE, ARCHITECTURAL COATINGS.

Periodic Monitoring:

1. THE OPERATOR SHALL KEEP RECORDS, IN A MANNER APPROVED BY THE DISTRICT, FOR THE FOLLOWING PARAMETER (S) OR ITEM (S):

   FOR ARCHITECTURAL APPLICATIONS WHERE NO THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN SEMI-ANNUAL RECORDS OF ALL COATINGS CONSISTING OF (a) COATING TYPE, (b) VOC CONTENT AS SUPPLIED IN GRAMS PER LITER (g/l) OF MATERIALS FOR LOW-SOLIDS COATINGS, (c) VOC CONTENT AS SUPPLIED IN g/l OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.

   FOR OTHER ARCHITECTURAL APPLICATIONS WHERE THINNERS, REDUCERS, OR OTHER VOC CONTAINING MATERIALS ARE ADDED, MAINTAIN DAILY RECORDS FOR EACH COATING CONSENTING OF (a) COATING TYPE, (b) VOC CONTENT AS APPLIED IN GRAMS PER LITER (g/l) OF MATERIALS USED FOR LOW-SOLIDS COATINGS, (c) VOC CONTENT AS APPLIED IN g/l OF COATING, LESS WATER AND EXEMPT SOLVENT, FOR OTHER COATING.

   [RULE 3004 (a) (4)]

Emissions and Requirements:

2. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATION:

   VOC: RULE 1113, SEE APPENDIX B FOR EMISSION LIMITS
   VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, HAND WIPING OPERATIONS.

Emissions and Requirements:

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

   VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, CLEANING EQUIPMENT, SMALL UNHEATED, NON-CONVEYORIZED.

Emissions and Requirements:

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

   VOC: RULE 1171, SEE APPENDIX B FOR EMISSION LIMITS

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, AIR CONDITIONING UNITS.

Emissions and Requirements:

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

   VOC: RULE 1415
   VOC: 40CFR 82 SUBPART F

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, MOTOR VEHICLE AIR CONDITIONERS - REPAIR, SERVICE, MANUFACTURING, MAINTENANCE, OR DISPOSAL.

Emissions and Requirements:

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

   VOC: RULE 1411
   VOC: 40CFR 82 SUBPART B

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, WATER HEATERS, BOILERS AND PROCESS HEATERS $\leq$ 2 MM BTU/HR.

Emissions and Requirements:

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

   NOx: RULE 1146.2

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, HALON EMISSIONS FROM FIRE EXTINGUISHING EQUIPMENT.

Emissions and Requirements:

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

   HALON: RULE 1418

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RULE 219 EQUIPMENT

Equipment Description:

RULE 219 EXEMPT EQUIPMENT, ABRASIVE BLASTING EQUIPMENT

Emissions and Requirements:

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

   VISIBLE EMISSION: RULE 401
   VISIBLE EMISSION: RULE 1140

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SECTION E: ADMINISTRATIVE CONDITIONS

The operating conditions in this section shall apply to all permitted equipment at this facility unless superseded by condition(s) listed elsewhere in this permit.

1. The permit shall remain effective unless this permit is suspended, revoked, modified, reissued, denied, or it is expired for nonpayment of permit processing or annual operating fees. [201, 203, 209, 301]

   a. The permit must be renewed annually by paying annual operating fees, and the permit shall expire if annual operating fees are not paid pursuant to requirements of Rule 301(d). [301(d)]

   b. The Permit to Construct listed in Section H shall expire one year from the Permit to Construct issuance date, unless a Permit to Construct extension has been granted by the Executive Officer or unless the equipment has been constructed and the operator has notified the Executive Officer prior to the operation of the equipment, in which case the Permit to Construct serves as a temporary Permit to Operate. [202, 205]

   c. The Title V permit shall expire as specified under Section K of the Title V permit. The permit expiration date of the Title V facility permit does not supercede the requirements of Rule 205. [205, 3004]

2. The operator shall maintain all equipment in such a manner that ensures proper operation of the equipment. [204]

3. This permit does not authorize the emissions 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 and Regulations of the AQMD. This permit cannot be considered as permission to violate existing laws, ordinances, regulations, or statutes of other governmental agencies. [204]

4. The operator shall not use equipment identified in this facility permit as being connected to air pollution control equipment unless they are so vented to the identified air pollution control equipment which is in full use and which has been included in this permit. [204]

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SECTION E: ADMINISTRATIVE CONDITIONS

5. The operator shall not use any equipment having air pollution control device(s) incorporated within the equipment unless the air pollution control device is in full operation. [204]

6. The operator shall maintain records to demonstrate compliance with rules or permit conditions that limit equipment operating parameters, or the type or quantity of material processed. These records shall be made available to AQMD personnel upon request and be maintained for at least five years. [204]

7. The operator shall maintain and operate all equipment to ensure compliance with all emission limits as specified in this facility permit. Compliance with emission limits shall be determined according to the following specifications, unless otherwise specified by AQMD rules or permit conditions: [204]

   a. For internal combustion engines and gas turbines, measured concentrations shall be corrected to 15 percent stack-gas oxygen content on a dry basis and be averaged over a period of 15 consecutive minutes; [1110.2, 1134]

   b. For other combustion devices, measured concentrations shall be corrected to 3 percent stack-gas oxygen content on a dry basis and be averaged over a period of 15 consecutive minutes; [1146, 1146.1, 204]

   c. For non-combustion sources, compliance with emission limits shall be determined and averaged over a period of 60 minutes; [204]

   d. For the purpose of determining compliance with Rule 407, carbon monoxide (CO) shall be measured on a dry basis and be averaged over 15 consecutive minutes, and sulfur compounds which would exist as liquid or gas at standard conditions shall be calculated as sulfur dioxide (SO2) and be averaged over 15 consecutive minutes; [407]

   e. For the purpose of determining compliance with Rule 409, combustion contaminant emission measurements shall be corrected to 12 percent of carbon dioxide (CO2) at standard conditions and averaged over a minimum of 15 consecutive minutes. [409]

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f. For the purpose of determining compliance with Rule 475, combustion contaminant emission measurements shall be corrected to 3 percent of oxygen (O2) at standard conditions and averaged over 15 consecutive minutes or any other averaging time specified by the Executive Officer. [475]

8. The operator shall, when a source test is required by AQMD, provide a source test protocol to AQMD no later than 60 days before the proposed test date. The test shall not commence until the protocol is approved by AQMD. The test protocol shall contain the following information: [204, 304]

a. Brief description of the equipment tested.

b. Brief process description, including maximum and normal operating temperatures, pressures, throughput, etc.

c. Operating conditions under which the test will be performed.

d. Method of measuring operating parameters, such as fuel rate and process weight. Process schematic diagram showing the ports and sampling locations, including the dimensions of the ducts and stacks at the sampling locations, and distances of flow disturbances, (e.g. elbows, tees, fans, dampers) from the sampling locations (upstream and downstream).

e. Brief description of sampling and analytical methods used to measure each pollutant, temperature, flow rates, and moisture.

f. Description of calibration and quality assurance procedures.

g. Determination that the testing laboratory qualifies as an "independent testing laboratory" under Rule 304 (conflict of interest).

9. The operator shall submit a report no later than 60 days after conducting a source test, unless otherwise required by AQMD rules or equipment-specific conditions. The report shall contain the following information: [204]

a. The results of the source test.

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b. Brief description of the equipment tested.

c. Operating conditions under which the test was performed.

d. Method of measuring operating parameters, such as fuel rate and process weight. Process schematic diagram showing the ports and sampling locations, including the dimensions of the ducts and stacks at the sampling locations, and distances of flow disturbances, (e.g. elbows, tees, fans, dampers) from the sampling locations (upstream and downstream).

e. Field and laboratory data forms, strip charts and analyses.

f. Calculations for volumetric flow rates, emission rates, control efficiency, and overall control efficiency.

10. The operator shall, when a source test is required, provide and maintain facilities for sampling and testing. These facilities shall comply with the requirements of AQMD Source Test Method 1.1 and 1.2. [217]

11. Whenever required to submit a written report, notification or other submittal to the Executive Officer, AQMD, or the District, the operator shall mail or deliver the material to: Deputy Executive Officer, Engineering and Compliance, AQMD, 21865 E. Copley Drive, Diamond Bar, CA 91765-4182. [204]

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SECTION F: RECLAIM MONITORING AND SOURCE TESTING REQUIREMENTS

NOT APPLICABLE

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SECTION G: RECORDKEEPING AND REPORTING REQUIREMENTS FOR RECLAIM SOURCES

NOT APPLICABLE

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SECTION H: PERMIT TO CONSTRUCT AND TEMPORARY PERMIT TO OPERATE

This section consists of a table listing all equipment with Permits to Construct and copies of all individual Permits to Construct issued to various equipment at the facility. Each permit will list operating conditions including periodic monitoring requirements and applicable emission limits and requirements that the equipment is subject to. Also included is the rule origin and authority of each emission limit and permit condition.

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PERMITTED EQUIPMENT LIST

THE FOLLOWING IS A LIST OF ALL PERMITS TO CONSTRUCT AND PERMITS TO OPERATE AT THIS FACILITY:

Application Number	Permit to Construct Granted On	Equipment Description	Page Number
432418	11-18-2004	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	3
453210	10-17-2006	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	6
494460	02-09-2010	BOILER (>10 MMBTU/HR) NAT GAS & DIGESTER GAS	11
504150	05-05-2010	ODOR CONTROL UNIT	15
520793	08-16-2012	ODOR CONTROL UNIT	18
520794	08-16-2012	SEWAGE TREATMENT (>5 MG/D) ANAEROBIC	22
546360	04-16-2014	ICE CG-1 (3471 HP) NG/DG WITH DG FUEL PRETREATMENT	28
546361	04-16-2014	ICE CG-2 (3471 HP) NG/DG WITH DG FUEL PRETREATMENT	32
546362	04-16-2014	ICE CG-3 (3471 HP) NG/DG WITH DG FUEL PRETREATMENT	36
557227	04-16-2014	STORAGE TANK, AQUEOUS UREA SOLUTION	40
557228	04-16-2014	STORAGE TANK, AQUEOUS UREA SOLUTION	41
559225	04-16-2014	APC SYSTEM 1, SCR/CO CATALYST	42
559226	04-16-2014	APC SYSTEM 2, SCR/CO CATALYST	45
559227	04-16-2014	APC SYSTEM 3, SCR/CO CATALYST	48
565934	12-09-2014	ODOR CONTROL UNIT FOR HEADWORKS FACILITY	51

NOTE: EQUIPMENT LISTED ABOVE THAT HAVE NO CORRESPONDING PERMITS TO OPERATE NUMBER ARE ISSUED PERMITS TO CONSTRUCT. THE ISSUANCE OR DENIAL OF THEIR PERMITS TO OPERATE IS SUBJECT TO ENGINEERING FINAL REVIEW. ANY OTHER APPLICATIONS THAT ARE STILL BEING PROCESSED AND HAVE NOT BEEN ISSUED PERMITS TO CONSTRUCT OR PERMITS TO OPERATE WILL NOT BE FOUND IN THIS TITLE V PERMIT.

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PERMIT TO CONSTRUCT

A/N 432418
Granted as of 11/18/2004

Equipment Description:

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT, COVERED BY PERMIT TO CONSTRUCT APPLICATION NO. 407071 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'- 0" L. X 20'- 0" W. X 14' -0" D., TWO SPLITTER BOXES, 15'- 0" L. X 4'- 0" W. X 7' - 6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.

2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'- 0" L. X 20'- 0" W. X 14' -0" D., THREE SPLITTER BOXES, 15'- 0" L. X 8'- 0" W. X 15' - 0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.

3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'- 0" L. X 40'- 0" W. X 9' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140' - 0" DIA. X 9' -O" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'- 0" L. X 195'- 0" W. X 10' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.

4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6' - 0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.

5. SECONDARY CLARIFIERS CONSISTING OF ONE 140' - 0" DIA. X 9' - 0" D., AND TWENTY-FOUR 150'- 0" L. X 40'- 0" W. X 10' -0" D. WITH ASSOCIATED PUMPS.

6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.

7. TEN AERATION BASINS, EACH 275'- 0" L. X 45'- 0" W. X 15' -0" D. WITH ASSOCIATED BLOWERS.

8. SIX SLUDGE THICKENERS, EACH 40' -0" DIA. X 8' - 0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.

9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90' -0" DIA. X 30' - 0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110' -0" DIA. X 30' - 0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMINUTERS.

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.

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11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42' -0" DIA. X 33' - 6" H. WITH THREE COMPRESSORS.

12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.

BY THE ADDITION OF:

1. SIXTEEN PRIMARY BASINS, 195'- 0" L. X 40'- 0" W. X 10' -0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.

2. FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.

3. ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.

4. TWO NEW SECONDARY CLARIFIERS, EACH 150'- 0" L. X 40'- 0" W. X 10' - 0" D., WITH ASSOCIATED PUMPS (ITEM NO 5).

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND SLUDGE PROCESS STATION SHALL NOT BE OPERATED UNLESS THEY ARE FULLY ENCLOSED AND THEIR EXHAUST AIR VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN FULL OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
[RULE 402]

5. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.
[RULE 204]

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6. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304(a) (4)-MODELING & OFFSETS EXEMPTION]

7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 92 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304(a) (4)-MODELING & OFFSETS EXEMPTION]

8. THE HYDROGEN SULFIDE (H2S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.
[RULE 402]

9. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER BE COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS, WHICH HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD, EXCEPT DURING MAINTENANCE WORK OR CLEANING OF THE DIGESTERS AND RELATED DIGESTER GAS SYSTEM WHICH REQUIRES ISOLATION OF THE DIGESTER GAS LINE, IN WHICH CASE COLLECTED DIGESTER GAS SHALL BE TREATED BY ACTIVATED CARBON.
[RULE 402]

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PERMIT TO CONSTRUCT

A/N 453210
Granted as of 10/17/2006

Equipment Description:

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT (216 MGD), COVERED BY PERMIT TO CONSTRUCT APPLICATION NO.432418 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'- 0" L. X 20'- 0" W. X 14' -0" D., TWO SPLITTER BOXES, 15'- 0" L. X 4'- 0" W. X 7' - 6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.

2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'- 0" L. X 20'- 0" W. X 14' -0" D., THREE SPLITTER BOXES, 15'- 0" L. X 8'- 0" W. X 15' - 0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.

3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'- 0" L. X 40'- 0" W. X 9' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140' - 0" DIA. X 9' -O" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'- 0" L. X 195'- 0" W. X 10' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.

4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6' - 0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.

5. SECONDARY CLARIFIERS CONSISTING OF ONE 140' - 0" DIA. X 9' - 0" D. AND TWENTY-FOUR 150'- 0" L. X 40'- 0" W. X 10' -0" D. WITH ASSOCIATED PUMPS.

6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.

7. TEN AERATION BASINS, EACH 275'- 0" L. X 45'- 0" W. X 15' -0" D. WITH ASSOCIATED BLOWERS.

8. SIX SLUDGE THICKENERS, EACH 40' -0" DIA. X 8' - 0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.

9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90' -0" DIA. X 30' - 0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110' -0" DIA. X 30' - 0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMINUTERS.

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.

11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42' -0" DIA. X 33' - 6" H. WITH THREE COMPRESSORS.

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12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.

13.* SIXTEEN PRIMARY BASINS, 195'- 0" L. X 40'- 0" W. X 10' -0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.

14.* FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.

15.* ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.

* Construction for the above items 13, 14, and 15 has been completed (under A/N 407071).

BY THE ADDITION OF: (OCSD JOB NO. P1-82 ACTIVATED SLUDGE PLANT REHABILITATION) UNDER A/N 432418.

16. TWO NEW SECONDARY CLARIFIERS, EACH 150'- 0" L. X 40'- 0" W. X 10' - 0" D.

BY THE REMOVAL OF:

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.

AND BY THE ADDITION OF:

17. NEW SECONDARY ACTIVATED SLUDGE FACILITY 2 (OCSD JOB NO. P1-102), AND NEW SLUDGE DEWATERING BEDS (OCSD JOB NO. P1-106) UNDER A/N 453210,

I. SIX AERATION BASINS (NOS. 11 THROUGH 16), COVERED, EACH 227' – 2" L. X 45' – 0" W. X 26' – 0" D., WITH ASSOCIATED AERATION BLOWERS, DIFFUSERS, MIXERS, AND PUMPS, AND VENTING THROUGH SIX STACKS, EACH 7'– 11" H., AND 10,000 SCFM.

II. SIX SECONDARY CLARIFIERS (NOS. 27, 29, 31, 32, 33, AND 34), UNCOVERED, EACH 155' DIA. X 16' SIDE WATER D. , WITH ASSOCIATED RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SECONDARY SCUM PUMPS.

III. SODIUM HYPOCHLORITE (NaOCl) SOLUTION SYSTEM ADDITION (TO THE EXISTING BLEACH SYSTEM) FOR CHLORINATION OF THE TREATED EFFLUENT, RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SURFACE WASTE.

18. SLUDGE MANAGEMENT SYSTEM CONSISTING OF:

I. TRUCK WASH STATION
II. SAWDUST STORAGE
III. TWO (2) DEWATERING BEDS FOR PLANT CLEANING OPERATIONS, EACH 110' – 0" L. X 56' – 0" W., AND WITH APPROXIMATELY 580 CUBIC YARDS CAPACITY.
IV. ONE DEWATERING BED FOR PLANT CLEANING OPERATIONS, 100' – 0" L. X 24' – 0" W., WITH APPROXIMATELY 44 CUBIC YARDS CAPACITY.

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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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, OCSD SHALL PROVIDE IN THE WRITTEN REQUEST, VERIFIABLE DATA TO AQMD IN ORDER TO SHOW COMPLIANCE WITH THE CONSTRUCTION SCHEDULE AS PROVIDED IN THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS GRANTED. IF THERE ARE CHANGES TO THE INCREMENTS OF PROGRESS AND/OR CONSTRUCTION SCHEDULE, THEY WILL NOT BECOME EFFECTIVE UNTIL OCSD RECEIVES WRITTEN CONFIRMATION OF SUCH CHANGES FROM AQMD.
[RULE 204]

5. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND SLUDGE PROCESS STATION SHALL NOT BE OPERATED UNLESS THEY ARE FULLY ENCLOSED AND THEIR EXHAUST AIR VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN FULL OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AIR POLLUTION CONTROL SYSTEM(S) ARE SHUTDOWN FOR CONSTRUCTION OR MAINTENANCE WORK, THE H2S EMISSIONS SHALL NOT EXCEED THE CONCENTRATION LIMITS AS SPECIFIED IN THE SHUT DOWN OF AIR POLLUTION CONTROL EQUIPMENT PERMIT.
[RULE 402]

6. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.
[RULE 204]

7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]

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8. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 92 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]

9. THE AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TREATED BY THE NEW ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102 CONSISTING OF SIX AERATION BASINS AND SIX SECONDARY CLARIFIERS), SHALL NOT EXCEED 60 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 204]

10. WITHIN 60 DAYS AFTER ACHIEVING THE MAXIMUM INFLUENT FLOW RATE FOR THE ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102), BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM AT LEAST TWO OF THE SIX NEW AERATION BASINS' EXHAUST STACKS, AND AT LEAST TWO OF THE SIX NEW SECONDARY CLARIFIERS' SURFACE EMISSIONS, IN ACCORDANCE WITH THE AQMD OR OTHER APPROVED TEST PROCEDURES. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM TWO OF THE AERATION BASINS AND TWO OF THE SECONDARY CLARIFIERS FOR:

   A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV).
   B. AMMONIA AND HYDROGEN SULFIDE (H2S), (LBS/HR AND PPMV).
   C. CARBON DIOXIDE, OXYGEN AND NITROGEN
   D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.

11. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED IN THE AERATION BASINS' EXHAUST STACK (JOB NO. P1-102) IN ACCORDANCE WITH SCAQMD'S RULE 217.
[RULE 217]

12. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0, JULY 1, 2005), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.
[RULE 1401]

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13. IF SOURCE TESTS RESULTS INDICATE THAT THE TOTAL VOLATILE ORGANIC COMPOUNDS (VOC) EMISSIONS FROM THE AERATION BASINS EXCEED 13 LBS PER DAY OR AS DETERMINED BY AQMD, THEN OCSD SHALL CONDUCT IN DETAIL THE TECHNOLOGICAL FEASIBLE STUDY AND COST-EFFECTIVENESS ANALYSIS FOR A SUITABLE AIR POLLUTION CONTROL EQUIPMENT TO DETERMINE LOWEST ACHIEVABLE EMISSION RATE (LAER) FROM SUCH PROCESS.
[RULE 1303 (a) (1) – BACT]

14. THE HYDROGEN SULFIDE (H2S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.
[RULE 402]

15. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH A PERMITTED AIR POLLUTION CONTROL DEVICE(S).
[RULE 402]

16. THE SAWDUST USED IN THE SLUDGE MANAGEMENT SYSTEM SHALL BE STORED AND KEPT SUFFICIENTLY MOIST TO PREVENT ANY AIR BORNE PARTICULATE MATTER EMISSIONS.
[RULE 402]

17. OCSD SHALL KEEP THE FOLLOWING DAILY RECORDS WITH REGARDS TO THE SLUDGE MANAGEMENT SYSTEM,

    I. THE AMOUNT OF SLUDGE DEWATERED IN EACH DRYING BED.
    II. NUMBER OF TRUCKS WASHED.
    III. NUMBER OF LEAKY OR OVERFILLED TRUCKS.
    [RULE 204]

18. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.
[RULE 204]

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PERMIT TO CONSTRUCT

A/N 494460
Granted as of 02/09/2010

Equipment Description:

BOILER, HURST BOILER AND WELDING COMPANY, MODEL S5-250-125W OR EQUIVALENT, FIRE-TUBE TYPE, WITH POWER FLAME INC., MODEL NVC8-G-30 LOW NOx BURNER OR EQUIVALENT, 10,500,000 BTU PER HOUR, WITH DIGESTER GAS AS PRIMARY FUEL, AND NATURAL GAS AS STAND-BY FUEL.

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL PROVIDE TO SCAQMD FINAL BOILER DESIGN DRAWINGS, P & I DIAGRAMS, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, DIMENSIONS, SIZE AND MAXIMUM CAPACITY) PRIOR TO INSTALLATION OF THE EQUIPMENT.
[RULE 204]

4. THIS EQUIPMENT SHALL BE PRIMARILY FIRED WITH DIGESTER GAS. NATURAL GAS MAY BE USED AS A STANDBY FUEL, IN THE EVENT DIGESTER GAS IS NOT AVAILABLE.
[RULE 204, 1146]

5. A FUEL METER SHALL BE INSTALLED AND MAINTAINED IN THE FUEL SUPPLY LINE(S) TO MEASURE, INDICATE AND RECORD THE AMOUNT OF FUEL(S) (SCFM) BURNED IN THIS EQUIPMENT.
[RULE 1303 (b) (1) & 1303 (b) (2) – MODELING & OFFSET]

6. WHEN IN OPERATION, TOTAL HEAT INPUT FOR THIS EQUIPMENT SHALL NOT EXCEED 10.5 MMBTU/HR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE (BTU/SCF) OF FUEL GAS BURNED IN THIS EQUIPMENT BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) & 1303 (b) (2) – MODELING & OFFSET]

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7. THIS EQUIPMENT SHALL BE EQUIPPED WITH A CONTROL SYSTEM TO AUTOMATICALLY REGULATE THE COMBUSTION AIR AND FUEL RATE AS THE BOILER LOAD VARIES. THIS AUTOMATIC CONTROL SYSTEM SHALL BE ADJUSTED AND TUNED PERIODICALLY, ACCORDING TO THE MANUFACTURER'S SPECIFICATIONS TO ASSURE ITS ABILITY TO REPEAT THE SAME PERFORMANCE AT THE SAME BURNER FIRING RATE.
[RULE 1146]

8. EMISSIONS FOR OXIDES OF NITROGEN (NOx) AND CARBON MONOXIDE (CO) SHALL NOT EXCEED THE FOLLOWING LIMITS AND SHALL BE MEASURED BY VOLUME, ON A DRY BASIS, AT 3% O2.

FUEL USED	NOx AS NO2	CO
DIGESTER GAS	30 PPMV	≤100 PPMV
NATURAL GAS	12 PPMV	≤50 PPMV

[RULE 1146, RULE 1303 (a) (1) – BACT/LAER]

9. ON AND AFTER JANUARY 1, 2015, EMISSIONS OF NOx SHALL NOT EXCEED 15 PPMV (CORRECTED TO 3% O2, DRY) WHILE FIRING ON DIGESTER GAS
[RULE 1146]

10. THE OWNER OR OPERATOR OF THIS EQUIPMENT SHALL CONDUCT AN INITIAL SOURCE TEST, AND SUBSEQUENT SOURCE TESTS ONCE EVERY THREE YEARS THEREAFTER, UNDER THE FOLLOWING CONDITIONS:

A. A TESTING LABORATORY CERTIFIED BY THE CALIFORNIA AIR RESOURCES BOARD AND IN COMPLIANCE WITH DISTRICT RULE 304 (NO CONFLICT OF INTEREST) SHALL CONDUCT THIS TEST.

B. A SOURCE TEST PROTOCOL SHALL BE SUBMITTED TO AQMD WITHIN 30 DAYS OF INITIAL START UP AND SHALL BE APPROVED BY AQMD BEFORE THE TEST COMMENCES. THE PROTOCOL SHALL INCLUDE PROPOSED OPERATING CONDITIONS OF THE EQUIPMENT DURING THE TEST, AND A DESCRIPTION OF ALL SAMPLING AND ANALYTICAL PROCEDURES TO BE USED.

C. SOURCE TESTING SHALL BE CONDUCTED WITHIN 60 CALENDAR DAYS AFTER NORMAL OPERATION OF THE EQUIPMENT HAS BEEN ESTABLISHED, BUT NO LATER THAN 180 DAYS AFTER INITIAL START UP.

D. THE SOURCE TESTS SHALL BE PERFORMED WHEN THE BOILER IS OPERATING AT MAXIMUM, MINIMUM AND AVERAGE LOAD FOR EACH FUEL (DIGESTER GAS AND NATURAL GAS) TO BE BURNED. THE SAMPLING TIME AT EACH LOAD SHALL BE FOR A MINIMUM OF 15 CONSECUTIVE MINUTES.

E. TWO COPIES OF THE SOURCE TEST RESULTS SHALL BE SUBMITTED TO AQMD, ATTN. GAURANG RAWAL, WITHIN 60 DAYS OF THE TESTS COMPLETION. THE REPORT SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

FUEL FLOW RATE (EACH FUEL)
FLUE GAS FLOW RATE (EACH FUEL)
METHANE (INLET DIGESTER GAS)
TOTAL NON-METHANE ORGANICS (EXHAUST & INLET DIGESTER GAS)

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SPECIATED TRACE ORGANICS (EXHAUST, DIGESTER GAS)
TOTAL PARTICULATES (EXHAUST)
OXIDES OF NITROGEN (EXHAUST)
CARBON MONOXIDE (EXHAUST)
OXYGEN
DIGESTER GAS BTU (HHV), AND TOTAL SULFUR CONTENT (AS H2S, PPMV)

THE REPORT SHALL PRESENT THE EMISSIONS DATA IN PARTS PER MILLION (PPMV) ON A DRY BASIS, POUNDS PER HOUR, AND LBS/MMBTU.
[RULE 217, RULE 404, RULE 1146, RULE 1303(A) (1), 1303 (B) (1), 1303(B) (2) - BACT, MODELING AND OFFSET, 1401]

10. MONITORING AND TESTING OF THE BOILER SHALL BE PERFORMED ACCORDING TO RULE 1146. [RULE 1146]

11. EMISSIONS RESULTING FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

POLLUTANT	POUNDS PER HOUR
CO	0.90 (0.43 WITH NATURAL GAS)
NOx	0.44 (0.17 WITH NATURAL GAS)
PM10	0.056
ROG	0.083
SOx	0.13

[RULE 404, 431.1, 1303(a) (1)-BACT, 1303(b) (2) - OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN COMPLIANCE WITH APPLICABLE REQUIREMENTS OF 40 CFR 63 SUBPART DDDDD.
[40 CFR 63 SUBPART DDDDD]

13. ALL RECORDS REQUIRED BY THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR A MINIMUM OF FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 3004 (a) (1)]

Periodic Monitoring:

14. THE OPERATOR SHALL DETERMINE COMPLIANCE WITH THE EMISSION LIMIT(S) IN CONDITION N0. 11, AT LEAST ONCE EVERY FIVE YEARS USING AQMD-APPROVED TEST METHOD. THE TEST SHALL BE CONDUCTED WHEN THE EQUIPMENT IS OPERATING UNDER NORMAL CONDITIONS. THE OPERATOR SHALL COMPLY WIT H ALL GENERAL TESTING, REPORTING, AND RECORDKEEPING REQUIREMENTS IN SECTIONS E AND K OF THIS PERMIT.
[RULE 1303 – OFFSET, 3004 (a) (4)]

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Emissions And Requirements:

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

CO: 2000 PPMV, RULE 407
CO: 400 PPMV, @ 3% O2, DRY BASIS, RULE 1146
PM: 0.1 GR/SCF, RULE 409

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PERMIT TO CONSTRUCT

A/N 504150
Granted as of 04/30/2010

Equipment Description:

MODIFICATION OF THE EXISTING ODOR CONTROL SYSTEM, F94280, CONSISTING OF;

1. FOUL AIR DUCTING FROM WET WELL AND ASSOCIATED TRUNK LINES (ELLIS PUMP STATION, OCSD PLANT NO. 1).

2. TWO BLOWERS, IN PARALLEL, EACH 7500 SCFM FLOW RATE

3. TWO ADSORBERS, IN PARALLEL, CONTAINING US FILTER/WESTATES MIDAS OCM OR CALGON CARBON MINOTAUR, EACH WITH A MINIMUM OF 8000 LBS OF HIGH H2S CAPACITY ACTIVATED CARBON.

4. TWO EXHAUST STACKS, EACH 2' - 6" DIA. X 6.5' H. WITH RAIN CAP.

BY REPLACEMENT WITH NEW ADSORBENT MEDIA BLEND, EXHAUST STACK, AND REMOVAL OF A RAIN CAP, AS FOLLOWS,

1. FOUL AIR DUCTING FROM WET WELL AND ASSOCIATED TRUNK LINES (STEVE ANDERSON LIFT STATION, OCSD PLANT NO. 1).

2. TWO BLOWERS, IN PARALLEL, EACH 7500 SCFM FLOW RATE

3. TWO ADSORBERS, IN PARALLEL, CONTAINING PUREAIR FILTRATION OR EQUAL ADSORBENT MEDIA, A BLEND OF POTASSIUM PERMANGANATE BASED AND GRANULAR ACTIVATED CARBON MEDIA, EACH ADSORBER WITH A MINIMUM OF 382 CUBIC FEET OF HIGH H2S CAPACITY MEDIA BLEND.

4. HYDROGEN SULFIDE CONTINUOUS EMISSION MONITORING AND INTEGRATED SAMPLING SYSTEM.

5. TWO EXHAUST STACKS, EACH 2' - 0" DIA. X 25' – 6"H.

PERMIT CONDITIONS:

1. OPERATION OF THIS EQUIPMENT SHALL BE CONDUCTED IN COMPLIANCE WITH ALL DATA AND SPECIFICATIONS SUBMITTED WITH THE APPLICATIONS UNDER WHICH THIS PERMIT IS ISSUED.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITIONS AT ALL TIMES.
[RULE 204]

FACILITY PERMIT TO OPERATE
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3. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
[RULE 205]

4. IDENTIFICATION TAG (S) OR NAMEPLATE (S) SHALL BE DISPLAYED ON THE EQUIPMENT TO SHOW MANUFACTURER MODEL NO. AND SERIAL NO. THE TAG (S) OR PLATE (S) SHALL BE ISSUED BY THE MANUFACTURER AND SHALL BE AFFIXED TO THE EQUIPMENT IN A PERMANENT AND CONSPICUOUS POSITION.
[RULE 204]

5. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE FOUL AIR TREATED, IN CUBIC FEET PER MINUTE (CFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.
[RULE 204]

6. MAXIMUM FOUL AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 7500 CFM.
[RULE 402]

7. FOR EACH CARBON ADSORBER, TOTAL ORGANIC COMPOUNDS (TOCs) CONCENTRATION (PPMV) SHALL BE MONITORED AT EACH EXHAUST STACK, AT LEAST ONCE EVERY 7 DAYS OF OPERATION, FOR THE FIRST SIX-MONTH AND THEN ON A MONTHLY BASIS, USING A PHOTO IONIZATION DETECTOR OR AN ORGANIC VAPOR ANALYZER. RECORDS SHALL BE MAINTAINED AND KEPT ON FILE.
[RULE 204]

8. THE TOC CONCENTRATION MEASURED AT THE EXHAUST FROM EACH CARBON ADSORBER SHALL NOT EXCEED 2.2 PPMV, AS CARBON.
[RULE 204]

9. WHEN IN OPERATION, H2S CONCENTRATION (PPMV) IN EACH EXHAUST STACK SHALL BE MONITORED AND RECORDED USING A HYDROGEN SULFIDE CONTINUOUS EMISSION MONITORING AND INTEGRATED SAMPLING SYSTEM (CEMS). WHEN THE H2S MONITORING SYSTEM IS SHUTDOWN FOR REPAIR OR MAINTENANCE, PORTABLE DEVICES SUCH AS JEROME OR COLORIMETRIC TUBES SHALL BE USED TO MEASURE AND RECORD OUTLET H2S AT LEAST ONCE PER SHIFT.

10. THE HYDROGEN SULFIDE (H2S) CONCENTRATION MEASURED AT EACH EXHAUST STACK, USING CEMS SHALL NOT EXCEED 2.45PPMV, AVERAGED OVER ONE HOUR
[RULE 402, 1401]

11. IF THE HYDROGEN SULFIDE (H2S) CONCENTRATION MEASURED AT THE EXHAUST STACK IS DETECTED ABOVE 2.2 PPMV, THEN IMMEDIATE CORRECTIVE MEASURES SHALL BE TAKEN INCLUDING ACTIVATED CARBON REPLACEMENT, WITH FRESH CARBON, BEFORE RESUMING OPERATION.
[RULE 402, 1401]

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12. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.
[RULE 204]

13. IF THE OPERATION OF THIS EQUIPMENT RESULTS IN CONSIDERABLE NUMBER OF ODOR COMPLAINTS, THE WORK SHALL CEASE AND MITIGATION MEASURES SHALL BE IMPLEMENTED IMMEDIATELY. WORK SHALL NOT RESUME UNTIL EMISSIONS CAUSING THE COMPLAINTS IS MITIGATED.
[RULE 402]

14. RECORDS SHALL BE MAINTAINED AS REQUIRED BY THIS PERMIT INCLUDING CARBON CHANGE OVER DATE(S) FOR COMPLIANCE. THE RECORDS SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 520793
Granted as of 08/16/2012

Equipment Description:

ODOR CONTROL SCRUBBER SYSTEM FOR NEW SLUDGE THICKENING AND DEWATERING FACILITY (JOB NO. P1-101), CONSISTING OF:

1. FOUL AIR EXHAUST DUCT FROM NEW SLUDGE THICKENING AND DEWATERING BUILDING, TOTAL 40,000 CFM.

2. THREE (3) EXHAUST BLOWERS, EACH 20,000 CFM.

3. THREE (3) CHEMICAL SCRUBBERS, EACH 3-STAGE, SIEMENS MODEL LP-6500 OR DUALL MODEL PMTD OR EQUIVALENT, VERTICAL, PACKED BED TYPE, FIRST AND FINAL STAGE MIST ELIMINATORS, WITH OPTIONAL OXIDATION REDUCTION POTENTIAL (ORP) PROBES AND CONTROLLERS, THREE (3) SUMPS, SCRUBBER SOLUTION RECIRCULATION PUMPS AND FLOW METERS, AUTOMATIC CHEMICAL FEED METERING PUMP AND MAKEUP WATER SYSTEM, EACH WITH EXHAUST STACK, 3' DIA. X 33' – 9" H., AND WITH NO RAIN CAP.

4. ASSOCIATED SULFURIC ACID, SODIUM HYDROXIDE, AND SODIUM HYPOCHLORITE STORAGE TANKS.

5. OPTIONAL TWO (2) DUAL-BED ADSORBERS, IN PARALLEL, EACH SIEMENS MODEL RJC-1300-D OR DUALL MODEL CA-132DB OR EQUIVALENT, GRANULAR ACTIVATED CARBON, 20, 000 SCFM, EACH WITH A EXHAUST STACK, 3' DIA. X 22' – 6" H., AND WITH NO RAIN CAP.

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. THIS PERMIT SHALL EXPIRE IF CONSTRUCTION OF THE EQUIPMENT IS NOT COMPLETED WITHIN ONE YEAR FROM THE DATE OF ISSUANCE OF THIS PERMIT UNLESS AN EXTENSION IS GRANTED BY THE EXECUTIVE OFFICER.
[RULE 205]

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5. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY). DEVIATIONS FROM THE ABOVE DESCRIPTION AND PROPOSED DESIGN AFFECTING EQUIPMENT PERFORMANCE OR EMISSIONS SHALL BE APPROVED IN WRITING BY THE AQMD.
[RULE 204]

6. A SUFFICIENT NUMBER OF SCRUBBERS AND CARBON ADSORBERS (IF CONSTRUCTED) SHALL BE IN OPERATION WHEN THE BASIC EQUIPMENT ARE IN OPERATION TO MAINTAIN EXHAUST OUTLET H2S AND NH3 CONCENTRATIONS IN COMPLIANCE WITH THE LIMITS AS SPECIFIED IN THIS PERMIT EXCEPT DURING UNFORESEEN AND ROUTINE MAINTENANCE WORK OR POWER OUTAGE IN THE PLANT THE REQUIRES THE EQUIPMENT TO BE SHUTDOWN FOR A PERIOD NOT TO EXCEED 10 HOURS PER INCIDENT PER EQUIPMENT AND 50 HOURS PER YEAR PER EQUIPMENT. A LOG OF SHUTDOWN DATE, DURATION, AND REASON FOR THE SHUTDOWN SHALL BE MAINTAINED.
[RULE 402]

7. WHEN IN OPERATION, NO MORE THAN TWO (2) MULTI-STAGE CHEMICAL SCRUBBERS SHALL BE IN OPERATION.
[RULE 204]

8. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH OF THE MULTI-STAGE CHEMICAL SCRUBBER TO INDICATE THE TOTAL AIR FLOW RATE IN CUBIC FEET PER MINUTE (CFM). THE MEASURED AIR FLOW RATE FOR EACH SCRUBBER SHALL NOT EXCEED 20,000 CFM. IN CASE A PRESSURE SENSOR DEVICE(S) IS USED IN PLACE OF THE FLOW METER(S), A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDENT FLOW RATE(S), IN CFM, TO THE PRESSURE READING.
[RULE 204]

9. A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP ACROSS EACH SCRUBBER PACKING BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH PACKING BED SHALL BE MAINTAINED WHEN THE SCRUBBER IS IN OPERATION PER MANUFACTURER'S RECOMMENDATION.
[RULE 204]

10. A PH METER SHALL BE INSTALLED AND MAINTAINED, FOR EACH SCRUBBER STAGE (SUMP SOLUTION), TO INDICATE PH OF THE SCRUBBING SOLUTION. THE PH OF THE SCRUBBER SOLUTION FOR EACH SCRUBBER STAGE SHALL BE RECORDED ONCE PER DAY AND SHALL BE PROPERLY MAINTAINED TO ENSURE COMPLIANCE WITH THE EXHAUST LIMITS SPECIFIED IN CONDITION NO. 20.
[RULE 204]

11. IF THE ORP IS CONSTRUCTED AND IS IN OPERATION, THE OXIDATION REDUCTION POTENTIAL (ORP) VALUE FOR EACH STAGE OF THE SCRUBBING SOLUTION SHALL BE MAINTAINED PER MANUFACTURER'S RECOMMENDATION.
[RULE 204]

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12. A FLOW METER SHALL BE INSTALLED TO INDICATE SCRUBBING SOLUTION FLOW RATE FOR EACH SCRUBBER. THE SCRUBBING SOLUTION FLOW RATE (GPM) FOR EACH STAGE SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATION.
[RULE 204]

13. WHEN IN OPERATION, FOR EACH SCRUBBER THE FOUL-AIR FLOW RATE, SCRUBBING SOLUTION FLOW RATE, PH, AND PRESSURE DIFFERENTIAL ACROSS THE SCRUBBER PACKING BED SHALL BE MONITORED AND RECORDED AT LEAST ONCE A DAY FOR THE FIRST MONTH OF OPERATION AND WEEKLY THEREAFTER.
[RULE 204]

14. A FLOW METER SHALL BE INSTALLED AND MAINTAINED AT THE INLET STREAM TO EACH CARBON ADSORBER TO INDICATE THE EXHAUST AIR (FROM CHEMICAL SCRUBBER UNITS) TREATED, IN CUBIC FEET PER MINUTE (SCFM). IN CASE A PRESSURE SENSOR DEVICE IS USED IN PLACE OF THE FLOW METER, A CONVERSION CHART SHALL BE MAINTAINED TO INDICATE THE CORRESPONDING FLOW RATE, IN CFM, TO THE PRESSURE READING.
[RULE 204]

15. MAXIMUM EXHAUST AIR FLOW TO BE TREATED BY EACH OF THE CARBON ADSORBER SHALL NOT EXCEED 20,000 SCFM.
[RULE 204]

16. WITHIN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM THE ODOR CONTROL SYSTEM DESCRIBED IN THIS PERMIT AS INSTALLED; IN ACCORDANCE WITH THE AQMD APPROVED SOURCE TESTS PROTOCOL. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, WASTE MANAGEMENT & BULK TERMINALS PERMITTING TEAM, FOR APPROVAL AT LEAST 60 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM THE ODOR CONTROL SYSTEM FOR:

A. AMMONIA AND HYDROGEN SULFIDE (H2S), (LBS/HR AND PPMV) – EXHAUST TO ATMOSPHERE.
B. CARBON DIOXIDE, OXYGEN AND NITROGEN
C. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.

[RULE 204, 1401]

17. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS SHALL BE INSTALLED AND MAINTAINED FOR THE ODOR CONTROL UNIT AND EXHAUST STACKS IN ACCORDANCE WITH SCAQMD'S RULE 217.
[RULE 217]

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18. WHEN IN OPERATION, A PRESSURE DIFFERENTIAL GAUGE INDICATING THE PRESSURE DROP (INCHES OF WATER COLUMN) ACROSS EACH CARBON BED SHALL BE INSTALLED AND MAINTAINED. THE PRESSURE DROP ACROSS EACH CARBON BED SHALL BE MAINTAINED AS PER MANUFACTURER'S SPECIFICATION AND RECOMMENDATION. PRESSURE DROP READING SHALL BE RECORDED AT LEAST ONCE A DAY FOR THE FIRST MONTH OF OPERATION AND WEEKLY THEREAFTER.
[RULE 204]

19. AMMONIA (NH3) AND HYDROGEN SULFIDE (H2S) CONCENTRATIONS (PPMV), AT THE EXHAUST STACKS, SHALL BE MONITORED USING HANDHELD DEVICES (USING LOW RANGE CONCENTRATION DETECTION LIMIT) OR OTHER APPROVED METHODS AT LEAST ONCE A DAY WHEN EQUIPMENT IS IN OPERATION.
[RULE 204]

20. EMISSIONS FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING.

H_2S	1 PPMV
NH_3	5 PPMV

IF MORE THAN ONE READING IS MADE IN A DAY, THE DAILY AVERAGE CONCENTRATION OF THE READINGS SHALL NOT EXCEED THE LIMITS SPECIFIED ABOVE.
[RULE 402]

21. ACTIVATED CARBON IN THE ADSORBER SHALL BE REPLACED WITH FRESH ONE AS PER MANUFACTURER'S RECOMMENDATION TO MAINTAIN DESIRED CONTROL EFFICIENCY, RECORDS FOR CARBON REPLACEMENT EVENTS, WITH DATE, TYPE AND QUANTITY SHALL BE MAINTAINED ON FILE.
[RULE 204]

22. SPENT CARBON REMOVED FROM THIS SYSTEM SHALL BE MAINTAINED OR STORED IN CLOSED CONTAINERS PRIOR TO REMOVAL FROM SITE.
[RULE 204]

23. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.
[RULE 204]

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ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 520794
Granted as of 08/16/2012

Equipment Description:

ALTERATION OF THE EXISTING SEWAGE TREATMENT PLANT (216 MGD), COVERED BY PERMIT TO CONSTRUCT APPLICATION NO. 453210 (AND EXISTING P/O F66565), CONSISTING OF:

1. HEADWORKS STATION NO. 1 WITH TWO GRIT CHAMBERS, 28'- 0" L. X 20'- 0" W. X 14' -0" D., TWO SPLITTER BOXES, 15'- 0" L. X 4'- 0" W. X 7' - 6" D., TWO GRIT CLASSIFIERS, AND ASSOCIATED PUMPS AND BLOWER.

2. HEADWORKS STATION NO. 2 WITH FIVE GRIT CHAMBERS, 38'- 0" L. X 20'- 0" W. X 14' -0" D., THREE SPLITTER BOXES, 15'- 0" L. X 8'- 0" W. X 15' - 0" D., FOUR BAR SCREENS WITH A RAKE ASSEMBLY, EIGHT GATE OPERATORS, FIVE SPLITTER BOX WEIR GATE OPERATORS, AND ASSOCIATED PUMPS, BLOWERS AND COMPRESSOR.

3. FIFTEEN PRIMARY BASINS CONSISTING OF TWO 188'- 0" L. X 40'- 0" W. X 9' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS, THREE 140' - 0" DIA. X 9' - 0" D. CIRCULAR BASINS WITH ALUMINUM GEODESIC DOME COVERS, TEN 10'- 0" L. X 195'- 0" W. X 10' -0" D. RECTANGULAR BASINS WITH CONCRETE AND ALUMINUM COVERS AND ASSOCIATED PUMPS AND BLOWERS.

4. FOUR TRICKLING FILTERS, EACH 180' DIA. X 6' - 0" D., WITH TWO GATE OPERATORS AND ASSOCIATED PUMPS.

5. SECONDARY CLARIFIERS CONSISTING OF ONE 140' - 0" DIA. X 9' - 0" D. AND TWENTY-FOUR 150'- 0" L. X 40'- 0" W. X 10' -0" D. WITH ASSOCIATED PUMPS.

6. ACTIVATED SLUDGE PLANT PRIMARY EFFLUENT PUMP STATION WITH ASSOCIATED PUMPS.

7. TEN AERATION BASINS, EACH 275'- 0" L. X 45'- 0" W. X 15' -0" D. WITH ASSOCIATED BLOWERS.

8. SIX SLUDGE THICKENERS, EACH 40' -0" DIA. X 8' - 0" D., WITH ASSOCIATED SWEEP DRIVER AND CONVEYORS.

9. TWELVE DIGESTER TANK CONSISTING OF FOUR 90' -0" DIA. X 30' - 0" D, EACH 208,780 CUBIC FEET CAPACITY, EIGHT 110' -0" DIA. X 30' - 0" D, EACH APPROXIMATELY 330,430 CUBIC FEET CAPACITY WITH ASSOCIATED PUMPS AND COMMINUTERS (GRINDERS). EACH DIGESTER IN OPERATION EQUIPPED WITH TWO PASSIVE CARBON ADSORBERS (55 GALLONS OR LESS VOLUME) USING NO MECHANICAL VENTILATION.

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.

11. DIGESTER GAS STORAGE TANKS, 25,000 CUBIC FEET CAPACITY, 42' -0" DIA. X 33' - 6" H. WITH THREE COMPRESSORS.

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12. SLUDGE PROCESSING STATION WITH TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES, TRANSFER PUMP HOPPERS, AUGERS, STORAGE HOPPERS AND A TRUCK LOAD-OUT HOPPER.

13.* SIXTEEN PRIMARY BASINS, 195'- 0" L. X 40'- 0" W. X 10' -0" D., EACH WITH CONCRETE COVERS AND 6 MGD AVERAGE CAPACITY AND ASSOCIATED PUMPS AND BLOWERS.

14.* FOUR EXISTING TRICKLING FILTERS (ITEM NO. 4 ABOVE) REPLACED WITH TWO NEW TRICKLING FILTERS, EACH 166' DIA. X 20' - 0" MEDIA DEPTH, AND ASSOCIATED PUMPS. EACH NEW TRICKLING FILTER WITH TWO EXHAUST STACKS, EACH STACK 40' HIGH, AND WITH A TOTAL AIR FLOW RATE OF 25,000 CFM PER TRICKLING FILTER.

15.* ONE EXISTING SECONDARY CLARIFIER (ITEM NO. 5 ABOVE) REPLACED WITH TWO NEW SECONDARY CLARIFIERS CONSISTING OF 175' - 0" DIA. X 15' - 0" D. WITH ASSOCIATED PUMPS.

* Construction for the above items 13, 14, and 15 has been completed (under A/N 407071).

BY THE ADDITION OF: (OCSD JOB NO. P1-82 ACTIVATED SLUDGE PLANT REHABILITATION) UNDER A/N 432418.

16. TWO NEW SECONDARY CLARIFIERS, EACH 150'- 0" L. X 40'- 0" W. X 10' - 0" D.

BY THE REMOVAL OF:

10. THIRTY-TWO DIGESTER CLEANING BEDS, 58'- 0" L. X 56'- 0" W. X 3' -2" D.(SEE ITEM 10 ABOVE)

AND BY THE ADDITION OF:

17. NEW SECONDARY ACTIVATED SLUDGE FACILITY 2 (OCSD JOB NO. P1-102), AND NEW SLUDGE DEWATERING BEDS (OCSD JOB NO. P1-106, CONSTRUCTION COMPLETED AND CURRENTLY IN OPERATION) UNDER A/N 453210,

    I. SIX AERATION BASINS (NOS. 11 THROUGH 16), COVERED, EACH 227' – 2" L. X 45' – 0" W. X 26' – 0" D., WITH ASSOCIATED AERATION BLOWERS, DIFFUSERS, MIXERS, AND PUMPS, AND VENTING THROUGH SIX STACKS, EACH 7'– 11" H., AND 10,000 SCFM.

    II. SIX SECONDARY CLARIFIERS (NOS. 27, 29, 31, 32, 33, AND 34), UNCOVERED, EACH 155' DIA. X 16' SIDE WATER D. , WITH ASSOCIATED RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SECONDARY SCUM PUMPS.

    III. SODIUM HYPOCHLORITE (NaOCl) SOLUTION SYSTEM ADDITION (TO THE EXISTING BLEACH SYSTEM) FOR CHLORINATION OF THE TREATED EFFLUENT, RETURN ACTIVATED SLUDGE (RAS), WASTE ACTIVATED SLUDGE (WAS), AND SURFACE WASTE.

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AND BY THE REPLACEMENT/UPGRADE OF: (OCSD JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

18. REPLACE TWO GRINDERS, EIGHT DEWATERING FILTER PRESSES (LISTED UNDER ITEM NO. 12)

19. UPGRADE, REPLACE OR MODIFY;

I. SLUDGE CONVEYANCE AND PUMPING SYSTEM
II. BIOSOLIDS STORAGE AND LOAD-OUT SYSTEM
III. CHEMICAL FEED SYSTEM
IV. VENTILATION SYSTEM AND VARIOUS OTHER ELECTRICAL AND CONTROL SYSTEMS.
V. MODIFY EXISTING TRUCKLOADING FACILITY TO IMPROVE ODOR CONTROL AND TO ALLOW STORAGE AND CONVEYANCE OF A DRIER DEWATERED CAKE/BIOSOLIDS.

AND BY THE ADDITION OF: (OCSD JOB NO. P1-101- NEW SLUDGE THICKENING AND DEWATERING FACILITY, NEW A/N 520794),

20. THREE (3) SLUDGE BLENDING TANKS
POLYMER SYSTEM CONSISTING OF POLYMER STORAGE, MIXING AND AGING TANKS.
THREE (3) SLUDGE THICKENING CENTRIFUGES
THREE (3) THICKENED SLUDGE WETWELLS
THREE (3) DEWATERING CENTRIFUGES
DEWATERED CAKE CONVEYANCE SYSTEM CONSISTING OF INCLINED SCREW CONVEYORS, HORIZONTAL/CROSS CONVEYERS, HORIZONTAL COLLECTOR CONVEYORS, CAKE HOPPERS AND TEMPORARY TRUCK LOAD OUT HOPPER.

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.
[RULE 204]

2. THIS EQUIPMENT SHALL BE PROPERLY MAINTAINED AND KEPT IN GOOD OPERATING CONDITION AT ALL TIMES.
[RULE 204]

3. THIS EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, OCSD SHALL PROVIDE IN THE WRITTEN REQUEST, VERIFIABLE DATA TO AQMD IN ORDER TO SHOW COMPLIANCE WITH THE CONSTRUCTION SCHEDULE AS PROVIDED IN THE APPLICATION UNDER WHICH THIS PERMIT TO CONSTRUCT IS GRANTED. IF THERE ARE

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CHANGES TO THE INCREMENTS OF PROGRESS AND/OR CONSTRUCTION SCHEDULE, THEY WILL NOT BECOME EFFECTIVE UNTIL OCSD RECEIVES WRITTEN CONFIRMATION OF SUCH CHANGES FROM AQMD.
[RULE 204]

5. THE HEADWORKS FACILITIES, PRIMARY TREATMENT BASINS, AND NEW SLUDGE THICKENING AND DEWATERING AND SOLIDS PROCESSING AND HANDLING FACILITY (JOB P1-101) SHALL NOT BE OPERATED UNLESS THE EXHAUST AIR IS VENTED TO AIR POLLUTION CONTROL SYSTEMS, WHICH ARE IN OPERATION AND HAVE VALID PERMITS TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD. IN THE EVENT AIR POLLUTION CONTROL SYSTEM(S) ARE SHUTDOWN FOR CONSTRUCTION OR MAINTENANCE WORK, THE H2S EMISSIONS SHALL NOT EXCEED THE CONCENTRATION LIMITS AS SPECIFIED IN THEIR RESPECTIVE AIR POLLUTION CONTROL EQUIPMENT PERMIT.
[RULE 402]

6. THE DAILY TOTAL INFLUENT FLOW, IN MILLION GALLONS PER DAY (MGD), TO THE HEADWORKS, PRIMARY TREATMENT PROCESS, AND SECONDARY TREATMENT PROCESS SHALL BE RECORDED.
[RULE 204]

7. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE PRIMARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 216 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]

8. THE TOTAL INFLUENT FLOW OF WASTEWATER TO THE SECONDARY WASTEWATER TREATMENT PROCESS SHALL NOT EXCEED 182 MILLION GALLONS PER DAY (MGD), AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 1304 (a) (4) – MODELING & OFFSETS EXEMPTION]

9. THE AVERAGE DAILY PRIMARY EFFLUENT FLOW RATE, TREATED BY THE NEW ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102 CONSISTING OF SIX AERATION BASINS AND SIX SECONDARY CLARIFIERS), SHALL NOT EXCEED 60 MILLION GALLONS PER DAY (MGD) , AVERAGED ON A CALENDAR MONTH, EXCEPT DURING WET WEATHER PERIODS AND EMERGENCY PERIODS INVOLVING PUBLIC HEALTH AND SAFETY.
[RULE 204]

10. WITHIN 60 DAYS AFTER ACHIEVING THE MAXIMUM INFLUENT FLOW RATE FOR THE ACTIVATED SLUDGE FACILITY 2 (JOB NO. P1-102), BUT NOT LATER THAN 180 DAYS AFTER INITIAL START-UP, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CONDUCT SOURCE TESTS TO DETERMINE EMISSIONS FROM AT LEAST TWO OF THE SIX NEW AERATION BASINS' EXHAUST STACKS, AND AT LEAST TWO OF THE SIX NEW SECONDARY CLARIFIERS' SURFACE EMISSIONS, IN ACCORDANCE WITH THE AQMD OR OTHER APPROVED TEST PROCEDURES. A TEST PROTOCOL INCLUDING ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED TO THE AQMD, REFINERY AND WASTE MANAGEMENT TEAM, FOR APPROVAL AT LEAST 30 DAYS PRIOR TO START OF THE TESTS. NOTICE SHALL BE PROVIDED TO THE AQMD 10

DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. THE TESTS SHALL DETERMINE THE EMISSIONS TO ATMOSPHERE FROM TWO OF THE AERATION BASINS AND TWO OF THE SECONDARY CLARIFIERS FOR:

A. TOTAL NON-METHANE HYDROCARBONS (TNMHC) AND TOXIC AIR CONTAMINANTS (TAC) PRESENT, (LBS/HR AND PPMV).
B. AMMONIA AND HYDROGEN SULFIDE (H2S), (LBS/HR AND PPMV).
C. CARBON DIOXIDE, OXYGEN AND NITROGEN
D. MOISTURE CONTENT, TEMPERATURE AND EXHAUST FLOW RATE.

11. ADEQUATE NUMBER OF SAMPLING PORTS WITH ITS SAFE ACCESS, SHALL BE INSTALLED AND MAINTAINED IN THE AERATION BASINS' EXHAUST STACK (JOB NO. P1-102) IN ACCORDANCE WITH SCAQMD'S RULE 217.
[RULE 217]

12. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL CALCULATE THE MAXIMUM INDIVIDUAL CANCER RISK (MICR), ACUTE HAZARD INDEX (HIA) AND CHRONIC HAZARD INDEX (HIC), BASED ON THE SOURCE TESTS RESULTS, USING AQMD PUBLISHED "RISK ASSESSMENT PROCEDURES FOR RULES 1401 AND 212" (VERSION 7.0, JULY 1, 2005), TO DETERMINE THE COMPLIANCE WITH RULE 1401. RESULTS SHALL BE SUBMITTED TO AQMD.
[RULE 1401]

13. IF SOURCE TESTS RESULTS INDICATE THAT THE TOTAL VOLATILE ORGANIC COMPOUNDS (VOC) EMISSIONS FROM THE AERATION BASINS EXCEED 13 LBS PER DAY OR AS DETERMINED BY AQMD, THEN OCSD SHALL CONDUCT IN DETAIL THE TECHNOLOGICAL FEASIBLE STUDY AND COST-EFFECTIVENESS ANALYSIS FOR A SUITABLE AIR POLLUTION CONTROL EQUIPMENT TO DETERMINE LOWEST ACHIEVABLE EMISSION RATE (LAER) FROM SUCH PROCESS.
[RULE 1303 (a) (1) – BACT]

14. THE HYDROGEN SULFIDE (H2S) CONCENTRATION (PPMV) IN THE EXHAUST STACKS OF EACH TRICKLING FILTER SHALL BE MEASURED AND RECORDED ON A DAILY BASIS.
[RULE 402]

15. RAW DIGESTER GAS PRODUCED AT THIS FACILITY SHALL NOT BE RELEASED INTO THE ATMOSPHERE. ALL COLLECTED DIGESTER GAS SHALL BE EITHER COMBUSTED IN DIGESTER GAS FLARES, INTERNAL COMBUSTION ENGINES, OR BOILERS WITH VALID AQMD PERMIT, OR SHALL BE TREATED THROUGH A PERMITTED AIR POLLUTION CONTROL DEVICE(S).
[RULE 402]

16. THE SAWDUST USED IN THE SLUDGE MANAGEMENT SYSTEM SHALL BE STORED AND KEPT SUFFICIENTLY MOIST TO PREVENT ANY AIR BORNE PARTICULATE MATTER EMISSIONS.
[RULE 402]

17. OCSD SHALL KEEP THE FOLLOWING DAILY RECORDS WITH REGARDS TO THE SLUDGE MANAGEMENT SYSTEM,

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I. THE AMOUNT OF SLUDGE DEWATERED IN EACH DRYING BED.
II. NUMBER OF TRUCKS WASHED.
III. NUMBER OF LEAKY OR OVERFILLED TRUCKS.
[RULE 204]

18. RECORDS TO DEMONSTRATE COMPLIANCE WITH THE CONDITIONS OF THIS PERMIT SHALL BE KEPT AND MAINTAINED FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO THE SCAQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546360
Granted as of 04-16-2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 1 (G2957) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG1-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

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6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

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14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

FACILITY PERMIT TO OPERATE
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D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546361
Granted as of 04-16-2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 2 (G2955) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG2-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

FACILITY PERMIT TO OPERATE
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14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 546362
Granted as of 04-16-2014

Equipment Description:

MODIFICATIONS TO THE RESOURCE RECOVERY SYSTEM NO. 3 (G2955) CONSISTING OF:

1. INTERNAL COMBUSTION ENGINE (CG3-FV), COOPER BESSMER, SPARK IGNITION, FOUR STROKES, WITH A MODIFIED TURBOCHARGED-INTERCOOLED V-12 TYPE, MODEL NO. LSVB-12-SGC, 3471HP, NATURAL GAS AND/OR DIGESTER GAS FIRED, DRIVING A 2500 KW ELECTRIC GENERATOR, WITH AN EXHAUST HEAT RECOVERY STEAM GENERATOR, 5,008,500 BTU/HR CAPACITY, UNFIRED.

BY THE ADDITION OF;

2. DIGESTER GAS CLEANING SYSTEM (DGCS), TWO VESSELS, EACH CONTAINING MINIMUM OF 9,900 LBS OF MEDIA, TOTAL 2100 CFM CAPACITY, WITH ASSOCIATED PIPING AND VALVES.

   COMMON TO THREE ENGINES (CG1-FV, CG2-FV AND CG3-FV).

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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
   [RULE 204]

4. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
   [RULE 204]

5. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL ONLY BE VENTED TO AIR POLLUTION CONTROL EQUIPMENT WHICH IS IN FULL USE AND HAS A VALID PERMIT TO CONSTRUCT OR OPERATE ISSUED BY THE SCAQMD.
   [RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

6. THIS ENGINE SHALL HAVE AN OPERATIONAL NON-RESETTABLE TOTALIZING TIME METER TO DETERMINE THE ENGINE ELAPSED OPERATING TIME.
[RULE 1110.2]

7. A FLOW INDICATING AND RECORDING DEVICE SHALL BE INSTALLED IN THE DIGESTER GAS SUPPLY LINE TO THE ENGINE TO MEASURE AND RECORD THE QUANTITY OF DIGESTER GAS (IN SCFM) BURNED.
[RULE 204]

8. SAMPLING PORT SHALL BE INSTALLED FOR THE INLET GAS LINE TO THE ENGINE TO ALLOW THE COLLECTION OF A FUEL GAS SAMPLE.
[RULE 204]

9. MONTHLY READINGS OF THE BTU CONTENT OF DIGESTER GAS (BTU/SCF) SUPPLIED TO THE ENGINE SHALL BE TAKEN USING AN INSTRUMENT APPROVED BY THE SCAQMD. ALL RESULTS SHALL BE RECORDED.
[RULE 204]

10. ALL RECORDING DEVICES SHALL BE SYNCHRONIZED WITH RESPECT TO THE TIME OF THE DAY.
[RULE 204]

11. THE TOTAL HEAT INPUT OF GASEOUS FUEL BURNED IN THIS ENGINE SHALL NOT EXCEED 28.5 MM BTU PER HOUR. A LOG SHALL BE KEPT INDICATING THE TOTAL HEATING VALUE OF FUEL GAS BURNED IN THIS ENGINE BASED ON THE RECORDED FLOW RATE (SCFM) AND THE LATEST MONTHLY BTU CONTENT READING.
[RULE 1303 (b) (1) AND 1303 (b) (2)-MODELING AND EMISSIONS OFFSET]

12. THIS EQUIPMENT SHALL BE OPERATED IN SUCH A MANNER THAT THE FOLLOWING EMISSION RATES ARE NOT EXCEEDED.

AIR CONTAMINANT	
CARBON MONOXIDE	590 PPMV AT 15% O2
PARTICULATES (PM10)	0.0087 GRAINS/ DSCF
ROG OR TNMHC (AS CARBON)	209 PPMV AT 15% O2

[RULE 1303 (a) (1), 1303(b) (1) AND 1303 (b) (2)-BACT, MODELING AND EMISSIONS OFFSET]

13. EFFECTIVE JANUARY 1, 2016, THIS EQUIPMENT SHALL MEET THE EMISSIONS LIMITS (EXHAUST) OF TABLE III-B IN RULE 1110.2 (d) (1) (C), UNLESS THE OPERATOR DEMONSTRATES COMPLIANCE WITH THE LIMITS AND SCHEDULE IN RULE 1110.2 (d) (1) (H).
[RULE 1110.2]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

14. THE COMBINED EMISSIONS FROM THE THREE (3) CGS ENGINES, USING CALENDAR MONTHLY EMISSIONS DIVIDED BY 30, SHALL NOT EXCEED THE FOLLOWING (UNTIL JANUARY 1, 2016):

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	1321
NITROGEN OXIDES (AS NO2)	368
PARTICULATES (PM10)	36
ROG OR TNMHC (AS CH4)	276
SULFUR DIOXIDE	36

[RULE 1303 (b) (2)-EMISSIONS OFFSET]

15. POST-COMBUSTION CONTROLLED EMISSIONS, INTO THE ATMOSPHERE, FROM THIS EQUIPMENT SHALL NOT EXCEED THE FOLLOWING:

AIR CONTAMINANT	LBS/DAY
CARBON MONOXIDE	390.0
NITROGEN OXIDES (AS NO2)	28.3
PARTICULATES (PM10)	12.0
ROG OR TNMHC (AS CH4)	20.0
SULFUR DIOXIDE	12.0

[RULE 204]

16. THE OPERATOR SHALL INSTALL AND MAINTAIN A CONTINUOUS EMISSION MONITORING SYSTEM (CEMS), OR AN ALTERNATIVE SYSTEM, AS APPROVED BY THE EXECUTIVE OFFICER, TO MEASURE THE ENGINE EXHAUST FOR CO, NOx AND O2 CONCENTRATIONS ON A DRY BASIS, EXCEPT DURING SHUTDOWN FOR MAINTENANCE OF THE SYSTEM. IN ADDITION, THE CEMS SHALL CONVERT THE ACTUAL CO AND NOx TO MASS EMISSION RATES; AND RECORD THE ACTUAL AND CORRECTED ENGINE NOx CONCENTRATION AT 15% O2 AND MASS EMISSION RATES ON AN HOURLY AND DAILY BASIS.
[RULE 203, 218, RULE 1110.2]

17. WITHIN 180 DAYS AFTER INITIAL START-UP, (POST- MODIFICATION OF THREE ENGINES CG1-FV, CG2-FV AND CG3-FV), THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS, AT MAXIMUM ACHIEVABLE LOAD, IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING. ALL SOURCE TESTING AND ANALYTICAL METHODS SHALL BE SUBMITTED FOR APPROVAL, AT LEAST 30 DAYS PRIOR TO START OF THE TESTS TO THE SCAQMD, ENERGY/PUBLIC SERVICES/WASTE MANAGEMENT/TERMINAL PERMITTING, 21865 COPLEY DRIVE, DIAMOND BAR, CA 91765. THE SUBMITTAL SHALL INCLUDE A COPY OF THE ACTIVE PERMIT. WRITTEN RESULTS OF SUCH PERFORMANCE TESTS SHALL BE SUBMITTED WITHIN 60 DAYS AFTER TESTING. NOTICE SHALL BE PROVIDED TO THE SCAQMD 10 DAYS PRIOR TO THE TESTING SO THAT AN OBSERVER MAY BE PRESENT. THE TESTS SHALL INCLUDE, BUT MAY NOT BE LIMITED TO:

A. TOTAL NON-METHANE HYDROCARBONS (EXHAUST ONLY).
B. CARBON MONOXIDE (EXHAUST ONLY)
C. TOTAL PARTICULATE MATTER (EXHAUST ONLY).

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

D. OXIDES OF NITROGEN (EXHAUST ONLY).
E. OXYGEN (EXHAUST ONLY)
F. FLOW RATE
G. MOISTURE (EXHAUST ONLY)
H. TOXIC AIR CONTAMINANTS (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
I. ALDEHYDES (EXHAUST ONLY), FOR ONE ENGINE PER YEAR
J. TOTAL REDUCED SULFUR COMPOUNDS (DIGESTER GAS ONLY)
K. NITROGEN AND CARBON DIOXIDE
L. BTU CONTENTS (DIGESTER GAS ONLY)
M. POWER OUTPUT

THE ROUTINE COMPLIANCE SOURCE TESTING SHALL BE CONDUCTED IN ACCORDANCE WITH RULE 1110.2 REQUIREMENTS AND ABOVE REQUIREMENTS. APPROPRIATE SCAQMD STAFF SHALL BE NOTIFIED A MINIMUM OF 45 DAYS IN ADVANCE OF COMPLIANCE SOURCE TESTING TO DETERMINE IF PREVIOUSLY APPROVED SOURCE TEST PROTOCOL MAY BE USED IF NO EQUIPMENT AND PROCESS CHANGES HAVE BEEN MADE.
[RULE 404], [RULE 1110.2], [RULE 1303(b) (1) AND 1303(b) (2) - MODELING AND EMISSION OFFSET],

18. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

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

CO: RULE 1110.2 LIMIT
NOx: RULE 1110.2 LIMIT
PM: RULE 404, SEE APPENDIX B FOR EMISSION LIMITS.
VOC (TNMHC): RULE 1110.2 LIMIT
H2S: RULE 431.1

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 557227
Granted as of 04-16-2014

Equipment Description:

STORAGE TANK, NO. 16KTNK001, AQUEOUS UREA SOLUTION, ABOVE GROUND, 1,000 GALLON CAPACITY, VENTING TO ATMOSPHERE.

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 EQUIPMENT SHALL ONLY BE USED FOR STORAGE OF AQUEOUS UREA SOLUTION.

4. THE THROUGHPUT OF THIS EQUIPMENT SHALL NOT EXCEED 21 TURNOVERS IN ANY ONE MONTH.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 557228
Granted as of 04-16-2014

Equipment Description:

STORAGE TANK, NO. 16KTNK005, AQUEOUS UREA SOLUTION, ABOVE GROUND, 1,000 GALLON CAPACITY, VENTING TO ATMOSPHERE.

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 EQUIPMENT SHALL ONLY BE USED FOR STORAGE OF AQUEOUS UREA SOLUTION.

4. THE THROUGHPUT OF THIS EQUIPMENT SHALL NOT EXCEED 21 TURNOVERS IN ANY ONE MONTH.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 559225
Granted as of 04-16-2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 1 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC UREA FEED MONITORING AND CONTROL SYSTEM.

4. EXHAUST STACK, 2'-6" DIA. X 62' H., ABOVE GROUND.

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. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST. [RULE 204]

Emissions and Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 559226
Granted as of 04-16-2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 2 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.

4. EXHAUST STACK, 2'-6" DIA. X 62' ABOVE GROUND.

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. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 559227
Granted as of 04-16-2014

Equipment Description:

AIR POLLUTION CONTROL SYSTEM NO. 3 CONSISTING OF:

1. CATALYTIC OXIDIZER, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 91449 OR EQUAL, ALUMINUM OXIDE OR PLATINUM CATALYST ACTIVE MATERIAL, WITH 200 CPSI OXIDATION CATALYST OR EQUAL, 18.67 CUBIC FEET TOTAL VOLUME, WITH ASSOCIATED AUTOMATIC TEMPERATURE AND PRESSURE MONITORING DEVICES AND CONTROLS, AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

2. SELECTIVE CATALYTIC REDUCTION, JOHNSON MATTHEY INC. OR EQUAL, MODEL NO. 79449 OR EQUAL, METALLIC SUBSTRATE, 37.33 CUBIC FOOT TOTAL VOLUME AND WITH PROVISIONS FOR ADDING TWO LAYERS OF CATALYST.

3 AQUEOUS UREA SOLUTION DOSING UNIT, INJECTORS, AND WITH ASSOCIATED AUTOMATIC TEMPERATURE, PRESSURE MONITORING AND CONTROL DEVICES.

4. EXHAUST STACK, 2'-6" DIA. X 62' ABOVE GROUND.

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. AT LEAST 30 DAYS PRIOR TO INSTALLATION OF THE EQUIPMENT, ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL PROVIDE TO SCAQMD FINAL DESIGN DRAWINGS, PROCESS AND FLOW DIAGRAM, CONTROLS, EQUIPMENT SPECIFICATIONS (MAKE, MODEL, SIZE AND MAXIMUM CAPACITY).
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

4. THE OPERATOR SHALL INSTALL AND MAINTAIN TEMPERATURE MEASURING AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET TEMPERATURES OF THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE TEMPERATURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED. THE TEMPERATURE GAUGES SHALL BE ACCURATE TO PLUS OR MINUS 5 PERCENT, AND BE CALIBRATED ONCE EVERY TWELVE MONTHS.
[RULE 204]

5. THE OPERATOR SHALL INSTALL AND MAINTAIN DIFFERENTIAL PRESSURE AND RECORDING SYSTEMS TO MEASURE AND RECORD THE INLET AND OUTLET DIFFERENTIAL PRESSURES ACROSS THE OXIDATION CATALYST AND THE SELECTIVE REDUCTION CATALYST. THE DIFFERENTIAL PRESSURES SHALL BE CONTINUOUSLY MEASURED AND RECORDED.
[RULE 204]

6. BASED ON THE OPERATING PARAMETERS' MEASURED AND MONITORED RESULTS OVER THE TWO-YEAR PERIOD (PER CONDITION #4 AND #5), OPERATING PARAMETERS' RANGE SHALL BE ESTABLISHED FOR THE PERMIT TO OPERATE.
[RULE 204]

7. EXCEPT DURING STARTUP AND SHUTDOWN OF THE SCR SYSTEM, THE UREA FEED CONTROL SYSTEM SHALL BE IN OPERATION.
[RULE 204]

8. THE OPERATOR SHALL INSTALL AND MAINTAIN A UREA FLOW RATE MEASURING AND RECORDING SYSTEM TO ACCURATELY INDICATE AND RECORD THE UREA INJECTION RATE TO THE SELECTIVE CATALYTIC REDUCTION SYSTEM.
[RULE 204]

9. THE OPERATOR SHALL INSTALL AND MAINTAIN A NOx ANALYZER TO MEASURE SCR INLET NOx CONCENTRATION AND CALIBRATED ANNUALLY IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.
[RULE 204]

10. WHEN SCR IS IN OPERATION, THE OPERATOR SHALL ANALYZE THE UREA INJECTION RATE, AND THE SCR INLET AND OUTLET NOX EMISSION RATE TO ESTIMATE THE AMMONIA CONCENTRATION IN THE SCR OUTLET, BASED ON ONE HOUR AVERAGE.
[RULE 204]

11. SAMPLING PORTS SHALL BE INSTALLED AT THE INLET AND OUTLET OF THE AIR POLLUTION CONTROL SYSTEM.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

12. THE AMMONIA SLIP SHALL BE TESTED WITHIN 180 DAYS AFTER INITIAL START-UP (POST MODIFICATION), AND ANNUALLY THEREAFTER. THE OPERATOR SHALL CONDUCT PERFORMANCE TESTS IN ACCORDANCE WITH THE APPROVED TEST PROCEDURES AND, FURNISH THE SCAQMD WRITTEN RESULTS OF SUCH PERFORMANCE TESTS WITHIN 45 DAYS AFTER TESTING.
[RULE 1303(b) (1)], [RULE 1401]

13. RECORDS SHALL BE KEPT AND MAINTAINED TO PROVE COMPLIANCE WITH ALL CONDITIONS FOR THIS PERMIT. THE RECORDS SHALL BE KEPT ON FILE FOR AT LEAST FIVE YEARS AND SHALL BE MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

Emissions and Requirements:

14. THIS EQUIPMENT IS SUBJECT TO THE APPLICABLE REQUIREMENTS OF THE FOLLOWING RULES AND REGULATIONS:
NH3 (AMMONIA SLIP): 5 PPMV AT 15% O2, 60 MINUTE AVERAGE, AFTER SCR START UP.
[RULE 1303(b) (1)], [RULE 1402]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

PERMIT TO CONSTRUCT

A/N 565934
Granted as of 12/09/2014

Equipment Description:

MODIFICATIONS TO AIR POLLUTION CONTROL SYSTEM (F99404) FOR HEADWORKS, CONSISTING OF:

1. SCRUBBER NOS. 9, VERTICAL TYPE, PACKED TOWER, 6'-0" DIA. X 34'- 0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

2. BIOTRICKLING FILTER NO. 10 WITH POLYURETHANE FOAM PACKING, 6'-0" DIA. X 34'-0" H., WITH ASSOCIATED PUMPS AND INLET BLOWER.

3. FOUR SCRUBBERS, NOS. 1 THROUGH 4, EACH VERTICAL TYPE, PACKED TOWER, 9'-0" DIA. X 36'-9" H., INTERNAL DEMISTER AT THE TOP, AND WITH ASSOCIATED PUMPS AND INLET BLOWERS.

4. AUTOMATIC CHEMICAL FEED AND HYDROGEN SULFIDE (H2S) MONITORING SYSTEM.

5. EXHAUST SYSTEM WITH ASSOCIATED BLOWERS VENTING THE EXISTING METERING AND DIVERSION STRUCTURE, HEADWORKS NO. 1, SUNFLOWER PUMP STATION, BAR SCREEN BUILDING, BIN LOADING AND GRIT WASHER FACILITY AND GRIT CHAMBER/SPLITTER BOX BUILDING.

BY THE REMOVAL OF:

6. ABOVE ITEM No. 1 (SCRUBBER NO. 9) AND NO. 2 (BIOTRICKLING FILTER No. 10).

AND BY THE ADDITION OF:

7. BIOSCRUBBERS, NO. 9 AND NO. 10, EACH DANIEL MECHANICAL COMPANY OR EQUAL, APPROXIMATELY 40' L. X 12' W. X 16' H., WITH APPROXIMATELY TOTAL HEIGHT OF 10' MEDIA (LAVA ROCK OR EQUAL), WATER RECIRCULATION AND IRRIGATION SPRAY SYSTEMS, ASSOCIATED PUMPS, AUXILIARY SYSTEMS AND CONTROLS.

   EXHAUST FANS (2), EACH HARTZELL, NEW YORK BLOWER OR EQUAL, APPROXIMATELY 100 H.P., VFD, 19000 CFM CAPACITY.

   ITEM NO. 5 ABOVE WILL INCLUDE FOUL-AIR FROM STEVE ANDERSON LIFT (SAL) AND WASTE HAULER (WH) STATIONS.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION 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, 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 EQUIPMENT SHALL BE OPERATED BY PERSONNEL PROPERLY TRAINED IN ITS OPERATION.
[RULE 204]

4. ORANGE COUNTY SANITATION DISTRICT (OCSD) SHALL MAKE A WRITTEN REQUEST FOR AND OBTAIN AN EXTENSION OF TIME TO CONSTRUCT THIS EQUIPMENT ON AN ANNUAL BASIS UNTIL SUCH TIME CONSTRUCTION IS COMPLETED AND THE EQUIPMENT IS PUT INTO OPERATION. AT LEAST 30 DAYS PRIOR TO THE EXPIRATION DATE OF THE PERMIT TO CONSTRUCT, EXTENSION REQUEST SHALL INCLUDE PROGRESS MADE AND THE WORK COMPLETED AND EXPECTED CONSTRUCTION COMPLETION DATE.
[RULE 204]

5. WHEN IN OPERATION, BIOSCRUBBERS (NO. 9 AND 10) SHALL ONLY EXHAUST INTO THE SCRUBBER NOS. 1 THROUGH 4.
[RULE 402]

6. WHEN THE CHEMICAL SCRUBBERS 1 THROUGH 4 ARE IN OPERATION, AUTOMATIC HYDROGEN SULFIDE (H2S) MONITORING SYSTEM SHALL BE IN OPERATION AND MAINTAINED TO RECORD THE OUTLET H2S CONCENTRATION, IN PPMV. THE H2S MONITORING SYSTEM SHALL BE CALIBRATED PURSUANT TO MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
[RULE 204]

7. WHEN THE AUTOMATIC H2S MONITORING SYSTEM IS NOT OPERATING, PH OF THE SCRUBBING OR RECYCLING LIQUID, DIFFERENTIAL PRESSURE DROP (IN INCHES OF WATER COLUMN) AND H2S CONCENTRATION IN EXHAUST, FOR SCRUBBERS 1 THROUGH 4 SHALL BE MAINTAINED AS PER MANUFACTURER'S RECOMMENDATIONS. THE OPERATING PARAMETERS AS DESCRIBED SHALL BE MEASURED AND RECORDED AT LEAST ONCE A DAY.
[RULE 402]

8. THE DAILY AVERAGE CONCENTRATION MEASURED FOR H2S EMISSION SHALL NOT EXCEED 2 PPMV.
[RULE 402, 1401]

9. ALL RECORDS AS REQUIRED BY THIS PERMIT SHALL BE KEPT FOR AT LEAST FIVE YEARS AND MADE AVAILABLE TO AQMD PERSONNEL UPON REQUEST.
[RULE 204]

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION I: PLANS AND SCHEDULES

This section lists all plans approved by AQMD for the purposes of meeting the requirements of applicable AQMD rules specified below. The operator shall comply with all conditions specified in the approval of these plans.

Documents pertaining to the plan applications listed below are available for public review at AQMD Headquarters. Any changes to plan applications will require permit modification in accordance with Title V permit revision procedures.

List of approved plans:

Application	Rule
267655	431.1

NOTE: This section does not list compliance schedules pursuant to the requirements of Regulation XXX - Title V Permits; Rule 3004(a)(10)(C). For equipment subject to a variance, order for abatement, or alternative operating condition granted pursuant to Rule 518.2, equipment specific conditions are added to the equipment in Section D or H of the permit.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION J: AIR TOXICS
[40CFR 63 Subpart VVV 03-23-2001]

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: PUBLICLY OWNED TREATMENT WORKS (NON-INDUSTRIAL PLANT)

(1) The owner/operator of a Publicly Owned Treatment Works (POTW) shall comply with all applicable requirements of 40 CFR Subpart VVV and general requirements applicable to Non-Industrial POTW Plant (emission points and control point requirements) as listed under § 63.1586 including covers on all emission points up to the secondary influent pumping station or secondary treatment unit. Covers shall be tightly fitted and designed and operated to minimize exposure of wastewater to the atmosphere. Each opening in a treatment unit shall be maintained in a closed, sealed position unless wastewater is not present or except when plant personnel are present and conducting wastewater or sludge sampling, or equipment inspection, maintenance or repair.

(2) The owner/operator of a Publicly Owned Treatment Works (POTW) shall comply with all applicable requirements of inspections listed under 40 CFR Subpart VVV, § 63.1588 including a visual inspection of all covers and their closure devices for defects that could results in air emissions. Inspections shall be conducted initially follow-up inspections at least once per year. Defects that are found on treatment units in use shall be repaired within 45 days. The owner/operator shall follow the notification and reporting requirements in § 63.1588 for repairs that cannot be completed in 45 days. Defects that are found on treatment units that are not in use shall be repaired prior to putting the treatment unit back in service.

(3) The owner/operator of a Publicly Owned Treatment Works (POTW) shall comply with all applicable requirements to prepare and maintain the records for each treatment unit inspection, each defect detected during inspection, date of detection, corrective actions taken to repair the defect, the date the repair is completed, and all other requirements listed under 40 CFR Subpart VVV, § 63.1589

(4) The owner/operator of a Publicly Owned Treatment Works (POTW) shall comply with all applicable requirements and notification of compliance status, as applicable, and other reports submittal as listed under 40 CFR Subpart VVV, § 63.1590

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION J: AIR TOXICS
[40CFR 63 Subpart ZZZZ, #1 03-09-2011]

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

The owner/operator of stationary Reciprocating Internal Combustion Engines (RICE) located at an area source of hazardous air pollutant (HAP) emissions shall comply with the applicable requirements of 40 CFR 63 Subpart ZZZZ including but not limited to the following:

1. The owner/operator shall comply with the applicable requirements as specified in 63.6603 including but not limited to the following:

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
11. Non-emergency, non-black start landfill or digester gas-fired stationary RICE.	a. Change oil and filter every 1,440 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,440 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 1,440 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

2. The owner/operator shall comply with the applicable general requirements as specified in 63.6605.

3. The owner/operator shall comply with the applicable monitoring, installation, collection, operation, and maintenance requirements specified in 63.6625.

4. The owner/operator shall demonstrate continuous compliance with the applicable emission limitations and operating limitations specified in 63.6640 including but not limited to the following:

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation according to methods specified in Table 6 to this subpart.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION J: AIR TOXICS
[40CFR 63 Subpart ZZZZ, #1 03-09-2011]

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
existing non-emergency landfill or digester gas stationary SI RICE located at an area source of HAP	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650.

5. The owner/operator shall comply with the applicable record keeping requirements specified in 63.6655 and 63.6660.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION J: AIR TOXICS
[40CFR 63SubpartZZZZ 03-09-2011]

NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS: STATIONARY RECIPROCATING INTERNAL COMBUSTION ENGINES

The owner/operator of existing emergency stationary Reciprocating Internal Combustion Engines (RICE) located at an area source of hazardous air pollutant (HAP) emissions shall comply with the applicable requirements of 40 CFR 63 Subpart ZZZZ including but not limited to the following:

1. The owner/operator shall comply with the applicable requirements as specified in 63.6603 including but not limited to the following:

Table 2d to Subpart ZZZZ of Part 63—Requirements for Existing Stationary RICE Located at Area Sources of HAP Emissions

As stated in §§63.6603 and 63.6640, you must comply with the following requirements for existing stationary RICE located at area sources of HAP emissions:

For each . . .	You must meet the following requirement, except during periods of startup . . .	During periods of startup you must . . .
4. Emergency stationary CI RICE and black start stationary CI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1]	
	b. Inspect air cleaner every 1,000 hours of operation or annually, whichever comes first; and	
	c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	
5. Emergency stationary SI RICE; black start stationary SI RICE.[2]	a. Change oil and filter every 500 hours of operation or annually, whichever comes first;[1] b. Inspect spark plugs every 1,000 hours of operation or annually, whichever comes first; and c. Inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary.	

[1]Sources have the option to utilize an oil analysis program as described in §63.6625(i) in order to extend the specified oil change requirement in Table 2d of this subpart.

[2]If an emergency engine is operating during an emergency and it is not possible to shut down the engine in order to perform the management practice requirements on the schedule required in Table 2d of this subpart, or if performing the management practice on the required schedule would otherwise pose an unacceptable risk under Federal, State, or local law, the management practice can be delayed until the emergency is over or the unacceptable risk under Federal, State, or local law

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION J: AIR TOXICS
[40CFR 63SubpartZZZZ 03-09-2011]

has abated. The management practice should be performed as soon as practicable after the emergency has ended or the unacceptable risk under Federal, State, or local law has abated. Sources must report any failure to perform the management practice on the schedule required and the Federal, State or local law under which the risk was deemed unacceptable.

2. The owner/operator shall comply with the applicable general requirements as specified in 63.6605.

3. The owner/operator shall comply with the applicable monitoring, installation, collection, operation, and maintenance requirements specified in 63.6625.

4. The owner/operator shall demonstrate continuous compliance with the applicable emission limitations and operating limitations specified in 63.6640 including but not limited to the following:

(a) You must demonstrate continuous compliance with each emission limitation and operating limitation according to methods specified in Table 6 to this subpart.

Table 6 to Subpart ZZZZ of Part 63—Continuous Compliance With Emission Limitations, Operating Limitations, Work Practices, and Management Practices

As stated in §63.6640, you must continuously comply with the emissions and operating limitations and work or management practices as required by the following:

For each . . .	Complying with the requirement to . . .	You must demonstrate continuous compliance by . . .
existing emergency and black start stationary RICE located at an area source of HAP	a. Work or Management practices	i. Operating and maintaining the stationary RICE according to the manufacturer's emission-related operation and maintenance instructions; or ii. Develop and follow your own maintenance plan which must provide to the extent practicable for the maintenance and operation of the engine in a manner consistent with good air pollution control practice for minimizing emissions.

(b) You must report each instance in which you did not meet each emission limitation or operating limitation in Table 2d to this subpart that apply to you. These instances are deviations from the emission and operating limitations in this subpart. These deviations must be reported according to the requirements in §63.6650.

(c) you must operate the emergency stationary RICE according to the requirements in paragraphs (i) through (iii) of this section. Any operation other than emergency operation, maintenance and

testing, and operation in non-emergency situations for 50 hours per year, as described in paragraphs (i) through (iii) of this section, is prohibited. If you do not operate the engine according to the requirements in paragraphs (i) through (iii) of this section, the engine will not be considered an emergency engine under this subpart and will need to meet all requirements for non-emergency engines.

(i) There is no time limit on the use of emergency stationary RICE in emergency situations.

(ii) You may operate your emergency stationary RICE for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State or local government, the manufacturer, the vendor, or the insurance company associated with the engine. Maintenance checks and readiness testing of such units is limited to 100 hours per year. The owner or operator may petition the Administrator for approval of additional hours to be used for maintenance checks and readiness testing, but a petition is not required if the owner or operator maintains records indicating that Federal, State, or local standards require maintenance and testing of emergency RICE beyond 100 hours per year.

(iii) You may operate your emergency stationary RICE up to 50 hours per year in non-emergency situations, but those 50 hours are counted towards the 100 hours per year provided for maintenance and testing. The 50 hours per year for non-emergency situations cannot be used for peak shaving or to generate income for a facility to supply power to an electric grid or otherwise supply power as part of a financial arrangement with another entity; except that owners and operators may operate the emergency engine for a maximum of 15 hours per year as part of a demand response program if the regional transmission organization or equivalent balancing authority and transmission operator has determined there are emergency conditions that could lead to a potential electrical blackout, such as unusually low frequency, equipment overload, capacity or energy deficiency, or unacceptable voltage level. The engine may not be operated for more than 30 minutes prior to the time when the emergency condition is expected to occur, and the engine operation must be terminated immediately after the facility is notified that the emergency condition is no longer imminent. The 15 hours per year of demand response operation are counted as part of the 50 hours of operation per year provided for non-emergency situations. The supply of emergency power to another entity or entities pursuant to financial arrangement is not limited by this paragraph (iii), as long as the power provided by the financial arrangement is limited to emergency power.

5. The owner/operator shall comply with the applicable record keeping requirements specified in 63.6655 and 63.6660.

FACILITY PERMIT TO OPERATE
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SECTION K: TITLE V Administration

GENERAL PROVISIONS

1. This permit may be revised, revoked, reopened and reissued, or terminated for cause, or for failure to comply with regulatory requirements, permit terms, or conditions. [3004(a)(7)(C)]

2. This permit does not convey any property rights of any sort or any exclusive privilege. [3004(a)(7)(E)]

Permit Renewal and Expiration

3. (A) Except for solid waste incineration facilities subject to standards under section 129(e) of the Clean Air Act, this permit shall expire five years from the date that this Title V permit is issued. The operator's right to operate under this permit terminates at midnight on this date, unless the facility is protected by an application shield in accordance with Rule 3002(b), due to the filing of a timely and complete application for a Title V permit renewal, consistent with Rule 3003. [3004(a)(2), 3004(f)]

   (B) A Title V permit for a solid waste incineration facility combusting municipal waste subject to standards under Section 129(e) of the Clean Air Act shall expire 12 years from the date of issuance unless such permit has been renewed pursuant to this regulation. These permits shall be reviewed by the Executive Officer at least every five years from the date of issuance. [3004(f)(2)]

4. To renew this permit, the operator shall submit to the Executive Officer an application for renewal at least 180 days, but not more than 545 days, prior to the expiration date of this permit. [3003(a)(6)]

Duty to Provide Information

5. The applicant for, or holder of, a Title V permit shall furnish, pursuant to Rule 3002(d) and (e), timely information and records to the Executive Officer or designee within a reasonable time as specified in writing by the Executive Officer or designee. [3004(a)(7)(F)]

Payment of Fees

6. The operator shall pay all required fees specified in Regulation III - Fees. [3004(a)(7)(G)]

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Reopening for Cause

7. The Executive Officer will reopen and revise this permit if any of the following circumstances occur:

   (A) Additional regulatory requirements become applicable with a remaining permit term of three or more years. Reopening is not required if the effective date of the requirement is later than the expiration date of this permit, unless the permit or any of its terms and conditions has been extended pursuant to paragraph (f)(4) of Rule 3004.

   (B) The Executive Officer or EPA Administrator determines that this permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of this permit.

   (C) The Executive Officer or EPA Administrator determines that the permit must be revised or revoked to assure compliance with the applicable requirements. [3005(g)(1)]

COMPLIANCE PROVISIONS

8. The operator shall comply with all regulatory requirements, and all permit terms and conditions, except:

   (A) As provided for by the emergency provisions of condition no. 17 or condition no. 18, or

   (B) As provided by an alternative operating condition granted pursuant to a federally approved (SIP-approved) Rule 518.2.

   Any non-compliance with any federally enforceable permit condition constitutes a violation of the Federal Clean Air Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or revision; or denial of a permit renewal application. Non-compliance may also be grounds for civil or criminal penalties under the California State Health and Safety Code. [3004(a)(7)(A)]

FACILITY PERMIT TO OPERATE
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9. The operator shall allow the Executive Officer or authorized representative, upon presentation of appropriate credentials to:

   (A) Enter the operator's premises where emission-related activities are conducted, or records are kept under the conditions of this permit;

   (B) Have access to and copy, at reasonable times, any records that must be kept under the conditions of the permit;

   (C) Inspect at reasonable times, any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit; and

   (D) Sample or monitor at reasonable times, substances or parameters for the purpose of assuring compliance with the facility permit or regulatory requirements. [3004(a)(10)(B)]

10. All terms and conditions in this permit, including any provisions designed to limit a facility's potential to emit, are enforceable by the EPA Administrator and citizens under the federal Clean Air Act, unless the term or condition is designated as not federally enforceable. Each day during any portion of which a violation occurs is a separate offense. [3004(g)]

11. A challenge to any permit condition or requirement raised by EPA, the operator, or any other person, shall not invalidate or otherwise affect the remaining portions of this permit. [3007(b)]

12. The filing of any application for a permit revision, revocation, or termination, or a notification of planned changes or anticipated non-compliance does not stay any permit condition. [3004(a)(7)(D)]

13. It shall not be a defense for a person in an enforcement action, including those listed in Rule 3002(c)(2), that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit, except as provided for in "Emergency Provisions" of this section. [3004(a)(7)(H)]

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14. The operator shall not build, erect, install, or use any equipment, the use of which, without resulting in a reduction in the total release of air contaminants to atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Chapter 3 (commencing with Section 41700) of Part 4, of Division 26 of the California Health and Safety Code or of AQMD rules. This rule shall not apply to cases in which the only violation involved is of Section 41700 of the California Health and Safety Code, or Rule 402 of AQMD Rules. [408]

15. Nothing in this permit or in any permit shield can alter or affect:

    (A) Under Section 303 of the federal Clean Air Act, the provisions for emergency orders;

    (B) The liability of the operator for any violation of applicable requirements prior to or at the time of permit issuance;

    (C) The applicable requirements of the Acid Rain Program, Regulation XXXI;

    (D) The ability of EPA to obtain information from the operator pursuant to Section 114 of the federal Clean Air Act;

    (E) The applicability of state or local requirements that are not "applicable requirements", as defined in Rule 3000, at the time of permit issuance but which do apply to the facility, such as toxics requirements unique to the State; and

    (F) The applicability of regulatory requirements with compliance dates after the permit issuance date. [3004(c)(3)]

16. For any portable equipment that requires an AQMD or state permit or registration, excluding a) portable engines, b) military tactical support equipment and c) AQMD-permitted portable equipment that are not a major source, are not located at the facility for more than 12 consecutive months after commencing operation, and whose operation does not conflict with the terms or conditions of this Title V permit: 1) the facility operator shall keep a copy of the AQMD or state permit or registration; 2) the equipment operator shall comply with the conditions on the permit or registration and all other regulatory requirements; and 3) the facility operator shall treat the permit or registration as a part of its Title V permit, subject to recordkeeping, reporting and certification requirements. [3004(a)(1)]

FACILITY PERMIT TO OPERATE
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EMERGENCY PROVISIONS

17. An emergency[1] constitutes an affirmative defense to an action brought for noncompliance with a technology-based emission limit only if:

    (A) Properly signed, contemporaneous operating records or other credible evidence demonstrate that:

        (1) An emergency occurred and the operator can identify the cause(s) of the emergency;

        (2) The facility was operated properly (i.e. operated and maintained in accordance with the manufacturer's specifications, and in compliance with all regulatory requirements or a compliance plan), before the emergency occurred;

        (3) The operator took all reasonable steps to minimize levels of emissions that exceeded emissions standard, or other requirements in the permit; and,

        (4) The operator submitted a written notice of the emergency to the AQMD within two working days of the time when the emissions limitations were exceeded due to the emergency. The notice shall contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken; and

    (B) The operator complies with the breakdown provisions of Rule 430 – Breakdown Provisions, or subdivision (i) of Rule 2004 – Requirements, whichever is applicable. [3002(g), 430, 2004(i)]

18. The operator is excused from complying with any regulatory requirement that is suspended by the Executive Officer during a state of emergency or state of war emergency, in accordance with Rule 118 - Emergencies. [118]

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1 "Emergency" means any situation arising from sudden and reasonably unforeseeable events beyond the control of the operator, including acts of God, which: (A) requires immediate corrective action to restore normal operation; and (B) causes the facility to exceed a technology-based emission limitation under the permit, due to unavoidable increases in emissions attributable to the emergency; and (C) is not caused by improperly designed equipment, lack of preventative maintenance, careless or improper operation, or operator error.

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SECTION K: TITLE V Administration

RECORDKEEPING PROVISIONS

19. In addition to any other recordkeeping requirements specified elsewhere in this permit, the operator shall keep records of required monitoring information, where applicable, that include:

    (A) The date, place as defined in the Title V permit, and time of sampling or measurements;

    (B) The date(s) analyses were performed;

    (C) The company or entity that performed the analyses;

    (D) The analytical techniques or methods used;

    (E) The results of such analyses; and

    (F) The operating conditions as existing at the time of sampling or measurement. [3004(a)(4)(B)]

20. The operator shall maintain records pursuant to Rule 109 and any applicable material safety data sheet (MSDS) for any equipment claimed to be exempt from a written permit by Rule 219 based on the information in those records. [219(t)]

21. The operator shall keep all records of monitoring data required by this permit or by regulatory requirements for a period of at least five years from the date of the monitoring sample, measurement, report, or application. [3004(a)(4)(E)]

REPORTING PROVISIONS

22. The operator shall comply with the following requirements for prompt reporting of deviations:

    (A) Breakdowns shall be reported as required by Rule 430 – Breakdown Provisions or subdivision (i) of Rule 2004 - Requirements, whichever is applicable.

FACILITY PERMIT TO OPERATE
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(B) Other deviations from permit or applicable rule emission limitations, equipment operating conditions, or work practice standards, determined by observation or by any monitoring or testing required by the permit or applicable rules that result in emissions greater than those allowed by the permit or applicable rules shall be reported within 72 hours (unless a shorter reporting period is specified in an applicable State or Federal Regulation) of discovery of the deviation by contacting AQMD enforcement personnel assigned to this facility or otherwise calling (800) CUT-SMOG.

(C) A written report of such deviations reported pursuant to (B), and any corrective actions or preventative measures taken, shall be submitted to AQMD, in an AQMD approved format, within 14 days of discovery of the deviation.

(D) All other deviations shall be reported with the monitoring report required by condition no. 23. [3004(a)(5)]

23. Unless more frequent reporting of monitoring results are specified in other permit conditions or in regulatory requirements, the operator shall submit reports of any required monitoring to the AQMD at least twice per year. The report shall include a) a statement whether all monitoring required by the permit was conducted; and b) identification of all instances of deviations from permit or regulatory requirements. A report for the first six calendar months of the year is due by August 31 and a report for the last six calendar months of the year is due by February 28. [3004(a)(4)(F)]

24. The operator shall submit to the Executive Officer and to the Environmental Protection Agency (EPA), an annual compliance certification. For RECLAIM facilities, the certification is due when the Annual Permit Emissions Program (APEP) report is due and shall cover the same reporting period. For other facilities, the certification is due on March 1 for the previous calendar year. The certification need not include the period preceding the date the initial Title V permit was issued. Each compliance certification shall include:

(A) Identification of each permit term or condition that is the basis of the certification;

(B) The compliance status during the reporting period;

(C) Whether compliance was continuous or intermittent;

(D) The method(s) used to determine compliance over the reporting period and currently, and

(E) Any other facts specifically required by the Executive Officer to determine compliance.

The EPA copy of the certification shall be sent to: Director of the Air Division Attn: Air-3 USEPA, Region IX 75 Hawthorne St. San Francisco, CA 94105 [3004(a)(10)(E)]

25. All records, reports, and documents required to be submitted by a Title V operator to AQMD or EPA shall contain a certification of accuracy consistent with Rule 3003(c)(7) by a responsible official (as defined in Rule 3000). [3004(a)(12)]

PERIODIC MONITORING

26. All periodic monitoring required by this permit pursuant to Rule 3004(a)(4)(c) is based on the requirements and justifications in the AQMD document "Periodic Monitoring Guidelines for Title V Facilities" or in case-by-case determinations documented in the TitleV application file. [3004(a)(4)]

FACILITY PERMIT TO OPERATE
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SECTION K: TITLE V Administration

FACILITY RULES

This facility is subject to the following rules and regulations

With the exception of Rule 402, 473, 477, 1118 and Rules 1401 through 1420, the following rules that are designated as non-federally enforceable are pending EPA approval as part of the state implementation plan. Upon the effective date of that approval, the approved rule(s) will become federally enforceable, and any earlier versions of those rules will no longer be federally enforceable.

RULE SOURCE	Adopted/Amended Date	FEDERAL Enforceability
RULE 104	1-9-1976	Federally enforceable
RULE 109	5-2-2003	Federally enforceable
RULE 1106	1-13-1995	Federally enforceable
RULE 1107	1-6-2006	Federally enforceable
RULE 1110.2	2-1-2008	Federally enforceable
RULE 1110.2	9-7-2012	Non federally enforceable
RULE 1113	7-13-2007	Federally enforceable
RULE 1113	9-6-2013	Non federally enforceable
RULE 1122	7-11-1997	Federally enforceable
RULE 1134	8-8-1997	Federally enforceable
RULE 1136	6-14-1996	Federally enforceable
RULE 1140	2-1-1980	Federally enforceable
RULE 1140	8-2-1985	Non federally enforceable
RULE 1145	12-4-2009	Non federally enforceable
RULE 1145	2-14-1997	Federally enforceable
RULE 1146	11-17-2000	Federally enforceable
RULE 1146	9-5-2008	Non federally enforceable
RULE 1151	12-11-1998	Federally enforceable
RULE 1151	12-2-2005	Non federally enforceable
RULE 1168	1-7-2005	Federally enforceable
RULE 1171	2-1-2008	Federally enforceable
RULE 1171	5-1-2009	Non federally enforceable

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

SECTION K: TITLE V Administration

RULE SOURCE	Adopted/Amended Date	FEDERAL Enforceability
RULE 1179	3-6-1992	Federally enforceable
RULE 118	12-7-1995	Non federally enforceable
RULE 1303(a)(1)-BACT	12-6-2002	Non federally enforceable
RULE 1303(a)(1)-BACT	5-10-1996	Federally enforceable
RULE 1303(b)(1)	10-20-2000	Non federally enforceable
RULE 1303(b)(2)-Offset	12-6-2002	Non federally enforceable
RULE 1303(b)(2)-Offset	5-10-1996	Federally enforceable
RULE 1304(a)-Modeling and Offset Exemption	6-14-1996	Federally enforceable
RULE 1304(c)-Offset Exemption	6-14-1996	Federally enforceable
RULE 1309.1	5-3-2002	Federally enforceable
RULE 1401	9-10-2010	Non federally enforceable
RULE 1402	3-4-2005	Non federally enforceable
RULE 1411	3-1-1991	Non federally enforceable
RULE 1415	12-3-2010	Non federally enforceable
RULE 1418	9-10-1999	Non federally enforceable
RULE 1470	5-4-2012	Non federally enforceable
RULE 204	10-8-1993	Federally enforceable
RULE 217	1-5-1990	Federally enforceable
RULE 218	5-14-1999	Federally enforceable
RULE 218.1	5-14-1999	Federally enforceable
RULE 219	5-3-2013	Non federally enforceable
RULE 3002	11-14-1997	Federally enforceable
RULE 3002	11-5-2010	Non federally enforceable
RULE 3003	11-14-1997	Federally enforceable
RULE 3003	11-5-2010	Non federally enforceable
RULE 3004	12-12-1997	Federally enforceable
RULE 3005	11-14-1997	Federally enforceable
RULE 3005	11-5-2010	Non federally enforceable
RULE 3006	11-14-1997	Federally enforceable
RULE 3006	11-5-2010	Non federally enforceable
RULE 3007	10-8-1993	Federally enforceable

FACILITY PERMIT TO OPERATE
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RULE SOURCE	Adopted/Amended Date	FEDERAL Enforceability
RULE 301	6-1-2012	Non federally enforceable
RULE 304	6-1-2012	Non federally enforceable
RULE 306	6-1-2012	Non federally enforceable
RULE 401	11-9-2001	Non federally enforceable
RULE 401	3-2-1984	Federally enforceable
RULE 402	5-7-1976	Non federally enforceable
RULE 403	12-11-1998	Federally enforceable
RULE 403	6-3-2005	Federally enforceable
RULE 404	2-7-1986	Federally enforceable
RULE 405	2-7-1986	Federally enforceable
RULE 408	5-7-1976	Federally enforceable
RULE 430	7-12-1996	Non federally enforceable
RULE 431.1	6-12-1998	Federally enforceable
RULE 431.2	5-4-1990	Federally enforceable
RULE 431.2	9-15-2000	Non federally enforceable
RULE 481	1-11-2002	Federally enforceable
RULE 701	6-13-1997	Federally enforceable
40CFR 63 Subpart DDDDD	12-6-2006	Federally enforceable
40CFR 63 Subpart VVV	3-23-2001	Federally enforceable
40CFR 63SubpartZZZZ	3-9-2011	Federally enforceable
40CFR 63SubpartZZZZ_01	3-9-2011	Federally enforceable
40CFR 82 Subpart B	7-14-1992	Federally enforceable
40CFR 82 Subpart F	5-14-1993	Federally enforceable

FACILITY PERMIT TO OPERATE
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APPENDIX A: NOX AND SOX EMITTING EQUIPMENT EXEMPT FROM WRITTEN PERMIT PURSUANT TO RULE 219

NONE

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1107 01-06-2006]

Except as otherwise provided in Rule 1107

(1) VOC Content of Coatings

A person shall not apply to metal parts and products subject to the provisions of this rule any coatings, including any VOC-containing materials added to the original coating supplied by the manufacturer, which contain VOC in excess of the limits specified below:

VOC LIMITS
Less Water and Less Exempt Compounds
Effective Dates

Coating	Air-Dried				Baked			
	gm/l		lb/gal		gm/l		lb/gal	
	Current	7/1/07	Current	7/1/07	Current	7/1/07	Current	7/1/07
General One-Component	275	275	2.3	2.3	275	275	2.3	2.3
General Multi-Component	340	340	2.8	2.8	275	275	2.3	2.3
Military Specification	340	340	2.8	2.8	275	275	2.3	2.3
Etching Filler	420	420	3.5	3.5	420	420	3.5	3.5
Solar-Absorbent	420	420	3.5	3.5	360	360	3.0	3.0
Heat-Resistant	420	420	3.5	3.5	360	360	3.0	3.0
Extreme High-Gloss	420	340	3.5	2.8	360	360	3.0	3.0
Metallic	420	420	3.5	3.5	420	420	3.5	3.5

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1107 01-06-2006]

VOC LIMITS
Less Water and Less Exempt Compounds
Effective Dates, cont.

Coating	Air-Dried				Baked			
	gm/l		lb/gal		gm/l		lb/gal	
	Current	7/1/07	Current	7/1/07	Current	7/1/07	Current	7/1/07
Extreme Performance	420	420	3.5	3.5	360	360	3.0	3.0
Prefabricated Architectural One-Component	420	275	3.5	2.3	275	275	2.3	2.3
Prefabricated Architectural Multi-Component	420	340	3.5	2.8	275	275	2.3	2.3
Touch Up	420	420	3.5	3.5	360	360	3.0	3.0
Repair	420	420	3.5	3.5	360	360	3.0	3.0
Silicone Release	420	420	3.5	3.5	420	420	3.5	3.5
High-Performance Architectural	420	420	3.5	3.5	420	420	3.5	3.5
Camouflage	420	420	3.5	3.5	420	420	3.5	3.5
Vacuum-Metalizing	420	420	3.5	3.5	420	420	3.5	3.5
Mold-Seal	420	420	3.5	3.5	420	420	3.5	3.5
High-Temperature	420	420	3.5	3.5	420	420	3.5	3.5
Electric-Insulating Varnish	420	420	3.5	3.5	420	420	3.5	3.5
Pan Backing	420	420	3.5	3.5	420	420	3.5	3.5
Pretreatment Coatings	420	420	3.5	3.5	420	420	3.5	3.5

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1107 01-06-2006]

(2) A person shall not use VOC-containing materials which have a VOC content of more than 200 grams per liter of material for stripping any coating governed by this rule.

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 07-13-2007]

(1) Except as provided in paragraphs (c)(2), (c)(3), (c)(4), and specified coatings averaged under (c)(6), no person shall supply, sell, offer for sale, manufacture, blend, or repackage any architectural coating for use in the District which, at the time of sale or manufacture, contains more than 250 grams of VOC per liter of coating (2.08 pounds per gallon), less water, less exempt compounds, and less any colorant added to tint bases, and no person shall apply or solicit the application of any architectural coating within the District that exceeds 250 grams of VOC per liter of coating as calculated in this paragraph.

(2) Except as provided in paragraphs (c)(3), (c)(4), and designated coatings averaged under (c)(6), no person shall supply, sell, offer for sale, manufacture, blend, or repackage, for use within the District, any architectural coating listed in the Table of Standards which contains VOC (excluding any colorant added to tint bases) in excess of the corresponding VOC limit specified in the table, after the effective date specified, and no person shall apply or solicit the application of any architectural coating within the District that exceeds the VOC limit as specified in this paragraph. No person shall apply or solicit the application within the District of any industrial maintenance coatings, except anti-graffiti coatings, for residential use or for use in areas such as office space and meeting rooms of industrial, commercial or institutional facilities not exposed to such extreme environmental conditions described in the definition of industrial maintenance coatings; or of any rust-preventative coating for industrial use, unless such a rust preventative coating complies with the Industrial Maintenance Coating VOC limit specified in the Table of Standards.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 07-13-2007]
TABLE OF STANDARDS
VOC LIMITS

Grams of VOC Per Liter of Coating, Less Water and Less Exempt Compounds

COATING CATEGORY	Ceiling Limit*	Current Limit	Effective Date					
			1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/08
Bond Breakers	350							
Clear Wood Finishes	350					275		
Varnish	350					275		
Sanding Sealers	350					275		
Lacquer	680	550			275			
Clear Brushing Lacquer	680				275			
Concrete-Curing Compounds	350						100	
Concrete-Curing Compounds For Roadways and Bridges**	350							
Dry-Fog Coatings	400						150	
Fire-Proofing Exterior Coatings	450	350						
Fire-Retardant Coatings***								
Clear	650							
Pigmented	350							
Flats	250	100						50
Floor Coatings	420		100			50		
Graphic Arts (Sign) Coatings	500							
Industrial Maintenance (IM) Coatings	420			250		100		
High Temperature IM Coatings			420					
Zinc-Rich IM Primers	420		340			100		
Japans/Faux Finishing Coatings	700	350						
Magnesite Cement Coatings	600	450						
Mastic Coatings	300							
Metallic Pigmented Coatings	500							
Multi-Color Coatings	420	250						
Nonflat Coatings	250		150			50		

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 07-13-2007]

COATING CATEGORY	Ceiling Limit*	Current Limit	Effective Date					
			1/1/03	1/1/04	1/1/05	7/1/06	7/1/07	7/1/08
Nonflat High Gloss	250		150				50	
Pigmented Lacquer	680	550			275			
Pre-Treatment Wash Primers	780		420					
Primers, Sealers, and Undercoaters	350		200			100		
Quick-Dry Enamels	400		250			150	50	
Quick-Dry Primers, Sealers, and Undercoaters	350		200			100		
Recycled Coatings			250					
Roof Coatings Roof Coatings, Aluminum	300 500		250		50 100			
Roof Primers, Bituminous	350		350					
Rust Preventative Coatings	420		400			100		
Shellac Clear Pigmented	 730 550							
Specialty Primers	350					250	100	
Stains Stains, Interior	350 250		250				100	
Swimming Pool Coatings Repair Other	 650 340		340					
Traffic Coatings	250	150					100	
Waterproofing Sealers	400		250			100		
Waterproofing Concrete/Masonry Sealers	400					100		
Wood Preservatives Below-Ground Other	 350 350							

* The specified limits remain in effect unless revised limits are listed in subsequent columns in the Table of Standards.

** Does not include compounds used for curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas.

*** The Fire-Retardant Coating category will be eliminated on January 1, 2007 and subsumed by the coating category for which they are formulated.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 07-13-2007]

TABLE OF STANDARDS (cont.)
VOC LIMITS

Grams of VOC Per Liter of Material

COATING	Limit
Low-Solids Coating	120

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 09-06-2013]

(1) Except as provided in paragraphs (c)(3), (c)(4), and designated coatings averaged under (c)(6), no person shall supply, sell, offer for sale, market, manufacture, blend, repackage, apply, store at a worksite, or solid the application of any architectural coating within in the District:

(A) That is listed in the Table of Standards 1 and contains VOC (exclusing any colorant added to tint bases) in excess of the corresponding VOC limit specified in the table, after the effective date specified; or

(B) That is not listed in the Table of Standards 1, and contains VOC (excluding any colorant added to tint bases) in excess of 250 grams of VOC per liter of coating (2.08 pounds per gallon), less water, less exempt compounds, until January 1, 2014, at which time the limit drops to 50 grams of VOC per liter of coating, less water, less exempt compounds (0.42 pounds per gallon).

(2) No person within the District shall add colorant at the point of sale that is listed in the Table of Standards 2 and contains VOC in excess of the corresponding VOC limit specified in the Table of Standards 2, after the effective date specified.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 09-06-2013]

TABLE OF STANDARDS 1
VOC LIMITS

Grams of VOC Per Liter of Coating,
Less Water and Less Exempt Compounds

COATING CATEGORY	Ceiling Limit[1]	Current Limit[2]	Effective Date		
			7/1/08	1/1/12	1/1/14
Bond Breakers		350			
Clear Wood Finishes		275			
Varnish	350	275			
Sanding Sealers	350	275			
Lacquer		275			
Concrete-Curing Compounds		100			
Concrete-Curing Compounds For Roadways and Bridges[3]		350			
Concrete Surface Retarder		250			50
Driveway Sealer		100		50	
Dry-Fog Coatings		150			50
Faux Finishing Coatings					
Clear Topcoat		350		200	100
Decorative Coatings		350			
Glazes		350			
Japan		350			
Trowel Applied Coatings		350		150	50
Fire-Proofing Coatings		350			150
Flats	250	50	50		
Floor Coatings	100	50			
Form Release Compound		250			100
Graphic Arts (Sign) Coatings		500			150
Industrial Maintenance (IM) Coatings	420	100			
High Temperature IM Coatings		420			
Non-SacrificialAnti-Graffiti Coatings		100			
Zinc-Rich IM Primers		100			
Magnesite Cement Coatings		450			
Mastic Coatings		300			100
Metallic Pigmented Coatings	500	500			150
Multi-Color Coatings		250			
Nonflat Coatings	150	50			
Pre-Treatment Wash Primers		420			
Primers, Sealers, and Undercoaters		100			
Reactive Penetrating Sealers		350			

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APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 09-06-2013]

Recycled Coatings		250			
Roof Coatings		50			
Roof Coatings, Aluminum		100			
Roof Primers, Bituminous		350			
Rust Preventative Coatings	400	100			
Sacrificial Anti-Graffiti Coatings		100		50	
Shellac					
Clear		730			

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1113 09-06-2013]

COATING CATEGORY	Ceiling Limit[1]	Current Limit[2]	Effective Date		
			7/1/08	1/1/12	1/1/14
Pigmented		550			
Specialty Primers		100			
Stains	350	100			
Stains, Interior	250	250			
Stone Consolidant		450			
Swimming Pool Coatings					
Repair		340			
Other		340			
Traffic Coatings		100			
Waterproofing Sealers		100			
Waterproofing Concrete/Masonry Sealers		100			
Wood Preservatives		350			

1 The specified ceiling limits are applicable to products sold under the Averaging Compliance Option.

2 The specified limits remain in effect unless revised limits are listed in subsequent columns in the Table of Standards.

3. Does not include compounds used for curbs and gutters, sidewalks, islands, driveways and other miscellaneous concrete areas.

TABLE OF STANDARDS 1 (cont.)
VOC LIMITS

Grams of VOC Per Liter of Material

COATING	Limit
Low-Solids Coating	120

TABLE OF STANDARDS 2
VOC LIMITS FOR COLORANTS

Grams of VOC Per Liter of Colorant
Less Water and Less Exempt Compounds

COLORANT ADDED TO	Limit[4]
Architectural Coatings, excluding IM Coatings	50
Solvent-Based IM	600
Waterborne IM	50

4. Effective January 1, 2014.

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1136 06-14-1996]

Except as otherwise provided in Rule 1136

(a) The operator shall not apply any coating to a wood product which has a VOC content, including any VOC-containing material added to the original coating supplied by the manufacturer, which exceeds the applicable limit specified below:

(1)

VOC LIMITS
Grams Per Liter (lb/gal) of Coating, [lbs VOC/lb of solids],
Less Water and Less Exempt Compounds

COATING	Current Limit I	or II	On and After 7/1/2005
Clear Sealers	550 (4.6) [1.39]	680 (5.7) [3.36]	275 (2.3) [0.36]
Clear Topcoat	550 (4.6) [1.37]	275 (2.3) [0.35]	275 (2.3) [0.35]
Pigmented Primers, Sealers & Undercoats	550 (4.6) [1.06]	600 (5.0) [1.08]	275 (2.3) [0.21]
Pigmented Topcoats	550 (4.6) [1.10]	275 (2.3) [0.25]	275 (2.3) [0.25]

The operator shall use coatings on a wood product that comply with either all VOC limits in column I or all VOC limits in column II. The operator that applies a primer, sealer or undercoat, but not a topcoat, to a wood product, shall be subject to column I for that wood product.

(2) Notwithstanding the requirements of clause (a)(1), an operator that applies a topcoat and a primer, sealer or undercoat to a shutter may, until July 1, 2005, choose to comply with the VOC limits specified below for that shutter:

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APPENDIX B: RULE EMISSION LIMITS
[RULE 1136 06-14-1996]

VOC LIMITS

Grams Per Liter, (lb/gal) of Coating, [lbs VOC/lb of solids],
Less Water and Less Exempt Compounds

COATING	
Clear Sealers	275 (2.3) [0.36]
Clear Topcoat	680 (5.7) [2.99]
Pigmented Primers, Sealers & Undercoats	275 (2.3) [0.33]
Pigmented Topcoats	600 (5.0) [1.38]

(3)

VOC LIMITS

Grams Per Liter, (lb/gal) of Coating, [lbs VOC/lb of solids],
Less Water and Less Exempt Compounds

COATING	Current Limit	On and After 7/1/2005
Barrier Coat - Plastic Components	760 (6.3) [3.9]	275 (2.3) [0.28]
Composite Wood Edge Filler	550 (4.6) [1.15]	275 (2.3) [0.31]
Extreme Performance Coatings	420 (3.5) [0.51]	275 (2.3) [0.33]
Fillers	500 (4.2) [0.66]	275 (2.3) [0.18]
High-Solid Stains	550 (4.6) [1.23]	350 (2.9) [0.42]
Inks	500 (4.2) [0.96]	500 (4.2) [0.96]
Mold-Seal Coatings	750 (6.3) [4.2]	750 (6.3) [4.2]
Multi-Colored Coatings	685 (5.7) [2.6]	275 (2.3) [0.33]

VOC LIMITS

Grams Per Liter (lb/gal) of Material

COATING	Current Limit	On and After 7/1/2005
Low-Solids Barrier Coat - Plastic Components	760 (6.3)	120 (1.0)
Low-Solid Stains, Toners, and Washcoats	480 (4.0)	120 (1.0)

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APPENDIX B: RULE EMISSION LIMITS
[RULE 1136 06-14-1996]

Any coating subject to this rule that meets any of the three VOC limit formats (grams per liter, lb/gal, or lbs VOC/lb of solids) is in compliance with this subparagraph.

(4) The VOC limit for japan coatings is 700 grams per liter of coatings, less water and exempt compounds, as applied.

(b) A person shall not use a stripper on wood products unless:

(1) it contains less than 350 grams of VOC per liter of material; or

(2) the VOC composite vapor pressure is 2 mm Hg (0.04 psia) or less at 20°C (68°F).

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APPENDIX B: RULE EMISSION LIMITS
[RULE 1151 12-11-1998]

Except as otherwise provided in Rule 1151

(1) VOC Content of Coatings

A person shall not apply a coating to Group I vehicles and equipment, and Group II vehicles, or their parts and components, which has a VOC content which exceeds the limits contained in subparagraphs (1)(A) and (1)(B). Compliance with the VOC limits shall be based on VOC content, including any VOC material added to the original coating supplied by the manufacturer, less water and exempt compounds, as applied to the vehicle, mobile equipment, or parts and components.

(A) Group I Vehicles and Equipment

The operator who applies coatings to Group I vehicles and equipment, or their parts or components, shall not apply a coating which has a VOC content in excess of the limits in Table 1.

TABLE 1

VOC LIMITS
Grams Per Liter of Coating,
Less Water and Exempt Compounds

COATING	On and After December 12, 1998	
	g/L	lb/gal
Pretreatment	780	6.5
Primer/Primer Surfacer/ Primer Sealer	250	2.1
Topcoats		
General	340	2.8
Metallic/Iridescent	340*	2.8*
Multi-Colored	685	5.7
Multistage	340*	2.8*
Specialty Coating	840	7.0

*The VOC limits for Metallic/Irridescent and Multistage topcoats for spot repairs on Group I vehicles and mobil equipment will be 3.5 lb/gal (less water and exempt compounds).

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1151 12-11-1998]

(B) Group II Vehicles

The operator who applies coatings to Group II vehicles, or their parts or components, shall not apply a coating which has a VOC content in excess of the limits in Table 2.

TABLE 2

VOC Limits
Grams Per Liter of Coating,
Less Water and Exempt Compounds

COATING	On and After December 12, 1998		On and After July 1, 1999		On and After October 1, 1999	
	g/L	lb/gal	g/L	lb/gal	g/L	lb/gal
Pretreatment	780	6.5	780	6.5	780	6.5
Primer/Primer Surfacer	250	2.1	250	2.1	250	2.1
Primer Sealer	340	2.8	340	2.8	340	2.8
Topcoats						
General	420	3.5	420	3.5	420	3.5
Metallic/Iridescent	420	3.5	420	3.5	420	3.5
Multi-Colored	685	5.7	685	5.7	685	5.7
Multistage System						
≥ 2 gal/day[1]	540	4.5	420[1]	3.5	420	3.5
< 2 gal/day[2]	540	4.5	540[2]	4.5	420	3.5
Multi-Colored Multistage	420	3.5	420	3.5	420	3.5
Specialty Coating	840	7.0	840	7.0	840	7.0

[1] On and after July 1, 1999, any person who uses two gallons or more of combined basecoat and clearcoat, as applied, on any given day shall comply with the 420 g/L (3.5 lb/gal) limit.

[2] Any person who uses less than two gallons of combined basecoat and clearcoat, as applied, on each day up to September 30, 1999 shall comply with the 3.5 lb/gal limit on and after October 1, 1999.

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APPENDIX B: RULE EMISSION LIMITS
[RULE 1151 12-11-1998]

(2) Exempt Compounds

The operator shall not apply a coating which contains any Group II exempt compounds as defined in Rule 102 except for methylene chloride; carbon tetrachloride; perchloroethylene; or cyclic, branched, or linear, completely methylated siloxanes (VMS).

(3) Carcinogenic Materials

The operator shall not apply the coatings in which cadmium or hexavalent chromium was introduced as a pigment or as an agent to impart any property or characteristic to the coatings during manufacturing, distribution, or use of the applicable coatings.

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APPENDIX B: RULE EMISSION LIMITS
[RULE 1151 12-02-2005]

The following limits of this rule shall sunset on June 30, 2008, and the limits specified in Appendix A shall become effective on July 1, 2008.

Except as otherwise provided in Rule 1151

(1) VOC Content of Coatings

A person shall not apply a coating to Group I vehicles and equipment, and Group II vehicles, or their parts and components, which has a VOC content which exceeds the limits contained in subparagraphs (1)(A) and (1)(B). Compliance with the VOC limits shall be based on VOC content, including any VOC material added to the original coating supplied by the manufacturer, less water and exempt compounds, as applied to the vehicle, mobile equipment, or parts and components.

(A) Group I Vehicles and Equipment

A person who applies coatings to Group I vehicles and equipment, or their parts or components, shall not apply a coating which has a VOC content in excess of the limits in Table 1.

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1151 12-02-2005]

TABLE 1

COATING	VOC LIMITS Grams Per Liter of Coating, Less Water and Exempt Compounds On and After December 12, 1998 g/L	lb/gal
Pretreatment	780	6.5
Primer/Primer Surfacer/ Primer Sealer	250	2.1
Topcoats		
General	340	2.8
Metallic/Iridescent	340*	2.8*
Multi-Colored	685	5.7
Multistage	340*	2.8*
Specialty Coating	840	7.0

*The VOC limits for Metallic/Iridescent and Multistage topcoats for spot repairs on Group I vehicles and mobile equipment will be 3.5 lb/gal (less water and exempt compounds).

(B) Group II Vehicles

A person who applies coatings to Group II vehicles, or their parts or components, shall not apply a coating which has a VOC content in excess of the limits in Table 2.

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1151 12-02-2005]

TABLE 2

VOC Limits
Grams Per Liter of Coating,
Less Water and Exempt Compounds

COATING	On and After December 12, 1998		On and After July 1, 1999		On and After October 1, 1999	
	g/L	lb/gal	g/L	lb/gal	g/L	lb/gal
Pretreatment	780	6.5	780	6.5	780	6.5
Primer/Primer Surfacer	250	2.1	250	2.1	250	2.1
Primer Sealer	340	2.8	340	2.8	340	2.8
Topcoats						
General	420	3.5	420	3.5	420	3.5
Metallic/Iridescent	420	3.5	420	3.5	420	3.5
Multi-Colored	685	5.7	685	5.7	685	5.7
Multistage System						
≥ 2 gal/day[1]	540	4.5	420[1]	3.5	420	3.5
< 2 gal/day[2]	540	4.5	540[2]	4.5	420	3.5
Multi-Colored Multistage	420	3.5	420	3.5	420	3.5
Specialty Coating	840	7.0	840	7.0	840	7.0

[1] On and after July 1, 1999, any person who uses two gallons or more of combined basecoat and clearcoat, as applied, on any given day shall comply with the 420 g/L (3.5 lb/gal) limit.

[2] Any person who uses less than two gallons of combined basecoat and clearcoat, as applied, on each day up to September 30, 1999 shall comply with the 3.5 lb/gal limit on and after October 1, 1999.

APPENDIX B: RULE EMISSION LIMITS
[RULE 1151 12-02-2005]

(2) Exempt Compounds

A person shall not apply a coating which contains any Group II exempt compounds as defined in Rule 102 except for methylene chloride; carbon tetrachloride; perchloroethylene; or cyclic, branched, or linear, completely methylated siloxanes (VMS).

(3) Carcinogenic Materials

A person shall not apply the coatings in which cadmium or hexavalent chromium was introduced as a pigment or as an agent to impart any property or characteristic to the coatings during manufacturing, distribution, or use of the applicable coatings.

Appendix A

Effective July 1, 2008, the emission limits specified in this appendix shall become effective and replace the limits specified above

Except as otherwise provided in Rule 1151

(1) A person shall not apply any coating to a vehicle, mobile equipment, or associated parts or components, that have a VOC content in excess of the limits contained in Table A of this paragraph. Compliance with the VOC limits shall be based on VOC content, including any VOC material added to the original coating supplied by the manufacturer, less water and exempt compounds, as applied to the vehicle, mobile equipment or parts and components.

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1151 12-02-2005]
Table A – Coating Categories and VOC limits

Coating Categories	VOC Limits Less Water and Less Exempt Compounds Effective Dates					
	July 1, 2008		January 1, 2009		January 1, 2010	
	g/L	lb/gal	g/L	lb/gal	g/L	lb/gal
Adhesion Promoter					540	4.5
Clear Coating	250	2.1				
Color Coating	420	3.5				
Multi-Color Coating			680	5.7		
Pretreatment Coating			660	5.5		
Primer					250	2.1
Single-Stage Coating					340	2.8
Temporary Protective Coating			60	0.5		
Truck Bed Liner Coating			310	2.6		
Underbody Coating			430	3.6		
Uniform Finishing Coating			540	4.5		
Any other coating type			250	2.1		

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APPENDIX B: RULE EMISSION LIMITS
[RULE 1151 12-02-2005]

(1) Most Restrictive VOC Limit

If any representation on information on the container of any automotive coating, or any label or sticker affixed to the container, or in any sales, advertising, or technical literature supplied by a person that indicates that the coating meets the definition of or is recommended for use for more than one of the coating categories listed in paragraph (1), then the lowest VOC content limit shall apply.

(2) VOC Limits Compliance Dates

The VOC limits in effect as of December 2, 2005 shall be applicable until superceded by the VOC limits and effectives dates in Table A of paragraph (1).

(3) Exempt Compounds

A person shall not manufacture, sell, offer for sale, distribute for use in the District, or apply any coating which contains any Group II Exempt Compounds as defined in Rule 102.

(4) Carcinogenic Materials

A person shall not manufacture the coatings in which cadmium or hexavalent chromium was introduced as a pigment or as an agent to impart any property or characteristic to the coatings during manufacturing, distribution, or use of the applicable coatings.

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APPENDIX B: RULE EMISSION LIMITS
[RULE 1168 01-07-2005]

(1) Unless otherwise specified in paragraph (c)(2), a person shall not apply any adhesives, adhesive bonding primers, adhesive primers, or any other primer which have a VOC content in excess of 250 g/L less water and less exempt compounds.

(2) A person shall not apply adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, or any other primer which have a VOC content in excess of the limits specified below:

VOC Limit*, Less Water and Less Exempt Compounds in Grams per Liter

Architectural Applications	Current VOC Limit*
Indoor Carpet Adhesives	50
Carpet Pad Adhesives	50
Outdoor Carpet Adhesives	150
Wood Flooring Adhesive	100
Rubber Floor Adhesives	60
Subfloor Adhesives	50
Ceramic Tile Adhesives	65
VCT and Asphalt Tile Adhesives	50
Dry Wall and Panel Adhesives	50
Cove Base Adhesives	50
Multipurpose Construction Adhesives	70
Structural Glazing Adhesives	100
Single Ply Roof Membrane Adhesives	250

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APPENDIX B: RULE EMISSION LIMITS
[RULE 1168 01-07-2005]

Specialty Applications	VOC Limits and Effective Dates**			
	Current VOC Limit*	1-1-05	7-1-05	1-1-07
PVC Welding	510			
CPVC Welding	490			
ABS Welding	400		325	
Plastic Cement Welding	350	250		
Adhesive Primer for Plastic	650		550	
Computer Diskette Manufacturing	350			
Contact Adhesive	80			
Special Purpose Contact Adhesive	250			
Tire Retread	100			
Adhesive Primer for Traffic Marking Tape	150			
Structural Wood Member Adhesive	140			
Sheet Applied Rubber Lining Operations	850			
Top and Trim Adhesive	540			250

** The specified limits remain in effect unless revised limits are listed in subsequent columns.

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APPENDIX B: RULE EMISSION LIMITS
[RULE 1168 01-07-2005]

For adhesives, adhesive bonding primers, or any other primer not regulated by the above two tables and applied to the following substrates, the following limits shall apply:

Substrate Specific Applications	Current VOC Limit*
Metal to Metal	30
Plastic Foams	50
Porous Material (except wood)	50
Wood	30
Fiberglass	80

If an adhesive is used to bond dissimilar substrates together the adhesive with the highest VOC content shall be allowed.

Sealants	Current VOC Limit*
Architectural	250
Marine Deck	760
Nonmembrane Roof	300
Roadway	250
Single-Ply Roof Membrane	450
Other	420

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1168 01-07-2005]

Sealant Primers	Current VOC Limit*
Architectural	
Non Porous	250
Porous	775
Modified Bituminous	500
Marine Deck	760
Other	750

* For low-solid adhesives or sealants the VOC limit is expressed in grams per liter of material as determined in paragraph (b)(32); for all other adhesives and sealants, VOC limits are expressed as grams of VOC per liter of adhesive or sealant less water and less exempt compounds as determined in paragraph (b)(31).

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 02-01-2008]

(1) Solvent Requirements

A person shall not use a solvent to perform solvent cleaning operations unless the solvent complies with the applicable requirements set forth below:

	CURRENT LIMITS*	EFFECTIVE 1/1/2008*	EFFECTIVE 1/1/2009
SOLVENT CLEANING ACTIVITY	VOC g/l (lb/gal)	VOC g/l (lb/gal)	VOC g/l (lb/gal)
(A) Product Cleaning During Manufacturing Process Or Surface Preparation For Coating, Adhesive, Or Ink Application			
(i) General	25 (0.21)		
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)		
(iii) Medical Devices & Pharmaceuticals	800 (6.7)		
(B) Repair and Maintenance Cleaning			
(i) General	25 (0.21)		
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)		

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 02-01-2008]

SOLVENT CLEANING ACTIVITY (cont.)	CURRENT LIMITS* VOC g/l (lb/gal)	EFFECTIVE 1/1/2008* VOC g/l (lb/gal)	EFFECTIVE 1/1/2009 VOC g/l (lb/gal)
(iii) Medical Devices & Pharmaceuticals			
(A) Tools, Equipment, & Machinery	800 (6.7)		
(B) General Work Surfaces	600 (5.0)		
(C) Cleaning of Coatings or Adhesives Application Equipment	25 (0.21)		
(D) Cleaning of Ink Application Equipment			
(i) General	25 (0.21)		
(ii) Flexographic Printing	25 (0.21)		
(iii) Gravure Printing			
(A) Publication	100 (0.83)		
(B) Packaging	25 (0.21)		
(iv) Lithographic (Offset) or Letter Press Printing			
(A) Roller Wash, Blanket Wash, & On-Press Components			
(I) Newsprint	100 (0.83)		

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 02-01-2008]

SOLVENT CLEANING ACTIVITY (cont.)	CURRENT LIMITS* VOC g/l (lb/gal)	EFFECTIVE 1/1/2008* VOC g/l (lb/gal)	EFFECTIVE 1/1/2009 VOC g/l (lb/gal)
(II) Other Substrates	500 (4.2)	100 (0.83)	
(B) Removable Press Components	25 (0.21)		
(v) Screen Printing	500 (4.2)	100 (0.83)	
(vi) Ultraviolet Ink/ Electron Beam Ink Application Equipment (except screen printing)	650 (5.4)	650 (5.4)	100 (0.83)
(vii) Specialty Flexographic Printing	100 (0.83)		
(E) Cleaning of Polyester Resin Application Equipment	25 (0.21)		

* The specified limits remain in effect unless revised limits are listed in subsequent columns.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 05-01-2009]

(1) Solvent Requirements

A person shall not use a solvent to perform solvent cleaning operations unless the solvent complies with the applicable requirements set forth below:

SOLVENT CLEANING ACTIVITY	CURRENT LIMITS* VOC g/l (lb/gal)	EFFECTIVE 1/1/2010 VOC g/l (lb/gal)
(A) Product Cleaning During Manufacturing Process Or Surface Preparation For Coating, Adhesive, Or Ink Application		
(i) General	25 (0.21)	
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)	
(iii) Medical Devices & Pharmaceuticals	800 (6.7)	
(B) Repair and Maintenance Cleaning		
(i) General	25 (0.21)	
(ii) Electrical Apparatus Components & Electronic Components	100 (0.83)	

FACILITY PERMIT TO OPERATE
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APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 05-01-2009]

SOLVENT CLEANING ACTIVITY (cont.)	CURRENT LIMITS* VOC g/l (lb/gal)	EFFECTIVE 1/1/2010 VOC g/l (lb/gal)
(iii) Medical Devices & Pharmaceuticals		
(A) Tools, Equipment, & Machinery	800 (6.7)	
(B) General Work Surfaces	600 (5.0)	
(C) Cleaning of Coatings or Adhesives Application Equipment	25 (0.21)	
(D) Cleaning of Ink Application Equipment		
(i) General	25 (0.21)	
(ii) Flexographic Printing	25 (0.21)	
(iii) Gravure Printing		
(A) Publication	100 (0.83)	
(B) Packaging	25 (0.21)	
(iv) Lithographic (Offset) or Letter Press Printing		
(A) Roller Wash, Blanket Wash, & On-Press Components	100 (0.83)	

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ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 1171 05-01-2009]

	CURRENT LIMITS*	EFFECTIVE 1/1/2010
SOLVENT CLEANING ACTIVITY (cont.)	VOC g/l (lb/gal)	VOC g/l (lb/gal)
(B) Removable Press Components	25 (0.21)	
(v) Screen Printing	100 (0.83)	
(vi) Ultraviolet Ink/ Electron Beam Ink Application Equipment (except screen printing)	650 (5.4)	100 (0.83)
(vii) Specialty Flexographic Printing	100 (0.83)	
(E) Cleaning of Polyester Resin Application Equipment	25 (0.21)	

* The specified limits remain in effect unless revised limits are listed in subsequent columns.

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 404 02-07-1986]

The operator shall not discharge into the atmosphere from this equipment, particulate matter in excess of the concentration at standard conditions, shown in Table 404(a). Where the volume discharged is between figures listed in the Table, the exact concentration permitted to be discharged shall be determined by linear interpolation.

For the purposes of this rule, emissions shall be averaged over one complete cycle of operation or one hour, whichever is the lesser time period.

TABLE 404(a)

Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter"Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions		Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions	
Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot	Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot
25 or less	883 or less	450	0.196	900	31780	118	0.0515
30	1059	420	.183	1000	35310	113	.0493
35	1236	397	.173	1100	38850	109	.0476
40	1413	377	.165	1200	42380	106	.0463
45	1589	361	.158	1300	45910	102	.0445

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 404 02-07-1986]

Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter" Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions		Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions	
Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot	Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot
50	1766	347	.152	1400	49440	100	.0437
60	2119	324	.141	1500	52970	97	.0424
70	2472	306	.134	1750	61800	92	.0402
80	2825	291	.127	2000	70630	87	.0380
90	3178	279	.122	2250	79460	83	.0362
100	3531	267	.117	2500	88290	80	.0349
125	4414	246	.107	3000	105900	75	.0327
150	5297	230	.100	4000	141300	67	.0293
175	6180	217	.0947	5000	176600	62	.0271
200	7063	206	.0900	6000	211900	58	.0253
250	8829	190	.0830	8000	282500	52	.0227
300	10590	177	.0773	10000	353100	48	.0210
350	12360	167	.0730	15000	529700	41	.0179
400	14130	159	.0694	20000	706300	37	.0162
450	15890	152	.0664	25000	882900	34	.0148

FACILITY PERMIT TO OPERATE
ORANGE COUNTY SANITATION DISTRICT

APPENDIX B: RULE EMISSION LIMITS
[RULE 404 02-07-1986]

Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter" Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions		Volume Discharged Calculated as Dry Gas At Standard Conditions		Maximum Concentration of Particulate Matter Allowed in Discharged Gas Calculated as Dry Gas at Standard Conditions	
Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot	Cubic meters Per Minute	Cubic feet Per Minute	Milligrams per Cubic Meter	Grains per Cubic Foot
500	17660	146	.0637	30000	1059000	32	.0140
600	21190	137	.0598	40000	1413000	28	.0122
700	24720	129	.0563	50000	1766000	26	.0114
800	28250	123	.0537	70000 or more	2472000 or more	23	.0100

Dunavent, Andrew/SDO

From: Jacob Allen <jallen2@aqmd.gov>
Sent: Tuesday, May 03, 2016 4:18 PM
To: Dunavent, Andrew/SDO
Cc: OB PR Support NA Docs
Subject: Public Records Request #84575,
Attachments: ENG - Permits - 5/5/2015 - Fac ID: 20231 - Appl# 561605 - Permit# G35553 - Name: HUNTINGTON BEACH CITY, WATER DEPT.pdf; - PR - PR Supporting Docs - 5/3/2016 - 84575 - - - COMPLETION LETTER - ANDREW DUNAVENT.pdf; - PR - PR Review Docs - 5/5/2015 - 84575 - - 561605 APPL FILE - - - ANDREW DUNAVENT.pdf

Attached are records for your request and a completion letter

Jacob Allen
Public Records, SCAQMD
(909) 396-2282

Information Management
Public Records Unit

Direct Dial (909) 396-3700
Fax:(909) 396-3330

COMPLETION LETTER

May 03, 2016

ANDREW DUNAVENT
CH2M HILL
402W. BROADWAY # SUITE 1450
SAN DIEGO, CA 92101

Ref.: CONTROL NO. 84575
Received 1/21/2016

Re: APPL'S, P/O'S & S/T RPTS FOR HUNTINGTON BEACH CITY, WATER DEPT., FAC ID #20231, AT 19001-71 HUNTINGTON STREET, HUNTINGTON BEACH, CA 92648, APPL #561605.

After a thorough search of this agency's records, the following records were found:
COMPLETE ENGRG APPL 561605 FOR HUNTINGTON BEACH CITY, WATER DEPT., FAC ID #20231 AT 19001-71 HUNTINGTON STREET, HUNTINGTON BEACH, CA 92648

The following records were not found:
S/T RPTS

YOUR REQUESTED RECORDS WERE PROVIDED ELECTRONICALLY ON 05/03/2016

If you have any questions, please do not hesitate to contact me, Tuesday through Friday, **8:00 a.m**. to **4:30 p.m.**

Sincerely,

JACOB ALLEN x2282
For Colleen Paine
Public Records Coordinator

:ja

ROUTING RECORD

DATE	FROM	TO	ACTION
4/1/14	CT01	PR08	prescreen
5/5/15	PR08	CT01/A	PTO Approved KH

REFERENCE TO OTHER APCD RECORDS INCLUDING VARIANCES

G35553

APPL # 561605
I.D. # 20231

HUNTINGTON BEACH CITY, WATER DEPT
19001-71 HUNTINGTON ST
HUNTINGTON BEACH
GENSET

Date: 03/11/14

South Coast Air Quality Management District

Form 400-A

Application Form for Permit or Plan Approval

List only one piece of equipment or process per form.

AQMD

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944
Tel: (909) 396-3385
www.aqmd.gov

Section A - Operator Information

1. Facility Name (Business Name of Operator to Appear on the Permit): City of Huntington Beach Utilities

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 020231

3. Owner's Business Name (If different from Business Name of Operator):

Section B - Equipment Location Address

4. Equipment Location Is: (●) Fixed Location ( ) Various Location
(For equipment operated at various locations, provide address of initial site.)

19071 Huntington St.
Street Address

Huntington Beach, CA 92648
City Zip

Jay Kleinheinz — Utilities Supervisor
Contact Name — Title

(714) 374-1512 — (714) 847-1067
Phone # Ext. Fax #

E-Mail: kleinhej@surfcity-hb.org

Section C - Permit Mailing Address

5. Permit and Correspondence Information:
☒ Check here if same as equipment location address

Huntington Beach Utilities Division P.O. Box 190
Address

Huntington Beach, CA 92648
City State Zip

Jay Kleinheinz — Utilities Supervisor
Contact Name — Title

(714) 374-1512 — (714) 847-1067
Phone # Ext. Fax #

E-Mail: kleinhej@surfcity-hb.org

Section D - Application Type

6. The Facility Is: (●) Not In RECLAIM or Title V ( ) In RECLAIM ( ) In Title V ( ) In RECLAIM & Title V Programs

7. Reason for Submitting Application (Select only ONE):

7a. New Equipment or Process Application:
- ( ) New Construction (Permit to Construct)
- ( ) Equipment On-Site But Not Constructed or Operational
- ( ) Equipment Operating Without A Permit *
- ( ) Compliance Plan
- ( ) Registration/Certification
- ( ) Streamlined Standard Permit

7b. Facility Permits:
- ( ) Title V Application or Amendment (Refer to Title V Matrix)
- ( ) RECLAIM Facility Permit Amendment

7c. Equipment or Process with an Existing/Previous Application or Permit:
- ( ) Administrative Change
- ( ) Alteration/Modification
- (●) Alteration/Modification without Prior Approval * (SP)
- ( ) Change of Condition
- ( ) Change of Condition without Prior Approval *
- ( ) Change of Location
- ( ) Change of Location without Prior Approval *
- ( ) Equipment Operating with an Expired/Inactive Permit *

* A Higher Permit Processing Fee and additional Annual Operating Fees (up to 3 full years) may apply (Rule 301(c)(1)(D)(i)).

Existing or Previous Permit/Application
If you checked any of the items in 7c., you MUST provide an existing Permit or Application Number:
D74528

8a. Estimated Start Date of Construction (mm/dd/yyyy): 04/01/2012

8b. Estimated End Date of Construction (mm/dd/yyyy): 06/01/2012

8c. Estimated Start Date of Operation (mm/dd/yyyy): 06/01/2012

9. Description of Equipment or Reason for Compliance Plan (list applicable rule): Replacement of existing Genset

10. For identical equipment, how many additional applications are being submitted with this application? (Form 400-A required for each equipment / process)

11. Are you a Small Business as per AQMD's Rule 102 definition? (10 employees or less and total gross receipts are $500,000 or less OR a not-for-profit training center) (●) No ( ) Yes

12. Has a Notice of Violation (NOV) or a Notice to Comply (NC) been issued for this equipment? (●) No ( ) Yes
If Yes, provide NOV/NC#:

Section E - Facility Business Information

13. What type of business is being conducted at this equipment location? Emergency Power Backup / Generation

14. What is your business primary NAICS Code? (North American Industrial Classification System) 9511

15. Are there other facilities in the SCAQMD jurisdiction operated by the same operator? ( ) No (●) Yes

16. Are there any schools (K-12) within 1000 feet of the facility property line? (●) No ( ) Yes

Section F - Authorization/Signature

I hereby certify that all information contained herein and information submitted with this application are true and correct.

17. Signature of Responsible Official: [signature]

18. Title of Responsible Official: Utilities Supervisor

19. I wish to review the permit prior to issuance. (This may cause a delay in the application process.) (●) No ( ) Yes

20. Print Name: Jay A. Kleinheinz

21. Date: 03/05/2014

22. Do you claim confidentiality of data? (If Yes, see instructions.) (●) No ( ) Yes

23. Check List: ☒ Authorized Signature/Date ☒ Form 400-CEQA ☒ Supplemental Form(s) (ie., Form 400-E-xx) ☒ Fees Enclosed

AQMD USE ONLY	APPLICATION TRACKING #	CHECK #	AMOUNT RECEIVED	PAYMENT TRACKING #	VALIDATION
	561605	795731	$ 2218.39	114635	03/11/14

DATE	APP REJ	DATE	APP REJ	CLASS I III	BASIC CONTROL	EQUIPMENT CATEGORY CODE	TEAM	ENGINEER	REASON/ACTION TAKEN
						(A)			

© South Coast Air Quality Management District, Form 400-A (2012.07)

* O/C to use address in system 3.21.14 SC

~~Delinquent~~

795732 1109/20 114634 * Sent checks to B/S 3.21.14 Previous 4/1/14

Called 3.21 to confirm mailing - OK

14 MAR 11 A10:15

S.C.A.Q.M.D.
PERMIT PROCESSING

SCAQMD
REVENUE & RECEIVING

'14 MAR -7 A11:05

South Coast Air Quality Management District

Form 400-CEQA
California Environmental Quality Act (CEQA) Applicability

Mail To:
SCAQMD
P.O. Box 4944
Diamond Bar, CA 91765-0944

Tel: (909) 396-3385
www.aqmd.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[1] has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].[2] Refer to the attached instructions for guidance in completing this form.[3] 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 Permit Services at (909) 396-3385 or (909) 396-2668.

Section A - Facility Information

1. Facility Name (Business Name of Operator To Appear On The Permit): City of Huntington Beach Utilities Yard

2. Valid AQMD Facility ID (Available On Permit Or Invoice Issued By AQMD): 020231

3. Project Description: Utilities Yard Natural Gas IC Generator - Emergency Duty

Section B - Review For Exemption From Further CEQA Action

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
1.	○	◉	**A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project?** If yes, attach a copy of the signed Notice of Determination to this form.
2.	○	◉	**A request for a change of permittee only (without equipment modifications)?**
3.	○	◉	**A functionally identical permit unit replacement with no increase in rating or emissions?**
4.	○	◉	**A change of daily VOC permit limit to a monthly VOC permit limit?**
5.	○	◉	**Equipment damaged as a result of a disaster during state of emergency?**
6.	○	◉	**A Title V** (i.e., Regulation XXX) **permit renewal (without equipment modifications)?**
7.	○	◉	**A Title V administrative permit revision?**
8.	○	◉	**The conversion of an existing permit into an initial Title V permit?**

If "**Yes**" is checked for any question in Section B, your application does not require additional evaluation for CEQA applicability. Skip to Section D - Signatures on page 2 and sign and date this form.

Section C - Review of Impacts Which May Trigger CEQA

Complete Parts 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	Part I - General
1.	○	◉	**Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project?** 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.
2.	○	◉	**Is this project part of a larger project?** If yes, attach a separate sheet to briefly describe the larger project.
			Part II - Air Quality
3.	○	◉	**Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?**
4.	○	◉	**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.

[1] 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.

[2] To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

[3] To download this form and the instructions, visit http://www.aqmd.gov/ceqa or http://www.aqmd.gov/permit

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Section C - Review of Impacts Which May Trigger CEQA (cont.)			
	Yes	No	**Part II - Air Quality (cont.)**
5.	○	◉	**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.	○	◉	**Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?**
7.	○	◉	**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?[4]**
			Part III – Water Resources
8.	○	◉	**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.	○	◉	**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.
			Part IV – Transportation/Circulation
10.			**Will the project result in** (Check all that apply):
	○	◉	**a. the need for more than 350 new employees?**
	○	◉	**b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?**
	○	◉	**c. increase customer traffic by more than 700 visits per day?**
			Part V – Noise
11.	○	◉	**Will the project include equipment that will generate noise GREATER THAN 90 decibels (dB) at the property line?**
			Part VI – Public Services
12.			**Will the project create a permanent need for new or additional public services in any of the following areas** (Check all that apply):
	○	◉	**a. Solid waste disposal?** Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	○	◉	**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" response in Section C, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.***

Section D - Signatures

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.

1. Signature of Responsible Official of Firm:		2. Title of Responsible Official of Firm:
		Water Utilities Supervisor
3. Print Name of Responsible Official of Firm:		4. Date Signed:
Jay A. Kleinheinz		03/05/2014
5. Phone # of Responsible Official of Firm:	6. Fax # of Responsible Official of Firm:	7. Email of Responsible Official of Firm:
(714) 374-1512	(714) 847-1067	kleinhej@surfcity-hb.org
8. Signature of Preparer, (If prepared by person other than responsible official of firm):		9. Title of Preparer:
10. Print Name of Preparer:		11. Date Signed:
12. Phone # of Preparer:	13. Fax # of Preparer:	14. Email of Preparer:

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

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

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

Permit to be issued to (Business name of operator to appear on permit):
City of Huntington Beach Utilities Division

Street location where the equipment will be operated (for equipment which will be moved to various location in SCAQMD's jurisdiction, please list the initial location site):
19071 Huntington St, Huntington Beach Ca 92648

Section A: Equipment Information

Internal Combustion Engine

Manufacturer:	Model No.:	Serial No.:
Waukesha	H24GSID	5283701135

EPA Family No.:

Date of Manufacture: _____ (mm/dd/yyyy)

For an ICE manufactured after 7/18/94, please provide manufacturer's specification.

Manufacturer Maximum Rating: 585 BHP @ 1800 RPM

Date of Installation: 06/01/2012 (mm/dd/yyyy)

ICE Emergency Function

(●) Electrical Generator ( ) Fire Pump ( ) Flood Control ( ) Pump Driver ( ) Compressor
( ) Water Pump ( ) Other _____

Type

(●) Fixed site ( ) Portable

How Is This Type of Equipment Used? (Check All That Apply)

[☑] Within Facility [☐] Off- Site [☐] Rental

Fuel

( ) Diesel Oil ( ) LPG (●) Natural Gas ( ) Other:

Cycle Type

( ) Two Cycle (●) Four Cycle

Combustion Type

( ) Lean Burn (●) Rich Burn

Engine Size

24 liters

No. of Cylinders

( ) Four ( ) Six (●) Eight ( ) Ten ( ) Twelve ( ) Sixteen ( ) Other _____

Aspiration Type

( ) Naturally Aspirated (●) Turbocharged ( ) Turbocharged/Aftercooled

Air Pollution Control

Check all that apply:

- [☐] Selective Catalytic Reduction (SCR)*
- [☐] Selective Non-catalytic Reduction (SNCR)*
- [☑] Non-selective Catalytic Reduction (NSCR)
- [☐] Diesel Particulate Filter (DPF)
- [☐] Catalytic Converter
- [☑] Air/Fuel Ratio Controller Compliance Control MECR-64
- [☐] No Controls
- [☐] Other (specify) _____

Manufacturer: Miratech

Model No. Catalyst IQS-20-08-EC1

If already permitted, indicate Permit No. D74528 Device No. _____ (RECLAIM and/or Title V Permits)

* Separate application is required.

Additional Information for Diesel Particulate Filter (DPF)

Filter Efficiency: _____ %

CARB Certified? ( ) Yes ( ) No

If Yes, provide a copy of the CARB Verification Certificate, or provide the Verification No. _____

Installing a backpressure relief system? ( ) Yes ( ) No

© South Coast Air Quality Management District, Form 400-E-13a (2014.2)

Section B: Operation Information

Fuel Consumption	Maximum Load: _____ gal/hr OR 4787.86 cu ft/hr	Average Load: _____ gal/hr OR 4787 cu ft/hr
Operating Schedule	Normal: _____ hours/day _____ days/week _____ weeks/year	
	Maximum: _____ hours/day _____ days/week _____ weeks/year	
	Testing & Maintenance: 50 hours/year	

Section C: Engine Data

Is the engine EPA certified?

- (●) Yes — Provide a copy of EPA's Engine Certification.

  Choose one: ( ) Tier I ( ) Tier II ( ) Tier III ( ) Tier IV (Interim) ( ) Tier IV

- (●) No — Provide a copy of the Manufacturer's Emissions Data.

  If manufacturer's emissions data is not available, provide available emissions data below. Provide supporting documents.

Carbon Monoxide (grams/bhp-hr)	Hydrocarbons (grams/bhp-hr)	Oxides of Nitrogen (grams/bhp-hr)	Hydrocarbons + Oxides of Nitrogen (grams/bhp-hr)	Particulate Matter (grams/bhp-hr)
2	1.5	1.5		

Section D: Sensitive Receptors

A. Distance from engine stack to the fenceline of the nearest sensitive receptor (ie., long-term health care facilities, rehabilitation centers, convalescent centers, retirement homes, residences, schools (K-12), playgrounds, child care centers, and athletic facilities):

Type of Facility	Name of Facility	Distance (feet)
Elderly Nursing Care	Beachside Nursing Facility	1,200

Section E: Applicant Certification Statement

I hereby certify that all information contained herein and submitted with this application is true and correct.

SIGNATURE OF PREPARER:	TITLE OF PREPARER:	
	Water Production Supervisor	
CONTACT PERSON FOR INFORMATION ON THIS EQUIPMENT:	CONTACT PERSON'S TELEPHONE NUMBER	DATE SIGNED:
Jay A. Kleinheinz	(714) 374-1512	03/05/2014

THIS IS A PUBLIC DOCUMENT

Pursuant to the California Public Records Act, your permit application and any supplemental documentation are public records and may be disclosed to a third party. If you wish to claim certain limited information as exempt from disclosure because it qualifies as a trade secret, as defined in the District's Guidelines for Implementing the California Public Records Act, you must make such claim at the time of submittal to the District.

Check here if you claim that this form or its attachments contain confidential trade secret information.

SCAQ...J PERMIT PROCESSING SYSTEM (PPS)

FEE DATA - SUMMARY SHEET

Application No	: 561605	IRS/SS No:	
Previous Application No:	281006	Previous Permit No:	D74528

Company Name :	HUNTINGTON BEACH CITY, WATER DEPT	Facility ID:	20231
Equipment Street:	19001-71 HUNTINGTON ST , HUNTINGTON BEACH CA 92648		
Equipment Desc :	I C E (50-500 HP) N-EM STAT NAT GAS ONLY		

Equipment Type :	BASIC			Fee Charged by:	B-CAT
B-CAT NO. :	040001	C-CAT NO:	00	Fee Schedule:	B
Facility Zone :	18	Deemed Compl. Date:	4/1/2014	Public Notice:	NO

Evaluation Type :	ALTERATION/MODIFICATION (PO NO PC)	Small Business:	☐
Disposition :	Approve PO, Recommended by Engineer	Higher Fees for Failing to Obtain a Permit:	☒
Lead Appl. No :		Identical Permit Unit:	☐

Air quality Analysis			$0.00	Filing Fee Paid:	$0.00
E.I.R			$0.00	Permit Processing Fee Paid:	$3,327.59
Health Risk Assessment			$0.00	Permit Processing Fee Calculated*:	$3,327.59
Public Notice Preparation Fee			$0.00	Permit Processing Fee Adjustment:	$0.00
Public Notice Publication Fee			$0.00		
Expedited Processing	Hours:	0.00	$0.00		
Source Test Review	Hours:	0.00	$0.00		
Time & Material	Hours:	0.00	$0.00		
				Total Additional Fee:	$0.00
				Additional Charge:	$0.00

COMMENTS:

RECOMMENDED BY: RAY RONQUILLO DATE: 05/05/2015

REVIEWED BY: CDM DATE: 5/5/15

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

SCAQMD PERMIT PROCESSING SYSTEM (PPS)

AEIS DATA SHEET

Company Name : HUNTINGTON BEACH CITY, WATER DEPT
Facility ID : 20231
Equipment Address : 19001-71 HUNTINGTON ST
HUNTINGTON BEACH CA 92648

Application Number : 561605
Equipment B-Cat : 040001
Estimated Completion Date : 05/05/15
Equipment C-Cat :
Equipment Type : Basic
Equipment Description : I C E (50-500 HP) N-EM STAT NAT GAS ONLY

	Emissions	
Emittants	R1 LB/HR	R2 LB/HR
CO	2.58	2.58
NOX	1.93	1.93
PM10	0.06	0.06
ROG	1.93	1.93

Applicable Rules

401	11/09/2001	Visible Emissions
402	05/07/1976	Nuisance
404	02/07/1986	Particulate Matter - Concentration
431.1	06/12/1998	Sulfur Content of Gaseous Fuels
60SubpartJJJJ	01/18/2008	Stationary Spark Ignition Internal Combustion Engines

	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Daily Start Times :	08:00	00:00	00:00	00:00	00:00	00:00	00:00
Daily Stop Times :	09:00	00:00	00:00	00:00	00:00	00:00	00:00

User's Initials : RR08 Date: 05/05/15 Supervisor's Name : _____ Review Date : / /

NSR DATA SUMMARY SHEET

Application No	561605
Application Type	50
Application status	PENDAPPRV
Previous Apps, Dev	281006,0

Company Name	HUNTINGTON BEACH CITY, WATER DEPT
Company ID	20231
Address	19001-71 HUNTINGTON ST, HUNTINGTON BEACH, CA 92648-2211
Reclaim	NO
Reclaim Zone	01
Air Basin	SC
Zone	18
Title V	NO

Device ID	0 - ICE-PPS
Estimated Completion Date	06-01-2012
Heat Input Capacity	0 Millions BTU/Hr
Priority Reserve	NONE - No Priority Access Requested
Recommended Disposition	31 - PERMIT TO OPERATE GRANTED
PR Expiration	12-31-9999
School within 1,000 feet	NO
Operating Weeks per year	50
Operating Days per week	1
Operating Hours	
Monday	08:00 to 09:00
Tuesday	00:00 to 00:00
Wednesday	00:00 to 00:00
Thursday	00:00 to 00:00
Friday	00:00 to 00:00
Saturday	00:00 to 00:00
Sunday	00:00 to 00:00

Emittant	CO	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	-3.57	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	2.58	Lbs/Hr
Max Daily	2.58	Lbs/day
Uncontrolled Emission		
Max Hourly	2.58	Lbs/Hr
Max Daily	2.58	Lbs/day
Current Emission		
BACT 30 Day Avg	0.43	Lbs/day
Annual Emission	131.55	Lbs/year
District Emission	1301(b)(1) - 12-07-1995	

Emittant	NOX	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	-1.68	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	1.93	Lbs/Hr
Max Daily	1.93	Lbs/day
Uncontrolled Emission		
Max Hourly	1.93	Lbs/Hr
Max Daily	1.93	Lbs/day
Current Emission		
BACT 30 Day Avg	0.32	Lbs/day
Annual Emission	98.66	Lbs/year
District Emission	1304(a)(4) - 10-12-1995	

Emittant	PM10	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	0	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	0.06	Lbs/Hr
Max Daily	0.06	Lbs/day
Uncontrolled Emission		
Max Hourly	0.06	Lbs/Hr
Max Daily	0.06	Lbs/day
Current Emission		
BACT 30 Day Avg	0.00	Lbs/day
Annual Emission	2.84	Lbs/year
District Emission	1304(a)(4) - 10-12-1995	

Application No	561605	Company ID	20231

Emittant	ROG	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	-1.68	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	1.93	Lbs/Hr
Max Daily	1.93	Lbs/day
Uncontrolled Emission		
Max Hourly	1.93	Lbs/Hr
Max Daily	1.93	Lbs/day
Current Emission		
BACT 30 Day Avg	0.32	Lbs/day
Annual Emission	98.66	Lbs/year
District Emission	1304(a)(4) - 10-12-1995	

Emittant	SOX	
BACT		
Cost effectiveness	NO	
Source Type	MINOR	
Emis Increase	0	
Modelling	N/A	
Public Notice	N	
Controlled Emission		
Max Hourly	0.00	Lbs/Hr
Max Daily	0.00	Lbs/day
Uncontrolled Emission		
Max Hourly	0.00	Lbs/Hr
Max Daily	0.00	Lbs/day
Current Emission		
BACT 30 Day Avg	0.00	Lbs/day
Annual Emission	0.00	Lbs/year
District Emission	1304(a)(4) - 10-12-1995	

Supervisor's Approval _____ Supervisor's Review Date _____

Processed By rronquil

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:

ID 20231

HUNTINGTON BEACH CITY, WATER DEPT
19001 HUNTINGTON ST, ATTN: JAY KLEINHEINZ
HUNTINGTON BEACH, CA 92648

Equipment Location: 19001-71 HUNTINGTON ST, HUNTINGTON BEACH, CA 92648-2211

Equipment Description :

Internal Combustion Engine, Waukesha, Model No. H24GSID, Serial No. 5283701135, Natural Gas Fueled, Four Cycles, Eight Cylinders, Turbocharged and Intercooled, Rich Burn, Rated at 585 B.H.P., with a Non-Selective Catalytic Reduction Converter, Miratech, Model No. IQS-20-08-EC1, and an Air-to-Fuel Ratio Controller, Compliance Controls, Model No. MECR-64, Driving an 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 be fired with natural gas only.

4. The engine emissions shall not exceed the following limits (except during cold start-up which shall not exceed 30 minutes):

Volatile Organic Compounds (VOC)	1.5 grams/bhp-hr
Oxides of Nitrogen (NOx)	1.5 grams/bhp-hr
Carbon Monoxide (CO)	2.0 grams/bhp-hr

5. This engine shall not be operated unless its exhaust is vented to the Non-Selective Catalytic Reduction unit which is in full operation and which is in good operating condition at all times.

6. This engine shall not be operated without the use of an automatic Air-to-Fuel Ratio Controller which shall be maintained and kept in proper operating condition at all times.

7. 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 5 hours in any one month for maintenance and testing purposes.

8. An operational non-resettable totalizing time meter shall be installed and maintained to indicate the engine elapsed operating time.

SAMPLE

PERMIT TO OPERATE

9. The facility shall maintain accurate maintenance records of the date of catalyst cleaning or replacement, oxygen sensor replacement, the total hour reading on the non-resettable totalizing time meter to determine the engine elapsed operating time, and records of engine tune-ups.

10. An engine operating log shall be kept and maintained, documenting the total time the engine is operated each month and specific reason for operation as:

    A. Emergency use,
    B. Maintenance and testing, or
    C. Other (describe the reason for operating).

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

11. On or before January 15th of each year, the operator shall record in the engine operating log the following:

    A. The total hours of operation for the previous calendar year, and
    B. The total hours of engine operation for maintenance and testing for the previous calendar year.

    The engine operating log shall be retained on site for a minimum of three calendar years and shall be made available to the Executive Officer or Representative upon request.

12. The operator shall operate this equipment in compliance with all applicable requirements of the Code of Federal Regulations Title 40 Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

SAMPLE

PERMIT TO OPERATE

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 applicable Rules and Regulations of the South Coast Air Quality Management District (SCAQMD). 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/RR08
5/5/2015

SAMPLE

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT	PAGE 1 of 6
	A/N **561605**
ENGINEERING AND COMPLIANCE	PROCESSED BY **RR08**
	CHECKED BY
APPLICATION PROCESSING AND CALCULATIONS	DATE 5/5/2015

Applicant's Name: **CITY OF HUNTINGTON BEACH- UTILITIES (ID# : 020231)**
Mailing Address: **19001 HUNTINGTON ST., P.O. Box 190**
HUNTINGTON BEACH, CA 92648

Equipment Location: **19071 HUNTINGTON STREET, HUNTINGTON BEACH, CA 92648**

Equipment Description:

INTERNAL COMBUSTION ENGINE

MANUFACTURER:	*WAUKESHA*
MODEL NO.:	*H24GSID*
FUELED WITH:	*NATURAL GAS*
DRIVING:	*EMER. ELECTRICAL GENERATO*
SERIAL NO.:	*5283701135*
CYLINDERS:	*8*
ASPIRATION:	*TURBOCHARGED*
HP RATING:	*585*
CONTROL (NSCR):	*MIRATECH IQS-20-08-EC1*

Permit Description:

Internal Combustion Engine, Waukesha, Model No. H24GSID, Serial No. 5283701135, Natural Gas Fueled, Four Cycles, Eight Cylinders, Turbocharged and Intercooled, Rich Burn, Rated at 585 B.H.P., With a Non-Selective Catalytic Reduction Converter, Miratech, Model No. IQS-20-08-EC1, and an Air-to-Fuel Ratio Controller, Compliance Controls, Model No. MECR-64, Driving an Emergency Electrical Generator.

HISTORY/PROCESS DESCRIPTION:

This application was received at the District as a Class 3 application (PO-no-PC) on 3/28/2014.

The permit applicant, City of Huntington Beach Utilities Division, is a Water Utility agency that supplies potable water services to the communities in and around the City of Huntington Beach. This particular facility is a Utilities Yard for the City. The facility is neither a Title V nor a RECLAIM facility. The latest record of a Notice To Comply issued to this facility was issued on 3/6/2014 (NTC# E26709) , which resulted in the filing of this permit application.

This equipment is a natural gas fueled engine that is driving an emergency electrical generator. This genset replaced an older genset that has been removed from the facility. The new engine was installed in 4/1/2012. Since this engine was installed without first obtaining a PTC, the application is being processed as a PO-no-PC with a 50% fee penalty, and is subject to NSR.

In order to meet BACT, the engine was installed with a **Miratech Non-Selective Catalytic Reduction Converter** and a **Compliance Controls MECR-64 Air-Fuel Ratio Controller**. The catalyst manufacturer has provided a guarantee that the post-catalyst emissions will not exceed **1.5 grams/bhp-hr** for **VOC** and **NOx**, and **2.0 grams/bhp-hr** for **CO.** These guaranteed emissions are in compliance with BACT requirements. The emission factors used in the evaluation will be based on the BACT limits. The emission factors for SOx and PM10 are based on default emission factors.

CALCULATIONS:

See ATTACHMENT A.

EVALUATION:

Rule 212:

There is no school within 1,000 feet of this facility. Therefore, public notice will not be required under Rule 212 (c)(1).

In order to determine compliance with Rule 212 (c)(3)(A)(i), for a facility with more than one permitted source, the MICR for all permitted equipment at this facility was evaluated. A Rule 1401 Tier 2 HRA was conducted for this new engine and the MICR was determined to be 0.0248-in-a-million. Based on the equipment list and the AQMD Inspector's inspection report on this facility, there are 8 other NG-fired IC engines driving water pumps at this site and 1 fuel dispensing equipment. The engines are permitted as non-emergency prime engines with BHP ratings ranging from 409 BHP (2 engines), 150 BHP (4 engines) and 130 BHP (2 engines). An analysis of the previous permit evaluations on these engines shows that, of all these other 8 engines, only 2 engines (the 409 BHP engines) had MICR calculations on file. The MICR calculated for each of the 409 BHP engine was 0.0949-in-a-million. Assuming the MICR for the other engines (although lower BHPs) is also 0.0949-in-a-million, then the total MICR for all the engines (including the new engine in this permit application) is calculated to be 0.784-in-a-million (i.e., 0.0949 x 8 = 0.7592 + 0.0248 = 0.784). The MICR for the fuel dispensing equipment was determined to be negligible. Therefore, the total MICR for this facility is assumed to be **0.784-in-a-million**. This total facility MICR is lower than the limit of **one-in-a-million**. Therefore, no public notice required under Rule 212 (c)(3)(A)(i).

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 431.1:

Natural gas, which is at least 80% methane, is the fuel used by this equipment. The sulfur compounds in the gas (calculated as H2S) is not expected to exceed 16 ppmv. Compliance is expected.

Rule 1110.2:

Exempt per Rule 1110.2(h)(2).

REGULATION XIV: Exempt as per Rule 1401 (g)(1)(F).

REGULATION XIII: New Source Review

The equipment must be constructed with BACT. It is exempt from the offset and modeling requirements.

BACT REQUIREMENTS (grams/bhp-hr)

	NOx	ROG	CO	PM10	SOx
Required	1.50	1.50	2.00	NG	NG
Actual	1.50	1.50	2.00	NG	NG
Compliance	**Yes**	**Yes**	**Yes**	Yes	Yes

Overall Compliance: **YES**

40 CFR Part 60 Subpart JJJJ:

Under §60.4230 (a)(iv) of 40 CFR Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines, this engine is subject to the provisions of this federal law because the engine is manufactured on or after 1/1/2009 and it is used for emergency purposes, with a maximum engine power greater than 25 HP. The applicable requirements of this law are shown below:

(1) Per § 60.4233 (e), this engine must comply with the emission standards in Table 1 as follows:

	Emission in grams/bhp-hr		
	NOx	VOC	CO
Table 1 Emission Standards (Emergency >= 130 HP)	2.0	1.0	4.0
*Expected Emissions (based on post-NSCR emission guarantee)**	*1.5*	*0.25***	*2.0*

* *As discussed previously (see discussion under BACT compliance), based on the actual post-NSCR emission guarantee provided by the NSCR manufacturer, this engine is expected to meet the emission standards in the table above.*

** *The pre-NSCR emission guarantee for NMHC (VOC), as provided by the engine manufacturer, is 0.25 g/bhp-hr. Therefore, the actual post-NSCR emission for VOC is expected to be lower than the BACT guarantee of 1.5 g/bhp-hr.*

(2) Per § 60.4234, the engine must meet the emission standards in §60.4233 over the entire life of the engine.

* *The permit will not contain a "sunset clause" or other similar feature that would limit the time frame that the facility will need to comply with the emission limits. Therefore, the emission limits are understood to be enforced throughout the lifetime of the engine.*

(3) Per § 60.4237 (a), the engine must be installed with a non-resettable hour meter.

* *The permit will contain a standard condition requiring the installation of a non-resettable timer. Therefore, compliance with this section of the law is expected.*

(4) Per § 60.4243 (b)(2)(ii), the operator is required to keep a maintenance plan (including maintenance records), and maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions.

* *The permit will contain a standard condition requiring that "This equipment shall be properly maintained and kept in good operating condition at all times". In addition, the operator is required to keep records of the engine's operation. Compliance with this section of the law is expected.*

(5) Per § 60.4243 (d), for emergency stationary ICE, the operator is allowed up to 100 hours per year for maintenance checks and readiness testing, and, up to 50 hours per year in non-emergency situations.

* *The permit will contain a standard condition requiring maintenance and testing (classified as non-emergency use) be limited to 50 hours/year. Therefore, compliance with this section of the law is expected.*

(6) Per § 60.4243 (g), it is expected that air-to-fuel-ratio controllers will be used with the operation of 3-way catalysts. The AFRC must be maintained and operated appropriately in order to ensure proper operation of the engine and control device to minimize emissions at all times.

* *The permit will contain a standard condition requiring the use of an AFRC at all times. Therefore, compliance with this rule is expected.*

Based on my analysis of the requirements of this federal regulation, I conclude that the permit conditions that are included in the proposed permit are sufficient to satisfy the requirements of this federal regulation. However, additional permit condition language will be added to emphasize the fact that this equipment is subject to the requirements of this federal regulation.

Rule 1714 - PSD for GHGs:

This rule requires an analysis of PSD applicability for sources of greenhouse gases (GHG). All of the existing IC engines in this facility were originally installed in 1993. Therefore, for the purpose of determining compliance with Rule 1714, only this new IC engine will be considered in the evaluation. The GHGs of concern for a combustion source are: CO2, N2O and CH4. The following analysis determines whether or not PSD permitting will be required:

Step 1 - Calculate mass emission rates for GHGs for this engine:

Given:	Engine fuel consumption rate =	4787	scf/hour	(given)
	MMBTU per scf =	0.0010	mmbtu/scf	(from EPA E.F. for GHG inventories)
	Maximum operating hours/year =	200	hours/yr	(standard permit limit for emergency equipment)
Therefore:	MMBTU/year =	4787 * 0.001028 * 200		
	MMBTU/year =	**984**	**mmbtu/year**	

	MMBTU/year	E.F.* (in lbs/mmbtu)	lbs/year	tons/year
CO_2	984	116.78	114,936	57.47
CH_4	984	0.0022	2.17	0.00108
N_2O	984	0.00022	0.22	0.00011

* From EPA Emission Factors for GHG Inventories (based on 40 CFR Part 98 Subpart C), converted from "kg" or "g" per mmbtu.

Step 2 - Calculate CO_2e:

	Mass Emission (TPY)	Global Warming Potential (GWP)	CO_2e (TPY)
CO_2	57.47	1	57.47
CH_4	0.00108	21	0.02274
N_2O	0.00011	310	0.03356

In order to be subject to PSD permitting, the mass emissions must exceed 100/250 tpy, AND, the CO_2e must be greater than 100,000 tpy (for a new source on or after 7/1/2011). Since this criteria is NOT satisfied, then, this source is **NOT subject to PSD permitting for GHGs.**

DISCUSSIONS:

Based on the information submitted with the application, the engine will operate in compliance with all the applicable Federal and SCAQMD Rules and Regulations.

RECOMMENDATIONS:

Issue Permit to Operate subject to the following operating conditions:

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 be fired with natural gas only.

4 . The engine emissions shall not exceed the following limits :

Volatile Organic Compounds (VOC)	1.5 grams/bhp-hr
Oxides of Nitrogen (NOx)	1.5 grams/bhp-hr
Carbon Monoxide (CO)	2.0 grams/bhp-hr

5 . This engine shall not be operated unless its exhaust is vented to the Non-Selective Catalytic Reduction unit which is in full operation and which is in good operating condition at all times.

6 . This engine shall not be operated without the use of an automatic Air-to-Fuel Ratio Controller which shall be maintained and kept in proper operating condition at all times.

7 . This engine shall not be operated more than 200 hours in any one year, which includes no more than 50 hours in any one year for maintenance and testing purposes.

8 . An operational non-resettable totalizing time meter shall be installed and maintained to indicate the engine elapsed operating time.

9 . The facility shall maintain accurate maintenance records of the date of catalyst cleaning or replacement, oxygen sensor replacement, the total hour reading on the non-resettable totalizing time meter to determine the engine elapsed operating time, and records of engine tune-ups.

10 . An engine operating log shall be kept and maintained, documenting the total time the engine is operated each month and specific reason for operation as:

A. Emergency Use,
B. Maintenance and Testing, and
C. Other (describe the reason for operating).

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

11 . On or before January 15th of each year, the operator shall record in the engine operating log the following:

A. The total hours of operation for the previous calendar year, and
B. The total hours of engine operation for maintenance and testing for the previous calendar year.

The engine operating log shall be retained on site for a minimum of three calendar years and shall be made available to the Executive Officer or Representative upon request.

12 . The operator shall operate this equipment in compliance with all applicable requirements of the Code of Federal Regulations Title 40 Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

ATTACHMENT A A/N 561605

Emergency ICEs

Given:

HP	585.0
g to lb conversion factor	0.0022046
Operating schedule	
hrs/day Max.	1
hrs/day Avg.	1
days/wk	1
hrs/month Max.	5
wks/yr	50

	VOC	NOx	SOx	CO	PM	PM10
Emission factors	1.5	1.5	0	2	0.045	0.043

	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	1.5	1.50	0	2.00	0.045	0.043
lb/hr	1.93	1.93	0.00	2.58	0.06	0.06
lb/day Max.	2	2	0	3	0	0
lb/day Avg.	0.322	0.322	0.000	0.430	0.000	0.000
lb/yr	98.66	98.66	-	131.55	2.96	2.84

Data Inputs

ENGR. INI.	RR08
A/N	561605
Appln Date:	3/28/2014
Class:	3

Applicant: CITY OF HUNTINGTON BEACH- UTILITIES (ID# : 020231)
Mailing address: 19001 HUNTINGTON ST., P.O. Box 190
HUNTINGTON BEACH, CA 92648

Equipment location: 19071 HUNTINGTON STREET, HUNTINGTON BEACH, CA 92648

MANUFACTURER:	WAUKESHA
MODEL NO.:	H24GSID
SERIAL NO.:	5283701135
CYLINDERS:	8
HP RATING:	585
CONTROL:	MIRATECH IQS-20-08-EC1

Turbocharged	Turbocharged/ Aftercooled	Naturally Aspirated
X	0	0

TURBOCHARGED

Driving:

Generator	Compressor	Pump
X	0	0

GENERATOR

Note: Emission factors taken from BACT emission limits.

	VOC*	NOx*	CO*	PM
Emission Factors, g/HP-hr	1.5	1.5	2	0.045

* Johnson Matthey guarantees post-catalyst emissions that are lower than BACT limits. However, for NSR purposes, default to BACT limits.

	Yes	No
Retard Timing	0	x

Operating schedule

hrs/day Max.	1
hrs/day Avg.	1
days/wk	1
hrs/month Max.	5
wks/yr	50

RICH BURN ENGINE DATA

Engine hp	585	hp
Engine efficiency (33% default)	0.33	
Fuel rate nat gas (actual if available)	4104	
HHV-Natural gas	1050	Btu/ft3
Conversion factor from HP -Btu/hr	2542.47	Btu/hr-hp
Fuel rate nat gas (actual)	4104	ft3/hr
	0.004104	MMft3/hr

Pollutant	Control Efficiency
PAHs	0.977
VOCs	0.977

Code	Compound	EF (lb/mmbtu)	EF (lb/mmcf)	R1 (lb/hr)	R2 (lb/hr)	NSR Data Entry (E-06 lb/hr)	
						R1	R2
A1	Acetaldehyde	2.79E-03	2.9295	0.012022668	0.000276521	12022.6680	276.5214
A3	Acrolein	2.63E-03	2.7615	0.011333196	0.000260664	11333.1960	260.6635
B1	Benzene (including benzene from gasoline)	1.58E-03	1.659	0.006808536	0.000156596	6808.5360	156.5963
B9	Butadiene, 1,3-	6.63E-04	0.69615	0.002857	6.5711E-05	2856.9996	65.7110
C3	Carbon tetrachloride (Tetrachloromethane)	1.77E-05	0.018585	7.62728E-05	1.75428E-06	76.2728	1.7543
C7	Chlorobenzene	1.29E-05	0.013545	5.55887E-05	1.27854E-06	55.5887	1.2785
C14	Chloroform(trichloromethane)	1.37E-05	0.014385	5.9036E-05	1.35783E-06	59.0360	1.3578
D6	Dichloroethane, 1,1-	1.13E-05	0.011865	4.8694E-05	1.11996E-06	48.6940	1.1200
E4	Ethyl benzene	2.48E-05	0.02604	0.000106868	2.45797E-06	106.8682	2.4580
E7	Ethylene dibromide(1,2-Dibromoethane)	2.13E-05	0.022365	9.1786E-05	2.11108E-06	91.7860	2.1111
E8	Ethylene dichloride (or 1,2-dichloroethane)	1.13E-05	0.011865	4.8694E-05	1.11996E-06	48.6940	1.1200
F3	Formaldehyde	2.05E-02	21.525	0.0883386	0.002031788	88338.6000	2031.7878
M6	Methanol (methyl alcohol)	3.06E-03	3.213	0.013186152	0.000303281	13186.1520	303.2815
M13	Methylene chloride(Dichloromethane)	4.12E-05	0.04326	0.000177539	4.0834E-06	177.5390	4.0834
P9	PolyCyclic Aromatic Hydrocarbon (PAHs)	4.39E-05	0.046095	0.000189174	4.351E-06	189.1739	4.3510
P30	Naphthalene	9.71E-05	0.101955	0.000418423	9.62374E-06	418.4233	9.6237
S6	Styrene (vinyl benzene)	1.19E-05	0.012495	5.12795E-05	1.17943E-06	51.2795	1.1794
T1	Tetrachloroethane 1,1,2,2-	2.53E-05	0.026565	0.000109023	2.50752E-06	109.0228	2.5075
T3	Toluene (methyl benzene)	5.58E-04	0.5859	0.002404534	5.53043E-05	2404.5336	55.3043
T7	Trichloroethane, 1,1,2-	1.53E-05	0.016065	6.59308E-05	1.51641E-06	65.9308	1.5164
V5	Vinyl chloride (chloroethylene)	7.18E-06	0.007539	3.09401E-05	7.11621E-07	30.9401	0.7116
X1	Xylenes (isomers and mixtures)	1.95E-04	0.20475	0.000840294	1.93268E-05	840.2940	19.3268

TIER 1 / TIER 2 SCREENING RISK ASSESSMENT DATA INPUT

Application deemed complete date:	10/19/12
A/N:	543492
Fac:	HUNTINGTON BCH UTILITIES

Stack Data		Units
Hour/Day	4	hr/day
Day/Week	1	day/wk
Week/Year	50	wk/yr
Emission Units	lb/hr	
		0
Control Efficiency	0.00	fraction range 0-1
Does source have TBACT?	YES	
Point or Volume Source ?	P	P or V
Stack Height or Building Height	15	feet
Area (For Volume Source Only)		ft^2
Distance-Residential	76	meters
Distance-Commercial	31	meters
Meteorological Station	Costa Mesa	

Source Type:	R - Rich Burn ICE
Screening Mode (NO = Tier 1 or Tier 2; YES = Tier 3)	NO

Emission Units	lb/hr	
Source output capacity	585	hp

FOR USER-DEFINED CHEMICALS AND EMISSIONS, FILL IN THE TABLE BELOW

USER DEFINED CHEMICALS AND EMISSIONS				R1 - Uncontrolled	Efficiency Factor	R2 - Controlled
Cmpound Code	Compound	lb/hr	Molecular Weight	lbs/hr	Fraction range 0-1	lbs/hr
				0	0.00000	
				0	0.00000	
				0	0.00000	
				0	0.00000	
				0		
				0		
				0

TIER 2 SCREENING RISK ASSESSMENT REPORT

A/N:	543492
Fac:	HUNTINGTON BCH UTILITIES

Application deemed complete date: 10/19/12

2. Tier 2 Data

MET Factor	0.69
4 hr -	0.87
6 or 7 hrs	0.88

Dispersion Factors tables

2	For Chronic X/Q
6	For Acute X/Q

Dilution Factors (ug/m3)/(tons/yr)

Receptor	X/Q	X/Qmax
Residential	1.053582372	13.24924842
Commercial	4.306276457	42.5239479

Adjustment and Intake Factors

	AFann	DBR	EVF
Residential	1	302	0.96
Worker	4.2	149	0.38

3. Rule 1401 Compound Data

Compound	R1 - uncontrolled (lbs/hr)	R2 - controlled (lbs/hr)	CP	MP MICR Resident	MP MICR Worker	MP Chronic Resident	MP Chronic Worker	REL Chronic	REL Acute
Acetaldehyde	1.20E-02	2.77E-04	1.00E-02	1.0000	1.0000	1.0000	1.0000	140	470
Acrolein	1.13E-02	2.61E-04		1	1	1	1	0.35	2.5
Benzene (including benzene from gasoline)	6.81E-03	1.57E-04	1.00E-01	1	1	1	1.0000	60	1300
Butadiene, 1,3-	2.86E-03	6.57E-05	6.00E-01	1	1	1	1	20	
Carbon tetrachloride (Tetrachloromethane)	7.63E-05	1.75E-06	1.50E-01	1.0000	1.0000	1	1	40	1900
Chlorobenzene	5.56E-05	1.28E-06		1.0000	1.0000	1	1	1000	
Chloroform(trichloromethane)	5.90E-05	1.36E-06	1.90E-02	1	1	1	1	300	150
Dichloroethane, 1,1-	4.87E-05	1.12E-06	5.70E-03	1	1	1	1		
Ethyl benzene	1.07E-04	2.46E-06	8.70E-03	1.0000	1.0000	1	1	2000	
Ethylene dibromide(1,2-Dibromoethane)	9.18E-05	2.11E-06	2.50E-01	1	1	1	1	0.8	
Ethylene dichloride (or 1,2-dichloroethane)	4.87E-05	1.12E-06	7.20E-02	1	1	1.0000	1.0000	400	
Formaldehyde	8.83E-02	2.03E-03	2.10E-02	1	1.0000	1	1	9	55
Methanol (methyl alcohol)	1.32E-02	3.03E-04		1	1	1	1	4000	28000
Methylene chloride(Dichloromethane)	1.78E-04	4.08E-06	3.50E-03	1	1	1	1	400	14000
PolyCyclic Aromatic Hydrocarbon (PAHs)	1.89E-04	4.35E-06	3.90E+00	29.76	14.62107209	1	1		
Naphthalene	4.18E-04	9.62E-06	1.20E-01	1	1	1	1	9	
Styrene (vinyl benzene)	5.13E-05	1.18E-06		1	1	1	1	900	21000
Tetrachloroethane 1,1,2,2-	1.09E-04	2.51E-06	2.00E-01	1	1	1	1		
Toluene (methyl benzene)	2.40E-03	5.53E-05		1	1	1	1	300	37000
Trichloroethane, 1,1,2-	6.59E-05	1.52E-06	5.70E-02	1	1	1	1		
Vinyl chloride (chloroethylene)	3.09E-05	7.12E-07	2.70E-01	1	1	1	1		180000
Xylenes (isomers and mixtures)	8.40E-04	1.93E-05		1	1	1	1	700	22000

4. Emission Calculations

Compound	uncontrolled R1 (lb/hr)	controlled R2 (lb/hr)	R2 (lb/yr)	R2 (ton/yr)
Acetaldehyde	1.20E-02	2.77E-04	0.05530427	2.76521E-05
Acrolein	1.13E-02	2.61E-04	0.0521327	2.60664E-05
Benzene (including benzene from gasoline)	6.81E-03	1.57E-04	0.03131927	1.56596E-05
Butadiene, 1,3-	2.86E-03	6.57E-05	0.0131422	6.5711E-06
Carbon tetrachloride (Tetrachloromethane)	7.63E-05	1.75E-06	0.00035086	1.75428E-07
Chlorobenzene	5.56E-05	1.28E-06	0.00025571	1.27854E-07
Chloroform(trichloromethane)	5.90E-05	1.36E-06	0.00027157	1.35783E-07
Dichloroethane, 1,1-	4.87E-05	1.12E-06	0.00022399	1.11996E-07
Ethyl benzene	1.07E-04	2.46E-06	0.00049159	2.45797E-07
Ethylene dibromide(1,2-Dibromoethane)	9.18E-05	2.11E-06	0.00042222	2.11108E-07
Ethylene dichloride (or 1,2-dichloroethane)	4.87E-05	1.12E-06	0.00022399	1.11996E-07
Formaldehyde	8.83E-02	2.03E-03	0.40635756	0.000203179
Methanol (methyl alcohol)	1.32E-02	3.03E-04	0.0606563	3.03281E-05
Methylene chloride(Dichloromethane)	1.78E-04	4.08E-06	0.00081668	4.0834E-07
PolyCyclic Aromatic Hydrocarbon (PAHs)	1.89E-04	4.35E-06	0.0008702	4.351E-07
Naphthalene	4.18E-04	9.62E-06	0.00192475	9.62374E-07
Styrene (vinyl benzene)	5.13E-05	1.18E-06	0.00023589	1.17943E-07
Tetrachloroethane 1,1,2,2-	1.09E-04	2.51E-06	0.0005015	2.50752E-07
Toluene (methyl benzene)	2.40E-03	5.53E-05	0.01106085	5.53043E-06
Trichloroethane, 1,1,2-	6.59E-05	1.52E-06	0.00030328	1.51641E-07
Vinyl chloride (chloroethylene)	3.09E-05	7.12E-07	0.00014232	7.11621E-08
Xylenes (isomers and mixtures)	8.40E-04	1.93E-05	0.00386535	1.93268E-06
Total	1.39E-01	3.20E-03	6.41E-01	3.20E-04

A/N: 543492 Application deemed complete date: 10/19/12

TIER 2 RESULTS

5a. MICR

MICR = CP (mg/(kg-day))^-1 * Q (ton/yr) * (X/Q) * AFann * MET * DBR * EVF * 1E-6* MP

Compound	Residential	Commercial
Acetaldehyde	5.83E-11	1.95E-10
Acrolein		
Benzene (including benzene from gasoline)	3.30E-10	1.11E-09
Butadiene, 1,3-	8.31E-10	2.79E-09
Carbon tetrachloride (Tetrachloromethane)	5.55E-12	1.86E-11
Chlorobenzene		
Chloroform(trichloromethane)	5.44E-13	1.82E-12
Dichloroethane, 1,1-	1.35E-13	4.51E-13
Ethyl benzene	4.51E-13	1.51E-12
Ethylene dibromide(1,2-Dibromoethane)	1.11E-11	3.73E-11
Ethylene dichloride (or 1,2-dichloroethane)	1.70E-12	5.70E-12
Formaldehyde	8.99E-10	3.01E-09
Methanol (methyl alcohol)		
Methylene chloride(Dichloromethane)	3.01E-13	1.01E-12
PolyCyclic Aromatic Hydrocarbon (PAHs)	1.06E-08	1.75E-08
Naphthalene	2.43E-11	8.16E-11
Styrene (vinyl benzene)		
Tetrachloroethane 1,1,2,2-	1.06E-11	3.54E-11
Toluene (methyl benzene)		
Trichloroethane, 1,1,2-	1.82E-12	6.11E-12
Vinyl chloride (chloroethylene)	4.05E-12	1.36E-11
Xylenes (isomers and mixtures)		
Total	**1.28E-08**	**2.48E-08**
	PASS	**PASS**

No Cancer Burden, MICR<1.0E-6

5b. Cancer Burden	**NO**
X/Q for one-in-a-million:	
Distance (meter)	
Area (km2):	
Population:	-
Cancer Burden:	

6. Hazard Index

HIA = [Q(lb/hr) * (X/Q)max] * AF / Acute REL

HIC = [Q(ton/yr) * (X/Q) * MET * MP] / Chronic REL

Target Organs	Acute	Chronic	Acute Pass/Fail	Chronic Pass/Fail
Alimentary system (liver) - AL	3.93E-08	1.60E-08	Pass	Pass
Bones and teeth - BN			Pass	Pass
Cardiovascular system - CV		3.03E-09	Pass	Pass
Developmental - DEV	5.61E-06	8.68E-07	Pass	Pass
Endocrine system - END		3.65E-10	Pass	Pass
Eye	6.03E-03		Pass	Pass
Hematopoietic system - HEM	5.12E-06	7.75E-07	Pass	Pass
Immune system - IMM	5.12E-06		Pass	Pass
Kidney - KID		2.09E-09	Pass	Pass
Nervous system - NS	9.61E-07	8.55E-07	Pass	Pass
Reproductive system - REP	5.61E-06	1.76E-06	Pass	Pass
Respiratory system - RES	4.46E-03	2.89E-04	Pass	Pass
Skin			Pass	Pass

A/N: 543492 **Application deemed complete date:** 10/19/12

6a. Hazard Index Acute HIA = [Q(lb/hr) * (X/Q)max] *AF/ Acute REL

	HIA - Residential									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Acetaldehyde				7.80E-06					7.80E-06	
Acrolein				1.38E-03					1.38E-03	
Benzene (including benzene from gasoline)			1.60E-06		1.60E-06	1.60E-06		1.60E-06		
Butadiene, 1,3-										
Carbon tetrachloride (Tetrachloromethane)	1.22E-08		1.22E-08				1.22E-08	1.22E-08		
Chlorobenzene										
Chloroform(trichloromethane)			1.20E-07				1.20E-07	1.20E-07		
Dichloroethane, 1,1-										
Ethyl benzene										
Ethylene dibromide(1,2-Dibromoethane)										
Ethylene dichloride (or 1,2-dichloroethane)										
Formaldehyde				4.89E-04						
Methanol (methyl alcohol)							1.44E-07			
Methylene chloride(Dichloromethane)							3.86E-09			
PolyCyclic Aromatic Hydrocarbon (PAHs)										
Naphthalene										
Styrene (vinyl benzene)				7.44E-10					7.44E-10	
Tetrachloroethane 1,1,2,2-										
Toluene (methyl benzene)			1.98E-08	1.98E-08			1.98E-08	1.98E-08	1.98E-08	
Trichloroethane, 1,1,2-										
Vinyl chloride (chloroethylene)				5.24E-11			5.24E-11		5.24E-11	
Xylenes (isomers and mixtures)				1.16E-08					1.16E-08	
Total	1.22E-08		1.75E-06	1.88E-03	1.60E-06	1.60E-06	2.99E-07	1.75E-06	1.39E-03	

	HIA - Commercial									
Compound	AL	CV	DEV	EYE	HEM	IMM	NS	REP	RESP	SKIN
Acetaldehyde				2.50E-05					2.50E-05	
Acrolein				4.43E-03					4.43E-03	
Benzene (including benzene from gasoline)			5.12E-06		5.12E-06	5.12E-06		5.12E-06		
Butadiene, 1,3-										
Carbon tetrachloride (Tetrachloromethane)	3.93E-08		3.93E-08				3.93E-08	3.93E-08		
Chlorobenzene										
Chloroform(trichloromethane)			3.85E-07				3.85E-07	3.85E-07		
Dichloroethane, 1,1-										
Ethyl benzene										
Ethylene dibromide(1,2-Dibromoethane)										
Ethylene dichloride (or 1,2-dichloroethane)										
Formaldehyde				1.57E-03						
Methanol (methyl alcohol)							4.61E-07			
Methylene chloride(Dichloromethane)							1.24E-08			
PolyCyclic Aromatic Hydrocarbon (PAHs)										
Naphthalene										
Styrene (vinyl benzene)				2.39E-09					2.39E-09	
Tetrachloroethane 1,1,2,2-										
Toluene (methyl benzene)			6.36E-08	6.36E-08			6.36E-08	6.36E-08	6.36E-08	
Trichloroethane, 1,1,2-										
Vinyl chloride (chloroethylene)				1.68E-10			1.68E-10		1.68E-10	
Xylenes (isomers and mixtures)				3.74E-08					3.74E-08	
Total	3.93E-08		5.61E-06	6.03E-03	5.12E-06	5.12E-06	9.61E-07	5.61E-06	4.46E-03	

6b. Hazard Index Chronic

HIC = [Q(ton/yr) * (X/Q) * MET * MP] / Chronic REL

	HIC - Residential												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Acetaldehyde												1.44E-07	
Acrolein												5.41E-05	
Benzene (including benzene from gasoline)				1.90E-07			1.90E-07			1.90E-07			
Butadiene, 1,3-											2.39E-07		
Carbon tetrachloride (Tetrachloromethane)	3.19E-09			3.19E-09						3.19E-09			
Chlorobenzene	9.29E-11								9.29E-11		9.29E-11		
Chloroform(trichloromethane)	3.29E-10			3.29E-10					3.29E-10				
Dichloroethane, 1,1-													
Ethyl benzene	8.93E-11			8.93E-11	8.93E-11				8.93E-11				
Ethylene dibromide(1,2-Dibromoethane)											1.92E-07		
Ethylene dichloride (or 1,2-dichloroethane)	2.04E-10												
Formaldehyde												1.64E-05	
Methanol (methyl alcohol)				5.51E-09									
Methylene chloride(Dichloromethane)			7.42E-10							7.42E-10			
PolyCyclic Aromatic Hydrocarbon (PAHs)													
Naphthalene												7.77E-08	
Styrene (vinyl benzene)										9.53E-11			
Tetrachloroethane 1,1,2,2-													
Toluene (methyl benzene)				1.34E-08						1.34E-08		1.34E-08	
Trichloroethane, 1,1,2-													
Vinyl chloride (chloroethylene)													
Xylenes (isomers and mixtures)										2.01E-09		2.01E-09	
Total	3.90E-09		7.42E-10	2.12E-07	8.93E-11		1.90E-07		5.11E-10	2.09E-07	4.31E-07	7.08E-05	

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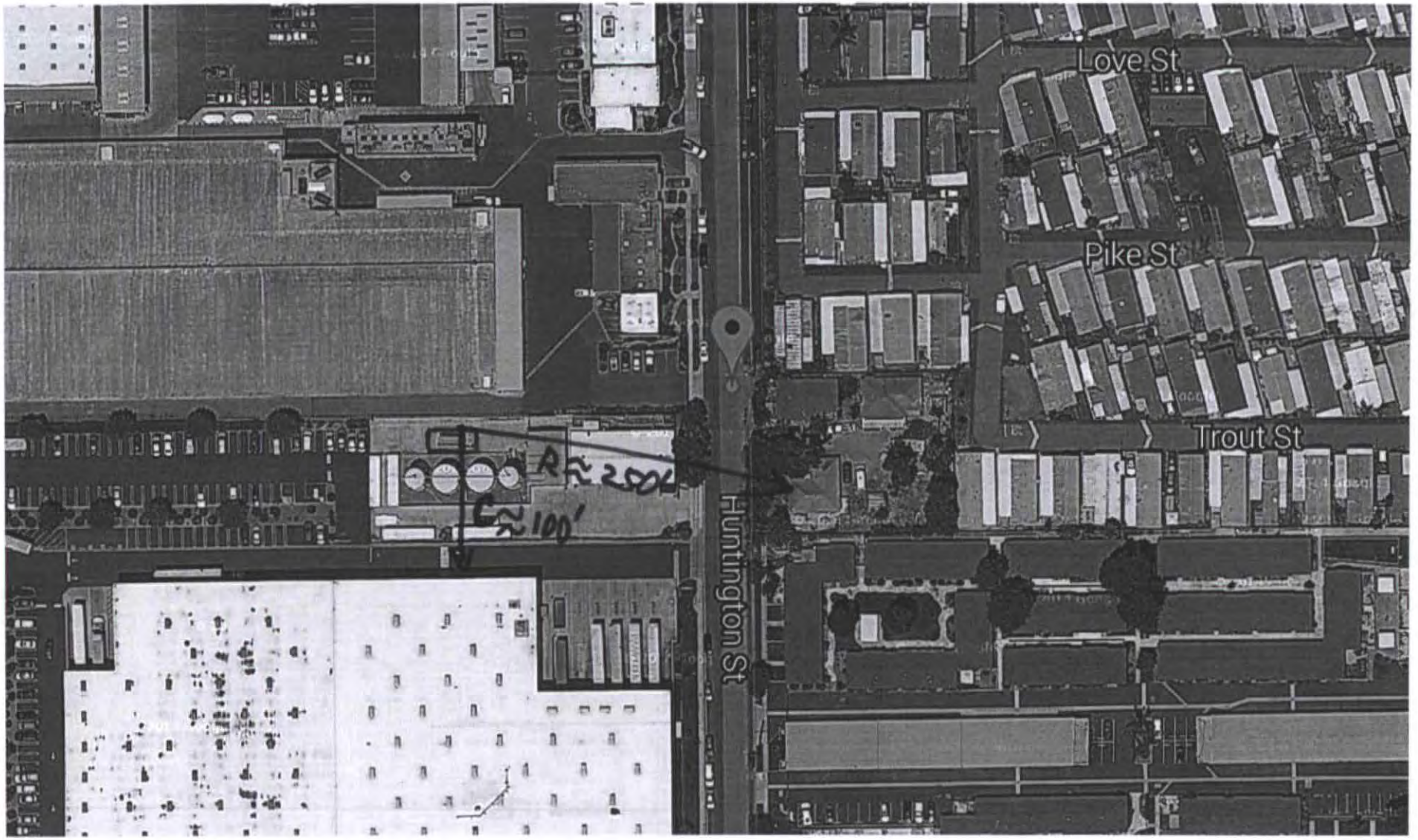
6b. Hazard Index Chronic (cont.)

	HIC - Commercial												
Compound	AL	BN	CV	DEV	END	EYE	HEM	IMM	KID	NS	REP	RESP	SKIN
Acetaldehyde												5.87E-07	
Acrolein												2.21E-04	
Benzene (including benzene from gasoline)				7.75E-07			7.75E-07			7.75E-07			
Butadiene, 1,3-											9.76E-07		
Carbon tetrachloride (Tetrachloromethane)	1.30E-08			1.30E-08						1.30E-08			
Chlorobenzene	3.80E-10								3.80E-10		3.80E-10		
Chloroform(trichloromethane)	1.34E-09			1.34E-09					1.34E-09				
Dichloroethane, 1,1-													
Ethyl benzene	3.65E-10			3.65E-10	3.65E-10				3.65E-10				
Ethylene dibromide(1,2-Dibromoethane)											7.84E-07		
Ethylene dichloride (or 1,2-dichloroethane)	8.32E-10												
Formaldehyde												6.71E-05	
Methanol (methyl alcohol)				2.25E-08									
Methylene chloride(Dichloromethane)			3.03E-09							3.03E-09			
PolyCyclic Aromatic Hydrocarbon (PAHs)													
Naphthalene												3.18E-07	
Styrene (vinyl benzene)										3.89E-10			
Tetrachloroethane 1,1,2,2-													
Toluene (methyl benzene)				5.48E-08						5.48E-08		5.48E-08	
Trichloroethane, 1,1,2-													
Vinyl chloride (chloroethylene)													
Xylenes (isomers and mixtures)										8.20E-09		8.20E-09	
Total	1.60E-08		3.03E-09	8.68E-07	3.65E-10		7.75E-07		2.09E-09	8.55E-07	1.76E-06	2.89E-04	

19071 Huntington St

19071 Huntington St, Huntington Beach, CA 92648



California Change location

19071 Huntington Street, Huntington Beach, CA 92648

Filters | Map

200 schools found within 5 miles of 19071 Huntington Street, Huntington Beach, CA 92648

Sort by: Rating

Compare (0/4)

ASSIGNED SCHOOL

It looks like this is your assigned Elementary school, but we recommend double-checking with the district or school*

Joseph R. Perry Elementary School (/california/huntington-beach/3799-Joseph-R.-Perry-Elementary-School/)
Public district K-5

GreatSchools Rating (/california/huntington-beach/3799-Joseph-R.-Perry-Elementary-School/quality/)

18 reviews (/california/huntington-beach/3799-Joseph-R.-Perry-Elementary-School/reviews/)

0.7 miles

Compare

ASSIGNED SCHOOL

It looks like this is your assigned High school, but we recommend double-checking with the district or school*

Huntington Beach High School (/california/huntington-beach/3805-Huntington-Beach-High-School/)
Public district 9-12

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Public district K-5

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1.37 miles

Compare

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Public district K-5

GreatSchools *Rating* (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3708-William-T.-Newland-Elementary-School%2Fquality%2F)

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1.31 miles

Compare

Tamura (Hisamatsu) Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Ffountain-valley%2F3712-Tamura-(Hisamatsu)-Elementary-School%2F)

Public district K-5

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.p passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Ffountain-valley%2F3712-Tamura-(Hisamatsu)-Elementary-School%2Fquality%2F)

18 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Ffountain-valley%2F3712-Tamura-(Hisamatsu)-Elementary-School%2Freviews%2F)

2.17 miles

Compare

Ethan B. Allen Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Ffountain-valley%2F3732-Ethan-B.-Allen-Elementary-School%2F)

Public district K-6

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3.54 miles

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Public district K-5

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.p passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3795-John-H.-Eader-Elementary-School%2Fquality%2F)

22 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3795-John-H.-Eader-Elementary-School%2Freviews%2F)

3.24 miles

Compare

Ralph E. Hawes Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3796-Ralph-E.-Hawes-Elementary-School%2F)
Public district K-5

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.p passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3796-Ralph-E.-Hawes-Elementary-School%2Fquality%2F)

97 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3796-Ralph-E.-Hawes-Elementary-School%2Freviews%2F)

2.38 miles

Compare

S. A. Moffett Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3798-S.-A.-Moffett-Elementary-School%2F)
Public district K-5

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33 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3798-S.-A.-Moffett-Elementary-School%2Freviews%2F)

1.7 miles

Compare

John R. Peterson Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3800-John-R.-Peterson-Elementary-School%2F)
Public district K-5

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3800-John-R.-Peterson-Elementary-School%2Fquality%2F)

40 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3800-John-R.-Peterson-Elementary-School%2Freviews%2F)

1.64 miles

Compare

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Huntington Seacliff Elementary School (http://www.greatschools.org/ads/interstitial.page?

passThroughURI=http%3A%2F%
2Fwww.greatschools.org%2Fcalifornia%
2Fhuntington-beach%2F11020-Huntington-Seacliff-
Elementary-School%2F)
Public district K-5

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beach%2F11020-
Huntington-Seacliff-
Elementary-School%
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21 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%
2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F11020-Huntington-Seacliff-Elementary-
School%2Freviews%2F)

0.9 miles

Compare

Gisler (Robert) Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Ffountain-valley%2F3705-Gisler-(Robert)-Elementary-School%2F)

Public district K-5

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2Fwww.greatschools.org%
2Fcalifornia%
2Ffountain-valley%
2F3705-Gisler-
(Robert)-Elementary-
School%2Fquality%
2F)

13 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%
2Fwww.greatschools.org%2Fcalifornia%2Ffountain-valley%2F3705-Gisler-(Robert)-Elementary-School%
2Freviews%2F)

2.74 miles

Compare

Masuda (Kazuo) Middle School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Ffountain-valley%2F3706-Masuda-(Kazuo)-Middle-School%2F)

GreatSchools
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(http://www.greatschools.org/ads/interstitial.p
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Public district 6-8

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2Fwww.greatschools.org%
2Fcalifornia%
2Ffountain-valley%
2F3706-Masuda-
(Kazuo)-Middle-
School%2Fquality%
2F)

20 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Ffountain-valley%2F3706-Masuda-(Kazuo)-Middle-School%2Freviews%2F)

3.42 miles

Compare

Oka (Isojiro) Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3709-Oka-(Isojiro)-Elementary-School%2F)

Public district PK-5

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.p
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2Fwww.greatschools.org%
2Fcalifornia%
2Fhuntington-
beach%2F3709-Oka-
(Isojiro)-Elementary-
School%2Fquality%
2F)

18 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3709-Oka-(Isojiro)-Elementary-School%2Freviews%2F)

2.24 miles

Compare

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Public district 9-12

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.p
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2Fcalifornia%

2Fwestminster%
2F3758-La-Quinta-
High-School%
2Fquality%2F)

32 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%
2Fwww.greatschools.org%2Fcalifornia%2Fwestminster%2F3758-La-Quinta-High-School%2Freviews%2F)

4.57 miles

Compare

Sarah McGarvin Intermediate School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fwestminster%2F3764-Sarah-McGarvin-Intermediate-School%2F)

Public district 7-8

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.p
passThroughURI=http%
3A%2F%
2Fwww.greatschools.org%
2Fcalifornia%
2Fwestminster%
2F3764-Sarah-
McGarvin-
Intermediate-
School%2Fquality%
2F)

68 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%
2Fwww.greatschools.org%2Fcalifornia%2Fwestminster%2F3764-Sarah-McGarvin-Intermediate-School%
2Freviews%2F)

4.4 miles

Compare

John Murdy Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fgarden-grove%2F3768-John-Murdy-Elementary-School%2F)

Public district K-6

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.p
passThroughURI=http%
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2Fwww.greatschools.org%
2Fcalifornia%
2Fgarden-grove%
2F3768-John-Murdy-
Elementary-School%
2Fquality%2F)

15 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fgarden-grove%2F3768-John-Murdy-Elementary-School%2Freviews%2F)

4.71 miles

Compare

Ethel Dwyer Middle School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3794-Ethel-Dwyer-Middle-School%2F)

Public district 6-8

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.p passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3794-Ethel-Dwyer-Middle-School%2Fquality%2F)

45 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3794-Ethel-Dwyer-Middle-School%2Freviews%2F)

1.28 miles

Compare

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Agnes L. Smith Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3801-Agnes-L.-Smith-Elementary-School%2F)

Public district K-5

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.p passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3801-Agnes-L.-Smith-Elementary-School%2Fquality%2F)

34 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3801-Agnes-L.-Smith-Elementary-School%2Freviews%2F)

1.25 miles

Compare

Edison High School
(http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3803-Edison-High-School%2F)
Public district 9-12

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3803-Edison-High-School%2Fquality%2F)

30 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3803-Edison-High-School%2Freviews%2F)

2.59 miles

Compare

Fountain Valley High School
(http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Ffountain-valley%2F3804-Fountain-Valley-High-School%2F)
Public district 9-12

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Ffountain-valley%2F3804-Fountain-Valley-High-School%2Fquality%2F)

37 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Ffountain-valley%2F3804-Fountain-Valley-High-School%2Freviews%2F)

2.46 miles

Compare

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Public district K-5

GreatSchools Rating
(http://www.greatschools.org/ads/interstitial.p passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3900-Circle-View-Elementary-School%2Fquality%2F)

57 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3900-Circle-View-Elementary-School%2Freviews%2F)

3.64 miles

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Public district K-5

GreatSchools Rating
(http://www.greatschools.org/ads/interstitial.p passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3903-Harbour-View-Elementary-School%2Fquality%2F)

54 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3903-Harbour-View-Elementary-School%2Freviews%2F)

4.14 miles

Compare

Hope View Elementary School
(http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%

2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3904-Hope-View-Elementary-School%2F)
Public district K-5

GreatSchools Rating
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2Fcalifornia%
2Fhuntington-
beach%2F3904-
Hope-View-
Elementary-School%
2Fquality%2F)

48 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3904-Hope-View-Elementary-School%2Freviews%2F)

2.0 miles

Compare

Star View Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fmidway-city%2F3910-Star-View-Elementary-School%2F)
Public district K-5

GreatSchools Rating
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2Fwww.greatschools.org%
2Fcalifornia%
2Fmidway-city%
2F3910-Star-View-
Elementary-School%
2Fquality%2F)

17 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fmidway-city%2F3910-Star-View-Elementary-School%2Freviews%2F)

3.57 miles

Compare

Village View Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3912-Village-View-Elementary-School%2F)
Public district K-5

GreatSchools Rating
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2Fcalifornia%
2Fhuntington-
beach%2F3912-
Village-View-
Elementary-School%
2Fquality%2F)

47 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F3912-Village-View-Elementary-School%2Freviews%2F)

3.76 miles

Compare

Schroeder Elementary School (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F4096-Schroeder-Elementary-School%2F)

Public district K-6

GreatSchools Rating (http://www.greatschools.org/ads/interstitial.p
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beach%2F4096-
Schroeder-
Elementary-School%
2Fquality%2F)

39 reviews (http://www.greatschools.org/ads/interstitial.page?passThroughURI=http%3A%2F%2Fwww.greatschools.org%2Fcalifornia%2Fhuntington-beach%2F4096-Schroeder-Elementary-School%2Freviews%2F)

4.16 miles

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cases data for your address may not be available. We always recommend double-checking with the district or school about enrollment and attendance rules and to determine legal eligibility. Boundaries are not available for preschools.
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Company

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DRESSER Waukesha

VGF24GSID

STANDARD EQUIPMENT

AIR CLEANER – Two stage, dry panel type with rain shield and service indicator. Engine mounted.
BARRING DEVICE – Manual.
BASE – Engine, generator and radiator or heat exchanger are mounted and aligned on a welded structural steel base, suitable for solid, or spring isolator mounting on a proper foundation. Base is equipped with lifting eyes.
BREATHER – Closed system.
CONNECTING RODS – Drop forged alloy steel, angle split, serrated joint, oil jet piston pin lubrication.
COOLING SYSTEM – Choice of mounted radiator with pusher fan, core guard and duct adaptor, heat exchanger with expansion tank (shipped loose) or flanged connections for remote radiator cooling.
CRANKCASE – Alloy cast iron, fully ribbed, integral with cylinder frame.
CRANKSHAFT – Drop forged alloy steel with thru hardened journals, dynamically balanced and fully counterweighted. Viscous vibration dampener.
CYLINDER HEADS – Individual, interchangeable valve–in–head type with deep section alloy casting. Two hard–faced intake and two hard–faced exhaust valves per cylinder. Replaceable intake and exhaust valve seats. Mechanical valve lifters with pivoted roller followers.
CYLINDERS – Removable wet type liners of centrifugally cast alloy iron.
ENGINE PROTECTION SHUTDOWN CONTACTS – High water temperature, low oil pressure, and overspeed.
EXHAUST – Water–cooled, cast iron exhaust manifold. Single vertical flexible stainless steel exhaust connection with ANSI 125# 8" flange.
FUEL SYSTEM – One natural gas carburetor, one Maxitrol RV91 gas regulator (shipped loose), one 2" NPT flexible connection (shipped loose), and one 3" NPT Magnatrol gas solenoid valve (shipped loose). Fuel pressure - 10" H2O minimum and 20" H2O maximum.
GENERATOR – Open, drip–proof, direct connected, synchronous, fan cooled, AC revolving field type, 2/3 pitch, single bearing generator with PMG brushless exciter for 300% short circuit sustain for 10 seconds (250% for 50 Hz) and motor starting. TIF and Deviation Factor within NEMA MG–1.32. Voltage: 480/277, 3 phase, 12 wire Wye, 60 Hz, and 400/230, 3 phase, 12 wire Wye, 50 Hz. Temperature rise within NEMA 105° C for continuous duty, within NEMA 130° C for standby duty. Voltage regulation is ± 0.5%. All generators are rated at 0.8 power factor, are mounted on the engine flywheel housing, and have multiple steel disc flexible coupling drive.
GOVERNOR – Woodward model EG3P electric actuator (mounted) and magnetic pickup (mounted). NOTE: Requires separate electric governor control Woodward model 2301D or similar (not included). See Code 6020D or 6022.
IGNITION – Waukesha Custom Engine Control electronic ignition system with coils, cables, hall effect pickup and spark plugs. Non–shielded. 24 V DC power required. Includes emergency stop/service engine protection switch for local override of remote controls.
INTERCOOLER – Air–to–water.
INSTRUMENT PANEL – Engine mounted, includes water temperature, oil temperature, oil pressure, intake manifold temperature and intake manifold pressure gauges.
JUNCTION BOXES – Separate AC & DC junction boxes for engine wiring and external connections.
KNOCK DETECTION MODULE (KDM) – Electronic detonation protection system. Includes engine mounted sensors, wiring and KDM. Meets CSA Class I, Division 2, Group D hazardous location requirements Standard on GL and GLD engines with 11:1 compression ratio.
LUBRICATION SYSTEM – Gear type pump, full flow spin–on filters and industrial base type oil pan. Engine mounted plate type oil cooler.
PAINT – Oilfield Orange.
PISTONS – Aluminum alloy, three ring, with patented high turbulence combustion bowl. Oil jet cooled with full floating piston pin. 8.6:1 compression ratio.
STARTING SYSTEM – 24V DC starting motor. Crank termination switch, (shipped loose).
TURBOCHARGER – Dry–type with wastegate.
VOLTAGE REGULATOR – Automatic type (shipped loose).
WATER CIRCULATING SYSTEM, AUXILIARY CIRCUIT – Gear driven pump for intercooler and oil cooler. Inlet temperature of 130° F (54° C) for all models.
WATER CIRCULATING SYSTEM, JACKET WATER CIRCUIT – 180° – 190° F (82° – 88° C) thermostatic temperature regulation. Gear–driven pump.

VGF® Series Gas Enginator® Generating System

295 - 410 kW



Model VGF24GSID

Turbocharged and Intercooled, Gas Fueled Enginator

SPECIFICATIONS

Waukesha Engine H24GSID	**Jacket Water Capacity** 20 gal. (75 L)
Cylinders Inline 8	**Starting System** 24V DC Electric
Piston Displacement 1462 cu. in. (24 L)	**Fuel LHV** 900 Btu/ft³ (33.5 J/cm³)
Bore & Stroke 5.98" x 6.5" (152 x 165 mm)	**Lube Oil Capacity** 56 gal. (212 L)
Compression Ratio 8.6:1	

PERFORMANCE DATA: VGF24GSID GAS ENGINATOR® GENERATING SYSTEM

HEAT EXCHANGER COOLING Intercooler Water: 130°F (54°C)	CONTINUOUS POWER*		STANDBY POWER	
	1800 rpm 60 Hz	1500 rpm 50 Hz	1800 rpm 60 Hz	1500 rpm 50 Hz
kW RATING	375	310	410	350
Fuel Consumption x 1000 Btu/h (kW)	3990 (1189)	3222 (944)	4279 (1254)	3484 (1021)
Jacket Water x 1000 Btu/h (kW)	1202 (352)	996 (292)	1271 (372)	1061 (311)
Intercooler x 1000 Btu/h (kW)	85 (25)	55 (16)	98 (29)	66 (19)
Lube Oil x 1000 Btu/h (kW)	221 (65)	166 (49)	227 (67)	172 (50)
Heat Radiated x 1000 Btu/h (kW)	198 (58)	171 (50)	153 (45)	156 (46)
Exhaust Heat** x 1000 Btu/h (kW)	1075 (315)	835 (245)	1157 (339)	907 (266)
Exhaust Flow lb/h (kg/h)	3445 (1563)	2783 (1263)	3694 (1676)	3008 (1365)
Exhaust Temperature °F (°C)	1114 (601)	1073 (578)	1115 (602)	1075 (579)
Induction Air Flow scfm (m³/min)	740 (21)	595 (17)	793 (22)	643 (18)

WATER CONNECTION COOLING Intercooler Water: 130°F (54°C)	CONTINUOUS POWER*		STANDBY POWER	
	1800 rpm 60 Hz	1500 rpm 50 Hz	1800 rpm 60 Hz	1500 rpm 50 Hz
kW RATING	375	310	410	350
Fuel Consumption x 1000 Btu/h (kW)	3990 (1189)	3222 (944)	4279 (1254)	3484 (1021)
Jacket Water x 1000 Btu/h (kW)	1202 (352)	996 (292)	1271 (372)	1061 (311)
Intercooler x 1000 Btu/h (kW)	85 (25)	55 (16)	98 (29)	66 (19)
Lube Oil x 1000 Btu/h (kW)	221 (65)	166 (49)	227 (67)	172 (50)
Heat Radiated x 1000 Btu/h (kW)	198 (58)	171 (50)	153 (45)	156 (46)
Exhaust Heat** x 1000 Btu/h (kW)	1075 (315)	835 (245)	1157 (339)	907 (266)
Exhaust Flow lb/h (kg/h)	3445 (1563)	2783 (1263)	3694 (1676)	3008 (1365)
Exhaust Temperature °F (°C)	1114 (601)	1073 (578)	1115 (602)	1075 (579)
Induction Air Flow scfm (m³/min)	740 (21)	595 (17)	793 (22)	643 (18)

RADIATOR COOLING - MOUNTED Intercooler Water: 130°F (54°C)	CONTINUOUS POWER*		STANDBY POWER	
	1800 rpm 60 Hz	1500 rpm 50 Hz	1800 rpm 60 Hz	1500 rpm 50 Hz
kW RATING	350	295	400	325
Fuel Consumption x 1000 Btu/h (kW)	3920 (1149)	3190 (935)	4315 (1265)	3447 (1010)
Jacket Water x 1000 Btu/h (kW)	1185 (347)	988 (290)	1280 (375)	1052 (308)
Intercooler x 1000 Btu/h (kW)	82 (24)	54 (16)	99.5 (29)	63 (18)
Lube Oil x 1000 Btu/h (kW)	220 (64)	166 (49)	228 (67)	171 (50)
Heat Radiated x 1000 Btu/h (kW)	254 (74)	206 (60)	252 (74)	217 (64)
Exhaust Heat** x 1000 Btu/h (kW)	1055 (309)	826 (242)	1167 (342)	897 (263)
Exhaust Flow lb/h (kg/h)	3419 (1551)	2756 (1250)	3725 (1690)	2977 (1351)
Exhaust Temperature °F (°C)	1113 (601)	1073 (578)	1116 (602)	1075 (579)
Induction Air Flow scfm (m³/min)	726 (21)	589 (17)	800 (23)	637 (18)
Radiator Air Flow scfm (m³/min)	48000 (1359)	40000 (1133)	48000 (1359)	40000 (1133)

Typical heat balance data is shown. Fuel consumption based on dry natural gas, 35.38 MJ/m3 [25, V (0; 101.325)] (300 BTU/scf) saturated lower heating value (SLHV), with a minumum Waukesha Knock Index™ of 91. Consult factory for guaranteed data.

***Continuous Power Rating:** The highest electrical power output of the Enginator available for an unlimited number of hours per year, less maintenance. It is permissible to operate the Enginator with up to 10% overload for two hours in each 24 hour period.

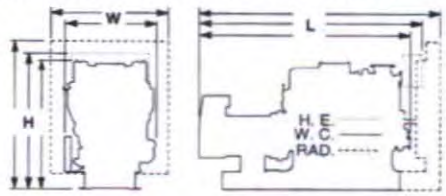
Standby Power Rating: This rating applies to those systems used as a secondary source of electrical power. This rating is the electrical power output of the Enginator (no overload) 24 hours a day, for the duration of the primary power source outage.

Rating Standard: The Waukesha Enginator power rating descriptions are in accordance to ISO 8528, DIN6271 and BS5514. It is also valid for ISO 3046/1-1986 with an engine mechanical efficiency of 90% and auxiliary water temperature Tcra (clause 10.0) is limited to ± 10° F (5° C).

**Heat rejection based on cooling exhaust gas to 77° F (25° C).

All natural gas engine ratings are based on a fuel of 900 Btu/ft³ (35.3 MJ/nm³) SLHV, with a 91 WKI®. For conditions or fuels other than standard, consult the Dresser Waukesha Application Engineering Department.

Cooling Equipment	L in (mm)	W in (mm)	H in (mm)	Avg. Wt. lb (kg)
Heat Exchanger	142 (3610)	54 (1370)	79 (2000)	11100 (5030)
Water Cooler	132 (3350)	54 (1370)	79 (2000)	10600 (4810)
Radiator	176 (4470)	78 (1981)	100 (2540)	12300 (5580)



Consult your local Waukesha Distributor for system application assistance. The manufacturer reserves the right to change or modify without notice, the design or equipment specifications as herein set forth without incurring any obligation either with respect to equipment previously sold or in the process of construction except where otherwise specifically guaranteed by the manufacturer.

Bulletin 7112 1008

Dresser Waukesha
1101 West St. Paul Avenue · Waukesha, WI 53188-4999
Phone: (262) 547-3311 · Fax: (262) 549-2795

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DRESSER Waukesha

www.dresser.com

DRESSER Waukesha

SAA Number: 2010-0223

SPECIAL APPLICATION APPROVAL REQUEST

Engine Information

Project Name:	City of Huntington Beach - Stanby Generator
End User:	City of Huntington Beach
Consultant:	Collicutt Services
Enginatorfi Mode	VGF24GSID
Base Engine:	H24GSID
Application:	Power Generation - Stand-by
Engine Quantity:	1
Date of Application:	11/24/10
Compression Ratio:	8.6 : 1
Price Code	EVW846
Duty:	Standby
Engine Hours/Year	200

Site Conditions

Location:	Huntington Beach CA, California USA
Generator Output:	410 kWe
Efficiency:	94%
Driven Equipment:	584.9 bhp
Cooling Fan:	0.0 bhp
Total Requested Power:	584.9 bhp
Speed:	1800 RPM
BMEP:	176.0 psi
Parallel/Stand Alone:	
Elevation (ASL):	50 ft
Cooling Type:	Solid Water
Jacket Water Outlet Temperature:	180 °F
Intercooler Water Inlet Temperature (Tcra):	130 °F
Max Combustion Air Inlet Temperature:	100 °F
Fuel Type (Primary):	Commercial Quality Natural Gas
Fuel - Primary WKI™:	91
Fuel - Primary SLHV:	900 Btu/ft^3
Fuel Type (Secondary):	HD-5 Propane
Fuel - Secondary WKI™:	34
Fuel - Secondary SLHV:	2350 Btu/ft^3

Emissions

NOx (Requested emission value):	g/bhp-hr
CO (Requested emission value):	g/bhp-hr
NMHC (Requested emission value):	g/bhp-hr

Applicant

Name:	Val Jensen
Applicant E-mail:	val.jensen@valleypsi.com
Applicant Company:	VALLEY POWER SYS CITY OF IND
Company Address:	425 S. Hacienda Boulevard
Company Location:	City of Industry, CA USA
Company Postal Code:	91745-1123
Company Phone:	661-393-2990
Company Fax:	661-392-7926

Additional Site Information:

N/A

Special Operating Requirements:

Customer installed LP Vaporizers and controls. Will not require WED dual fuel controls

Other Emissions Requirements:

Customer will install NSCR Catalysts.

Notes:

1. A fuel analysis for each fuel used in preparing the SAA (mole or volume %) must be attached to the SAA. Gaseous fuels must comply with the Gaseous Fuel Specification for Waukesha Engines reference S-7884-7 or the most current version. Gaseous fuel consumption guarantees will be based on the ideal, dry, saturated lower heat value (SLHV) or lower heat value (LHV) of the supported fuel analysis.
2. For dual fuel applications, the conditions and special operating requirements for each fuel must be stated.
3. If special option codes or equipment are required for this approval as listed under the SAA section, additional engine development and/or special hardware may be required which could result in extra cost and/or extended delivery lead times. In such instances, specific acceptance by Dresser Waukesha is required on the order acknowledgement. Contact a Customer Service Representative.
4. Due to time constraints, special equipment needs and test cell limitations, testing to specific SAA conditions may not be practical or possible. Consult a Customer Service Representative for availability and pricing.
5. If guarantees are requested, the specific requirements, duration, guarantee penalties, performance bonds, factory testing, etc. must be set forth in writing under the "Special

Operating Requests" section. If guarentees are not requested in this section, the SAA shall grant no guarantees.

DRESSER
Waukesha

Certificate of Engineering Approval

Are Special Codes or Equipment Required for this Approval? Yes

List:

Code 2100: Dual Fuel System GSID - Natural gas and propane vapor. OR customer to supply dual fuel system

Approval Criteria

Ignition Timing:	See Approval Criteria
Carb Setting (Lambda or MAFR):	0.35% CO

When operating per the site conditions listed and when using a commercial quality natural gas consisting of 93% Methane by volume, WKIŽ = 91, and 900 Btu/ft3 SLHV, Dresser Waukesha approves a maximum standby rating of 585 bhp @1800 RPM for the duration of the power outage.

With the engine operating at 585 bhp @1800 rpm, the following fuel consumption, heat rejection, and emissions are guaranteed:

100% Load, CQNG, 23 BTDC - Guaranteed Data

Load (bhp):	585
Speed:	1800 RPM
Overload:	0 %
BSFC (Btu/Bhp-hr):	7366 -0/+5 % → 4104 ft3/hr
Induction Air (SCFM):	845 ± 7 %
Exhaust Flow (lb/hr):	3761 ± 7 %
Exhaust Temp (°F):	1116 ± 75°

Heat to (Btu/hr x 1000)

Jacket Water :	1297 ± 8 %
Lube Oil:	231 ± 8 %
Intercooler:	119 ± 8 %
Total Exhaust:	1143 ± 8 %
Radiation:	113 ± 30 %

Emissions guaranteed not to exceed:

NOx:	16 g/bhp-hr
CO:	8 g/bhp-hr
NMHC:	0.25 g/bhp-hr

When operating per the site conditions listed and when using a HD-5 quality propane consisting of a minimum WKI = 34, Dresser Waukesha approves a maximum standby rating of 366 bhp @1800 RPM for the duration of the power outage.

With the engine operating at 366 bhp @1800 rpm, the following fuel consumption, heat rejection, and emissions are guaranteed:

100% Load, HD-5, 10 BTDC - Guaranteed Data

Load (bhp):	366
Speed:	1800 RPM
Overload:	0 %
BSFC (Btu/Bhp-hr):	8888 -0/+5 %
Induction Air (SCFM):	636 ± 7 %
Exhaust Flow (lb/hr):	2838 ± 7 %
Exhaust Temp (°F):	1189 ± 75°

Heat to (Btu/hr x 1000)

Jacket Water :	1072 ± 8 %
Lube Oil:	224 ± 8 %
Intercooler:	63 ± 8 %
Total Exhaust:	900 ± 8 %
Radiation:	127 ± 30 %

Emissions guaranteed not to exceed:

NOx:	16 g/bhp-hr
CO:	8 g/bhp-hr
NMHC:	1.6 g/bhp-hr

Fuel must conform to Dresser Waukesha's "Gaseous Fuel Specification" S7884-7 (or most current version).
BSFC is stated in lower heating value (LHV) per ISO3046.
An on-site detonation sweep must be performed at the highest operating point and exhaust temperature and at rated load to verify a minimum knock margin of 6°. Timing and power to be adjusted as necessary.

Notes:

1. Unless otherwise set forth in writing, this SAA is only valid for a period of 180 days from date of signature.
2. An SAA applies only to the project identified under the listed site conditions applying the fuel analysis provided. This SAA supersedes all previous approvals for this project.
3. The SAA number must be referenced on the Engine/Enginator purchase order to be valid.
4. If special option codes or equipment are required for this

approval as listed under the SAA section, additional engine development and/or special hardware may be required which could result in extra cost and/or extended delivery lead times. In such instances, specific acceptance by Dresser Waukesha is required on the order acknowledgement. Contact a Customer Service Representative.

5. Due to time constraints, special equipment needs and test cell limitations, testing to specific SAA conditions may not be practical or possible. Consult a Customer Service Representative for availability and pricing.
6. Unless otherwise set forth in writing, guarantees are only valid for the duration of the original standard express limited warranty.
7. The SAA rating is ISO Service Power per ISO3046/1-1995 with a Tcra– 10 °F (5.6 °C) and a mechanical efficiency of 90.0.

Approval Signatures

Signed:	Signed:
Christopher Kipp	Nicholas Klosinski
11/24/2010	11/24/2010

NSCR Catalysts





MIRATECH's innovative solutions have helped it become a market leader. For stationary natural gas, diesel, or dual-fuel engines (large and small), in duty cycles ranging from standby to continuous, MIRATECH's team provides the proper solution for the job by offering engine users a choice of NSCR catalyst technologies including:

- 3-way
- HAPs
- Oxidation
- Diesel Oxidation



MIRATECH offers the right catalyst fit for any system. Its assortment comes in a wide variety of shapes, sizes, and formulations to match a broad range of engine sizes, applications, and site conditions. The final system selection is based on the specific exhaust and noise regulations. To take the complexity out of the decision options, MIRATECH experts guide customers through the process.

CATALYSTS TO KEEP YOUR OPERATION IN COMPLIANCE

The MIRATECH unique combination of substrates, formulations, and housings is often the standard for Best Available Control Technology (BECT) (a pollution control standard mandated by the United States Clean Air Act)...and as a result... allows end-users to achieve first-pass compliance. MIRATECH catalysts are reliable, high-performance elements with superior mechanical and thermal durability.

WHY MIRATECH'S NSCR CATALYSTS?

Better Designed, Better Built, Better Value

Cost-Effective, No-Hassle Compliance

Available in NEXT™ and VORTEX™ element configurations

Two Year Warranty

Free Washes for Life

For more product information, click on the following links.

Catalyst Formulations

Catalyst Services

Request a Quote Today!

+1-918-622-7077U.S. toll free:+1-800-640-3141

Find Representative

Application Data

Project Information

Site Location:	HB
Project Name:	Huntington Beach
Application:	Other
Number of Engines:	1
Operating Hours per Year:	100

Engine Specifications

Engine Manufacturer:	Waukesha
Model Number:	H24 GSID
Rated Speed:	1,800 RPM
Type of Fuel:	Natural Gas
Type of Lube Oil:	0.6 wt% sulfated ash or less
Lube Oil Consumption:	< 0.00027 gal/bhp-hr

Engine Cycle Data

Load	Speed	Power	Exhaust Flow	Exhaust Temp.	Fuel Cons.	NO_x	CO	NMHC	NMNEHC	CH_2O	PM_{10}	O_2	H_2O
%		bhp	scfh	F	BTU/bhp-hr	g/bhp-hr	g/bhp-hr	g/bhp-hr	g/bhp-hr	g/bhp-hr	g/bhp-hr	%	%
100	Rated	530	44836.6015	1079	7454	16	8	0.25	0.04500000	0.05000000		0.18000000	18.5

Raw Engine Emission Data

	g/bhp-hr	lb/MW-hr	ppmvd	ppmvd @ 15% O_2	lb/hr	g/kW-hr	tons/yr
NO_x	16.00	47.30	4,219	1,201	18.70	21.46	0.93
CO	8.00	23.65	3,465	987	9.35	10.73	0.47
NMHC	0.25	0.74	189	54	0.29	0.34	0.01
CH_2O	0.05	0.15	20	6	0.06	0.07	0.00

% O_2	0.2
H_2O Assumption	18.5

System Specifications and Performance Warranty Data

NSCR System Specifications (IQS-20-08-EC1)

Design Exhaust Flow Rate:	44,837 scfh
Design Exhaust Temperature:	1,079°F
System Pressure Loss:	2.0 inches of WC (Fresh)
Exhaust Temperature Limits:	750 – 1250°F (catalyst inlet); 1350°F (catalyst outlet)

Post System Emission Data

	g/bhp-hr	lb/MW-hr	ppmvd	ppmvd @ 15% O_2	lb/hr	g/kW-hr	tons/yr
NO_x	1.50	4.43	396	113	1.75	2.01	0.09
CO	2.00	5.91	866	247	2.34	2.68	0.12
NMHC	1.50	4.43	1,134	323	1.75	2.01	0.09

Calculated Percent Reductions

	% Reduction
NOx	90.6
CO	75.0
NMHC	0.0

Equipment Details

NSCR Housing & Catalyst Details (IQS-20-08-EC1)

NSCR Housing Details	IQS-20-08 SD
• Model Number:	IQS-20-08-HSG
• Quantity[1]:	1
• Material:	304 SS
• Paint:	None
• Diameter:	20 inches
• Inlet Pipe Size & Connection:	8 inch FF Flange, 150# ANSI standard bolt pattern
• Outlet Pipe Size & Connection:	8 inch FF Flange, 150# ANSI standard bolt pattern
• Overall Length:	37 inches
• Weight Without Catalyst:	169 lbs
• Weight Including Catalyst:	201 lbs
• Instrumentation Ports:	2 inlet/2 outlet (1/2" NPT)
• Oxygen Sensor Ports:	1 inlet/1 outlet (18mm)
Three-Way Catalyst Details	
• Model Number:	IQ-RE-20EC
• Quantity[1]:	1
Nut, Bolt, and Gasket Set Details	
• Model Number:	NBG-IQ20-1
• Quantity[1]:	1

Air/Fuel Ratio Controller Details (MEC-WD-R-R-11-FT33)

Air Fuel Ratio Controller Details	
• Model Number:	MEC-WD-R-R-11-FT33
• Quantity[1]:	1
• Display:	Included
• Oxygen Sensors:	1 pre-catalyst / 1 post-catalyst (18mm)

Kleinheinz, Jay

From: Ray Ronquillo [RRonquillo1@aqmd.gov]
Sent: Wednesday, March 05, 2014 5:02 PM
To: Kleinheinz, Jay
Subject: RE: Permit to Construct

I just checked. I have no pending applications at this facility. I will wait for your application packet.

From: Kleinheinz, Jay [mailto:jkleinheinz@surfcity-hb.org]
Sent: Wednesday, March 05, 2014 4:59 PM
To: Ray Ronquillo
Subject: RE: Permit to Construct

The Facility is 20231. Thanks for checking.

From: Ray Ronquillo [mailto:RRonquillo1@aqmd.gov]
Sent: Wednesday, March 05, 2014 4:24 PM
To: Kleinheinz, Jay
Subject: RE: Permit to Construct

Hi Jay,

Nice to hear from you. It has truly been a long time since we last talked.

What is the Facility ID number for the Utilities Yard? I still have a few Administrative Change applications here for Huntington Beach and I am curious to know if one of these applications is for this particular IC engine. (I apologize for the delay in processing your applications – I have been working on a couple of power plant projects for the past several months and had been asked to give these projects priority.) If not, then I'll be waiting for your new application packet.

Regards,

Ray Ronquillo
Air Quality Engineer II
South Coast Air Quality Management Distr...
21865 Copley Drive
Diamond Bar, CA 91765

(909) 396-3049 Work
(909) 396-3341 Fax
RRonquillo1@aqmd.gov Email

From: Kleinheinz, Jay [mailto:jkleinheinz@surfcity-hb.org]
Sent: Wednesday, March 05, 2014 3:48 PM
To: Ray Ronquillo
Subject: Permit to Construct

Hello Ray. It's been awhile, hope everything is good with you.

An inspector has been here this week, and during the tour of the facilities noticed I didn't have an updated permit for an emergency generator that I replaced at the Utilities Yard. Other than being embarrassed, couldn't offer an explanation of why. I told her I would compile the paperwork and get it up to the SCAQMD office this Friday. The envelope will be to your attention.

The inspector is Van Doan

South Coast
AIR QUALITY MANAGEMENT DISTRICT
21865 E. Copley Drive, Diamond Bar, CA 91765-4182
(909) 396-2000 http://www.aqmd.gov

Receipt Date: 03/07/2014 11:02:43 AM **Receipt Number:** 78077

Facility ID 20231
Name HUNTINGTON BEACH CITY, WATER DEPT
Address 19001-71 HUNTINGTON ST

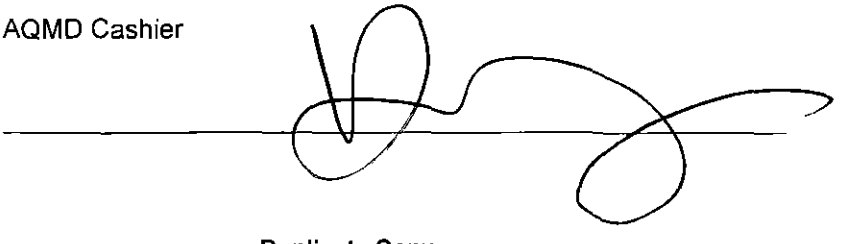
HUNTINGTON BEACH , CA 92648 - 2211

Payment Details

Type	Check nbr	Amount	Check nbr	Amount	Amount
CASH	-	-	-	-	$.00
CHK	795732	$1,109.20	795731	$2,218.39	
				Checks Total:	$3,327.59
				Total:	$3,327.59

Comments PAYS FOR 1 APP - 400A - ALTERATION/MODIFICATION WITHOUT PRIOR APPROVAL

Received By AQMD Cashier

Signature 

Duplicate Copy

Lisa Krebs

From: Lisa Krebs
Sent: Friday, March 28, 2014 7:57 AM
To: Emily Lawson
Subject: City of Huntington Beach ID:20231

Hi Ems, please transfer a/n 561605 to Team A for processing. Thanks.

Lisa

Lisa Krebs
South Coast Air Quality Management District
Operations Unit
Direct Line: 909-396-2384
lkrebs@aqmd.gov

No act of kindness, no matter how small, is ever wasted.

Lisa Krebs

From: Lisa Krebs
Sent: Wednesday, March 26, 2014 2:43 PM
To: Elaine Hara
Cc: 'jkleinheinz@surfcity-hb.org'
Subject: FW: Email regarding past due fees for Facility 20231

Hi Elaine,

I have application #561605 on hold ready to reject due to delinquent fees. However, the applicant states he has paid all fees and I can't seem to find the outstanding fees under the Finance details. The applicant sent me the email below. Have you had an opportunity to look into this? If so, do you have a status update?

Thank you.

Lisa

Lisa Krebs
South Coast Air Quality Management District
Operations Unit
Direct Line: 909-396-2384
lkrebs@aqmd.gov

No act of kindness, no matter how small, is ever wasted.

From: Kleinheinz, Jay [mailto:jkleinheinz@surfcity-hb.org]
Sent: Wednesday, March 26, 2014 2:28 PM
To: Lisa Krebs
Subject: Email regarding past due fees for Facility 20231

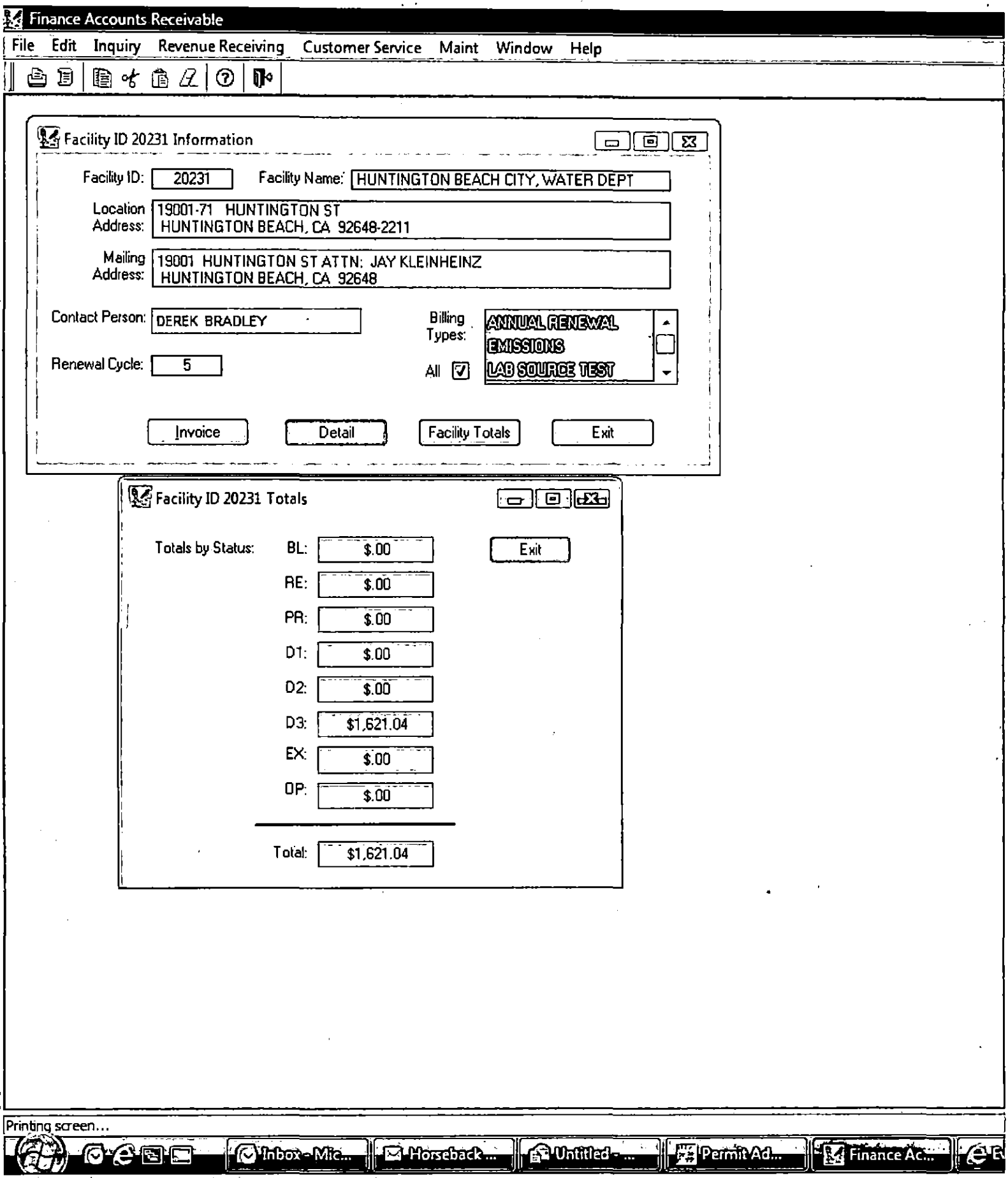
Thanks Lisa. Also, I have not received any correspondence from SCAQMD alerting me to this situation, which also is strange.

From: Kleinheinz, Jay
Sent: Thursday, March 06, 2014 10:24 AM
To: 'Billingservices@aqmd.gov'
Cc: 'elainehara@aqmd.gov'
Subject: Emission Fee Posting

Hello AQMD

I was informed by my Inspector there was a flag regarding Facility 20231. Customer service told me billed amounts for $1,510.31 and $110.73 for a total of $1,621.04 were received per invoice 2302063. SCAQMD records show payment and filing was received but not credited or closed as complete for this facility. With that, I was instructed to contact Billing Services with this information so it could be resolved.

Elaine, I cc'd you because customer service said you would be involved with this and we have corresponded on similar issues in the past.


Finance Accounts Receivable
File Edit Inquiry Revenue Receiving Customer Service Maint Window Help
Facility ID 20231 Information
Facility ID: 20231
Facility Name: HUNTINGTON BEACH CITY, WATER DEPT
Location Address: 19001-71 HUNTINGTON ST
HUNTINGTON BEACH, CA 92648-2211
Mailing Address: 19001 HUNTINGTON ST ATTN: JAY KLEINHEINZ
HUNTINGTON BEACH, CA 92648
Contact Person: DEREK BRADLEY
Billing Types:
ANNUAL RENEWAL
EMISSIONS
LAB SOURCE TEST
Renewal Cycle: 5
All
Invoice
Detail
Facility Totals
Exit
Facility ID 20231 Totals
Totals by Status:
BL: $.00
RE: $.00
PR: $.00
D1: $.00
D2: $.00
D3: $1,621.04
EX: $.00
OP: $.00
Total: $1,621.04
Exit
Printing screen...
Inbox - Mic...
Horseback ...
Untitled - ...
Permit Ad...
Finance Ac...

SCAQMD

ATTN: RAY RONQUILLO

South Coast Air Quality Management District
21865 Copley Drive, Diamond Bar, CA 91765-4178

PERMIT TO OPERATE

Permit No.
G35553
A/N 561605

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.

ID 20231

Legal Owner or Operator:

HUNTINGTON BEACH CITY, WATER DEPT
19001 HUNTINGTON ST, ATTN: JAY KLEINHEINZ
HUNTINGTON BEACH, CA 92648

Equipment Location: 19001-71 HUNTINGTON ST, HUNTINGTON BEACH, CA 92648-2211

Equipment Description :

Internal Combustion Engine, Waukesha, Model No. H24GSID, Serial No. 5283701135, Natural Gas Fueled, Four Cycles, Eight Cylinders, Turbocharged and Intercooled, Rich Burn, Rated at 585 B.H.P., with a Non-Selective Catalytic Reduction Converter, Miratech, Model No. IQS-20-08-EC1, and an Air-to-Fuel Ratio Controller, Compliance Controls, Model No. MECR-64, Driving an 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 be fired with natural gas only.

4. The engine emissions shall not exceed the following limits (except during cold start-up which shall not exceed 30 minutes):

Volatile Organic Compounds (VOC)	1.5 grams/bhp-hr
Oxides of Nitrogen (NOx)	1.5 grams/bhp-hr
Carbon Monoxide (CO)	2.0 grams/bhp-hr

5. This engine shall not be operated unless its exhaust is vented to the Non-Selective Catalytic Reduction unit which is in full operation and which is in good operating condition at all times.

6. This engine shall not be operated without the use of an automatic Air-to-Fuel Ratio Controller which shall be maintained and kept in proper operating condition at all times.

7. 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 5 hours in any one month for maintenance and testing purposes.

8. An operational non-resettable totalizing time meter shall be installed and maintained to indicate the engine elapsed operating time.

FILE COPY

9. The facility shall maintain accurate maintenance records of the date of catalyst cleaning or replacement, oxygen sensor replacement, the total hour reading on the non-resettable totalizing time meter to determine the engine elapsed operating time, and records of engine tune-ups.

10. An engine operating log shall be kept and maintained, documenting the total time the engine is operated each month and specific reason for operation as:

    A. Emergency use,
    B. Maintenance and testing, or
    C. Other (describe the reason for operating).

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

11. On or before January 15th of each year, the operator shall record in the engine operating log the following:

    A. The total hours of operation for the previous calendar year, and
    B. The total hours of engine operation for maintenance and testing for the previous calendar year.

    The engine operating log shall be retained on site for a minimum of three calendar years and shall be made available to the Executive Officer or Representative upon request.

12. The operator shall operate this equipment in compliance with all applicable requirements of the Code of Federal Regulations Title 40 Part 60 Subpart JJJJ - Standards of Performance for Stationary Spark Ignition Internal Combustion Engines.

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 applicable Rules and Regulations of the South Coast Air Quality Management District (SCAQMD). 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/RR08
5/5/2015

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