



Permit to Operate 10959 - R3

Page 1 of 6

EQUIPMENT OWNER:

Southern California Gas Company

300800

EQUIPMENT OPERATOR:

Southern California Gas Company

EQUIPMENT LOCATION:

So Cal Gas - Venoco Carpinteria location

STATIONARY SOURCE/FACILITY:

So Cal Gas - Venoco Carpinteria  
Venoco Carp O & M

SSID: 02406  
FID: 02406

EQUIPMENT DESCRIPTION:

The equipment subject to this permit is listed in the table at the end of this permit.

PROJECT/PROCESS DESCRIPTION:

This Odorant and Metering Station receives natural gas from Venoco's Carpinteria Gas Plant which processes produced gas from Platforms Gail and Grace. The gas stream is continuously monitored for hydrogen sulfide. Any liquids are removed by the horizontal or vertical filter separators. The gas stream is metered, sampled and odorant is injected into the gas stream. The emissions to atmosphere from the odorizer are reduced by two (2) activated carbon canisters in series. The equipment emits reactive organic compounds (ROC) from the H<sub>2</sub>S analyzer, gas sampler and metering pump. ROCs are also emitted from the adsorption system, valves, connections, and fittings. The metering pump injects odorant (Tetrahydrothiophene) into the gas. The odorant storage tank is filled by a tanker truck equipped with a closed loop vapor recovery system. The ROC content of the natural gas averages 9.7 percent by weight of the total hydrocarbon content.

CONDITIONS:

1. **Emissions Limitation.** The mass emissions from the equipment permitted herein shall not exceed the values listed in Table 1. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.

Table 1  
Permitted ROC Emissions

Source	lb/day	TPY
Fugitive Emissions	20.62	3.76
Equipment Bleed Rates	0.14	0.03
<b>Total</b>	<b>20.76</b>	<b>3.79</b>

2. **Operating Restrictions.** The equipment permitted herein is subject to the following operational restrictions:
  - a. Odorant tanks shall be filled by a truck using a closed-loop system. Displaced vapors from tank filling operations shall be controlled by two carbon canisters connected in series. Each canister shall contain a minimum of 100 lbs. of granulated activated carbon adsorbent. Odorant emissions shall not be detectable by olfactory senses, at the property boundary during tank filling operations or any other time.
  - b. Emissions from the odorizer, the gas sampler and the H<sub>2</sub>S analyzer shall be vented through the carbon canister system.
  - c. The stack exhaust gas flow rate shall not exceed 500 scfm for the carbon canister series.
  - d. The carbon canisters used to control odors at the facility shall be completely replaced with virgin (or regenerated) adsorbent at a minimum of once every ninety days.
3. **Monitoring.** The equipment permitted herein is subject to the following monitoring requirements:
  - a. The permittee shall perform a gas analysis on a quarterly basis. Records for the gas analysis results shall be kept by permittee for three (3) years.
  - b. Additional monitoring shall be required if the District receives odor complaints that constitute a nuisance under District rules. As part of addressing the nuisance, the District may specify monitoring equipment that shall be installed.

Permit to Operate 10959 - R3

Page 3 of 6

All manufacturers' specifications and a detailed description of the equipment shall be submitted for District approval. The equipment shall be installed within 90 days upon District written notification. An extension to this 90 day period may be provided upon showing of good cause.

Upon showing reasonable need, the District may require an increased (or decreased) monitoring/sampling frequency. Backup documentation such as instrument calibration, equipment maintenance, chain of custody records and sampling logs shall be available for District review. If documentation is not onsite, the permittee shall produce the required documentation within 7 calendar days of request by the District. The instruments used in monitoring, sampling and process control shall be maintained according to manufacturer's specifications.

4. **Recordkeeping.** The permittee shall record and maintain the following information. This data shall be maintained for a minimum of three (3) years from the date of each entry and made available to the District upon request:
  - a. The volume of odorant delivered to the facility and the dates of odorant deliveries.
  - b. The number of odorant deliveries.
  - c. The date of adsorbent replacement, the type of replacement adsorbent and the quantity (pounds of adsorbent) of the replacement adsorbent.
  - d. Gas analysis results.
  - e. Any records required to comply with Section b of the *Monitoring* Condition, as specified by the District.
  
5. **Reporting.** By March 1<sup>st</sup> of each year, a written report documenting compliance with the terms and conditions of this permit for the previous calendar year shall be provided by the permittee to the District (Attn: *Annual Report Coordinator*). The report shall contain information necessary to verify compliance with the emission limits and other requirements of this permit. The report shall be in a format approved by the District. All logs and other basic source data not included in the report shall be made available to the District upon request. The report shall detail the information required by the *Recordkeeping* condition of this permit and compiled on a monthly basis and summarized for the entire year.

6. **Component Leak Path Count.** The total component leak-path count listed in Table 2 of this permit shall not exceed the leak path count by more than five percent. The five percent range is to allow for small differences in component leak-path counting methods, and does not authorize installation of additional component leak-paths.

Table 2  
Leak Path Count Summary

<i>Leak Path Type</i>	<i>Gas/Condensate Service Count</i>
Valve	140
Connection	255
Compressor Seal	0
Pump Seal	0
Pressure Relief	5
Total	400

7. **Inspection Schedule.** The following inspection schedule shall be implemented:
- a. The permittee shall physically inspect the equipment once every week to ensure that no odors are detectable at the property boundary. If odors are detected, the operator shall take immediate corrective action and begin the inspection schedule listed in (b.) below. If no odors are detected for one quarter the inspection frequency shall be monthly. If no odors are detected for one year, the inspection frequency shall be quarterly<sup>1</sup>.
  - b. For a period of 30 days from the date of odor detection, the permittee shall physically inspect the equipment on a daily basis to ensure that no odors are detectable at the property boundary. If odors are detected, the operator shall take immediate corrective action and begin the 30-day period again. If no odors are detected during the 30-day period, the operator shall then comply with the inspection schedule in provision (a.) above.

For purposes of this condition, the term "immediate corrective action" shall refer to the following actions:

- i. Take all reasonable steps to minimize and/or prevent odors during the repair/replacement of source or sources of the odor.

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<sup>1</sup> Notwithstanding the above, weekly inspections shall be required upon the District's request.

Permit to Operate 10959 - R3

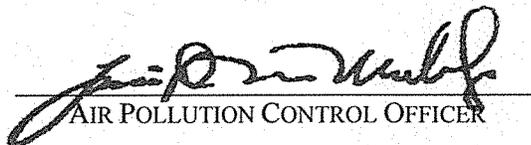
Page 5 of 6

- ii. Submit within five (5) business days of the detection event a detailed report to the District disclosing the nature of the repairs/replacements, the nature of the failure, and the steps taken to prevent/minimize the odors.
8. **Consistency with Analysis.** Operation under this permit shall be conducted consistent with all data, specifications and assumptions included with the application and supplements thereof (as documented in the District's project file) and the District's analyses under which this permit is issued as documented in the Permit Analyses prepared for and issued with the permit.
9. **Equipment Maintenance.** The equipment listed in this permit shall be properly maintained and kept in good condition at all times. The equipment manufacturer's maintenance manual, maintenance procedures and/or maintenance checklists (if any) shall be kept on site.
10. **Compliance.** Nothing contained within this permit shall be construed as allowing the violation of any local, state or federal rules, regulations, air quality standards or increments.
11. **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.
12. **Conflict Between Permits.** The requirements or limits that are more protective of air quality shall apply if any conflict arises between the requirements and limits of this permit and any other permitting actions associated with the equipment permitted herein.
13. **Access to Records and Facilities.** As to any condition that requires for its effective enforcement the inspection of records or facilities by the District or its agents, the permittee shall make such records available or provide access to such facilities upon notice from the District. Access shall mean access consistent with California Health and Safety Code Section 41510 and Clean Air Act Section 114A.
14. **Emission Factor Revisions.** The District may update the emission factors for any calculation based on USEPA AP-42 or District emission factors at the next permit modification or permit reevaluation to account for USEPA and/or District revisions to the underlying emission factors.
15. **Nuisance.** Except as otherwise provided in Section 41705 of the California H&SC, no person shall discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.
16. **Grounds for Revocation.** Failure to abide by and faithfully comply with this permit or any Rule, Order, or Regulation may constitute grounds for revocation pursuant to California Health & Safety Code Section 42307 *et seq.*

Permit to Operate 10959 - R3

Page 6 of 6

17. **Transfer of Owner/Operator.** This permit is only valid for the owner and operator listed on this permit unless a *Transfer of Owner/Operator* application has been applied for and received by the District. Any transfer of ownership or change in operator shall be done in a manner as specified in District Rule 203. District Form -01T and the appropriate filing fee shall be submitted to the District within 30 days of the transfer.

  
AIR POLLUTION CONTROL OFFICER

MAR 05 2013

DATE

Attachments:

- Permit Equipment List(s)
- Permit Evaluation for Permit to Operate 10959 - R3

Notes:

- Reevaluation Due Date: August 2015
- Stationary sources are subject to an annual emission fee (see Fee Schedule B-3 of Rule 210).
- Annual reports are due by March 1<sup>st</sup> of each year.
- This permit supersedes Permit to Operate 10959-R2.

Equipment List for Permit to Operate 10959 - R3

Page 1 of 4

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PERMIT EQUIPMENT LIST - TABLE A

Reeval 10959 R3 / FID: 02406 Venoco Carp O & M / SSID: 02406

**A PERMITTED EQUIPMENT**

**1 Odorizer System**

**1.1 Odorant Storage Tank**

<i>Device ID #</i>	<b>109024</b>	<i>Device Name</i>	<b>Odorant Storage Tank</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	YZ Systems	<i>Operator ID</i>	9SG044481
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Vessel dimensions: 94 in x 30 in, capacity: 250 gal, relief valve setting: 225 psi, odorant: Tetrahydrothiophene, filling procedure: tanker truck equipped with closed-loop Vapor Recovery System.		

**1.2 Gas Operated Metering Pump**

<i>Device ID #</i>	<b>109025</b>	<i>Device Name</i>	<b>Gas Operated Metering Pump</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	YZ Systems	<i>Operator ID</i>	
<i>Model</i>	7300	<i>Serial Number</i>	GE-00N-150
<i>Location Note</i>			
<i>Device Description</i>	Gas bleed rate: 0.36 scf/hr.		

Equipment List for Permit to Operate 10959 - R3

Page 2 of 4

**2 Horizontal Filter Separator**

<i>Device ID #</i>	<b>109027</b>	<i>Device Name</i>	<b>Horizontal Filter Separator</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Peco	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	75H-4-336-14-450 WM
<i>Location Note</i>			
<i>Device Description</i>	Used for liquid/gas separation. Vessel capacity: 11.90 ft <sup>3</sup> , operating pressure: 150 psig, relief valve setting: 450 psig.		

**3 Vertical Filter Separator**

<i>Device ID #</i>	<b>109028</b>	<i>Device Name</i>	<b>Vertical Filter Separator</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Peerless	<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	14810
<i>Location Note</i>			
<i>Device Description</i>	Used for liquid/gas separation. Vessel capacity: 15.5 ft <sup>3</sup> , operating pressure: 1000 psig, relief valve setting: 1200 psig.		

**4 Charcoal Filters**

<i>Device ID #</i>	<b>109030</b>	<i>Device Name</i>	<b>Charcoal Filters</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Carbtrol	<i>Operator ID</i>	
<i>Model</i>	G-3S	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Two filters connected in series. Dimensions: 24 inches by 34 inches, maximum flow rate capacity: 500 scfm, each unit contains approximately 140 pounds of activated carbon.		

Equipment List for Permit to Operate 10959 - R3

Page 3 of 4

**5 Gas Sampler**

<i>Device ID #</i>	<b>109029</b>	<i>Device Name</i>	<b>Gas Sampler</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	YZ Industries	<i>Operator ID</i>	
<i>Model</i>	2010	<i>Serial Number</i>	7098
<i>Location Note</i>			
<i>Device</i>	Bleed gas rate: 0.018 scf/hr.		
<i>Description</i>			

**6 H2S Analyzer**

<i>Device ID #</i>	<b>109031</b>	<i>Device Name</i>	<b>H2S Analyzer</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>	Del Mar	<i>Operator ID</i>	
<i>Model</i>	1200	<i>Serial Number</i>	1793
<i>Location Note</i>			
<i>Device</i>	Maximum bleed gas rate: 5.5 scf/hr, alarm set point: 3.8 ppmv, shutdown set point: 6.0 ppmv.		
<i>Description</i>			

**7 Fugitive Hydrocarbon Emissions**

**7.1 Valves - Gas Service**

<i>Device ID #</i>	<b>109032</b>	<i>Device Name</i>	<b>Valves - Gas Service</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	140 clps		
<i>Description</i>			

Equipment List for Permit to Operate 10959 - R3

Page 4 of 4

7.2 Flanges & Connections - Gas Service

<i>Device ID #</i>	<b>109034</b>	<i>Device Name</i>	<b>Flanges &amp; Connections - Gas Service</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	255 clps		
<i>Description</i>			

7.3 Pressure Relief Valves - Gas Service

<i>Device ID #</i>	<b>109033</b>	<i>Device Name</i>	<b>Pressure Relief Valves - Gas Service</b>
<i>Rated Heat Input</i>		<i>Physical Size</i>	
<i>Manufacturer</i>		<i>Operator ID</i>	
<i>Model</i>		<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device</i>	5 clps		
<i>Description</i>			



**PERMIT EVALUATION FOR  
PERMIT TO OPERATE 10959 - R3**

Page 1 of 4

**1.0 BACKGROUND**

1.1 General: This PTO is the triennial reevaluation of the Permit to Operate and contains an updated rule review and updated emissions calculations.

1.2 Permit History:

PERMIT	FINAL ISSUED	PERMIT DESCRIPTION
PTO 06226	08/27/1985	
Reeval 08601 R1	09/04/1991	See Permit
Reeval 08601 R2	06/13/1994	See Permit
Reeval 08601 R3	06/24/1997	See Permit
ATC 10216	02/29/2000	One new natural gas scrubber.
Reeval 08601 R4	09/01/2000	Serves Venoco Carpinteria Plant. Was source of odorant breakthrough.
ATC 10959	03/26/2003	Upgrade odorizer while permit 10707 is going through the permit process with The City of Carpinteria.  Removal of equipment generates a D Term for NEI.
PTO 10959	08/20/2003	Two week extension granted for reviewing the draft permit (granted by RFC on 7/11/03). Upgrade odorizer while permit 10707 is going through the permit process with The City of Carpinteria. Removal of equipment generates a D Term for NEI.
Reeval 10959 R1	01/08/2007	Permit Reevaluation. Update equipment list format and revised bleed rate on H2S Analyzer. Updated calculations to reflect the change.
Reeval 10959 R2	06/24/2009	Permit Reevaluation. Update equipment list format and revised bleed rate on H2S Analyzer. Updated calculations to reflect the change.

1.3 Compliance History:

VIOLATION TYPE	NUMBER	ISSUE DATE	DESCRIPTION OF VIOLATION
NOV	2864	07/01/1990	
NOV	6240	02/24/1999	fugitive odorant leaks from O&M station caused public nuisance

PERMIT EVALUATION FOR  
PERMIT TO OPERATE 10959 - R3

Page 2 of 4

VIOLATION TYPE	NUMBER	ISSUE DATE	DESCRIPTION OF VIOLATION
NOV	6409	05/09/2000	odorant venting from saturated carbon adsorber at O&M station caused public nuisance
NOV	7993	06/30/2004	P.C. #5.d, failed to completely replace adsorbant in carbon canisters w/i 90 days of last change out.
NOV	7994	07/07/2004	Failed to submit 3Q03 gas analysis in 2003 annual report for this facility.

**2.0 ENGINEERING ANALYSIS**

- 2.1 Equipment/Processes: This Odorant and Metering Station receives natural gas from Venoco's Platforms Gail and Grace. Emission sources are from the equipment venting (e.g., bleeding off natural gas from sampler system) and fugitives emissions from component leak paths. The odorant delivery process utilizes a closed-loop system. Therefore, no emissions of odorant should result from the delivery operations, except fugitive emissions from the various valves and fittings used by the equipment.
- 2.2 Emission Controls: The emissions from the odorizer, H2S analyzer and gas sampler are reduced by two (2) activated carbon canisters in series.
- 2.3 Emission Factors: Emission factors used for the fugitives are based on District P&P 6100.061.
- 2.4 Reasonable Worst Case Emission Scenario: The emission operations scenario for this project is 24 hr/day, 365 days/year.
- 2.5 Emission Calculations: Detailed emission calculation spreadsheets may be found in the Emissions Calculations attachments. These emissions define the Potential to Emit for the permitted equipment. The emission calculations are based on the gas analysis of Venoco's gas.
- 2.6 Special Calculations: Engineering calculations are used to determine the emissions due to bleed gas rates from the pump, sampler and H2S analyzer.
- 2.7 BACT Analyses: Best Available Control Technology was not required for this project.
- 2.8 Enforceable Operational Limits: The permit has enforceable operating conditions that ensure the carbon control device is operated properly and that carbon replacement occurs when needed.
- 2.9 Monitoring Requirements: Monitoring of the equipment's operational limits are required to ensure that these are enforceable. The monitoring includes a gas analysis and District specified monitoring equipment if a nuisance violation occurs.
- 2.10 Recordkeeping and Reporting Requirements: The permit requires that the data which is monitored be recorded and reported to the District.

PERMIT EVALUATION FOR  
PERMIT TO OPERATE 10959 - R3

Page 3 of 4

**3.0 REEVALUATION REVIEW**

- 3.1 Compliance Summary: According to District inspections and a review of the annual reports, no violations of District rules and the permit have been found.
- 3.2 Notes from Inspector: No comments from last inspection.
- 3.3 Changes to Applicable Rules (or new rules): None
- 3.4 Changes/Revisions to Engineering Analysis (EF updates, etc.): There have been no changes to the Engineering Analysis.
- 3.5 Changes/Revisions to Monitoring, Recordkeeping & Reporting: There have been no changes to these requirements.
- 3.6 Other Changes/Corrections made: The permit reflects the most current template.

**4.0 REGULATORY REVIEW**

- 4.1 Partial List of Applicable Rules:
- Rule 201. Permits Required
  - Rule 202. Exemptions to Rule 201
  - Rule 205. Standards for Granting Permits
  - Rule 210. Fees
  - Rule 301. Circumvention
  - Rule 303. Nuisance
  - Rule 309. Specific Contaminants
  - Rule 310. Odorous Organic Sulfides
  - Rule 505. Breakdown Conditions
  - Rule 801. New Source Review
  - Rule 802. Nonattainment Review
  - Rule 803. Prevention of Significant Deterioration

- 4.2 Rules Requiring Review: None

NEI Calculations: The net emission increase calculation is used to determine whether certain requirements must be applied to a project (e.g., offsets, AQIA, PSD BACT). The NEI values for the stationary source (the I, P1, P2 and D term of the NEI calculation) are documented in IDS Tables and NEI Calculations attachment. The removal of the existing equipment resulted in the generation of a NEI "D" term for the removal of equipment installed prior to 11/15/90. Documentation of the "D" term calculation may be found in the same attachment.

PERMIT EVALUATION FOR  
PERMIT TO OPERATE 10959 - R3

Page 4 of 4

**5.0 AQIA**

The project is not subject to the Air Quality Impact Analysis requirements of Regulation VIII.

**6.0 OFFSETS/ERCs**

6.1 Offsets: The emission offset thresholds of Regulation VIII are not exceeded.

6.2 ERCs: This source does not generate emission reduction credits.

**7.0 AIR TOXICS**

An air toxics health risk assessment was not performed for this permitting action.

**8.0 CEQA / LEAD AGENCY**

This project is exempt from CEQA pursuant to the Environmental Review Guidelines for the Santa Barbara County APCD (revised November 16, 2000). Appendix A (*APCD Projects Exempt from CEQA and Equipment or Operations Exempt from CEQA*) provides an exemption specifically for permits to operate and reevaluations thereof. No further action is necessary.

**9.0 SCHOOL NOTIFICATION**

A school notice pursuant to the requirements of H&SC §42301.6 was not required.

**10.0 PUBLIC and AGENCY NOTIFICATION PROCESS/COMMENTS ON DRAFT PERMIT**

10.1 This project was not subject to public notice.

10.2 No draft permit was issued.

**11.0 FEE DETERMINATION**

Fees for the District's work efforts are assessed on a fee basis. The Project Code is 300800 (*So. Cal Gas Facilities*). See the *Fee Statement* Attachment for the fee calculations.

**12.0 RECOMMENDATION**

It is recommended that this permit be granted with the conditions as specified in the permit.

\_\_\_\_\_  
Paula Iorio  
AQ Engineer/Technician

\_\_\_\_\_  
2/27/2013  
Date

\_\_\_\_\_  
Supervisor

\_\_\_\_\_  
3/4/13  
Date

**13.0 ATTACHMENT(S)**

- Emission Calculations
- Figures & Tables
- Fee Statement

**ATTACHMENT**  
Emissions Calculations

**ROC Component Count Fugitive Emission Calculation**

Component Type	Gas Service Count	Closed Leak Path (CLP)	THC Emission Factor <sup>1</sup> lb/day-CLP	ROC/THC <sup>2</sup> Ratio	ROC Emission Factor lb/day-CLP	ROC Emissions lb/day	ROC Emissions tpy
Valve	140	140	1.0580	0.097	0.103	14.36	2.62
Connection	255	255	0.0580	0.097	0.006	1.43	0.26
Compressor Seal	0	0	10.7940	0.097	1.047	0.00	0.00
Pump Seal	0	0	3.3000	0.097	0.320	0.00	0.00
Pressure Relief	5	5	9.9470	0.097	0.964	4.82	0.88
<b>Total</b>	<b>400</b>	<b>400</b>				<b>20.62</b>	<b>3.76</b>

Notes

1. Emission Factors from Table 2 of District P&P 6100.061 (*Determination of Fugitive Hydrocarbon Emissions at Oil and Gas Facilities Through the Use of Facility Component Counts - Modified for Revised ROC Definition*).
2. ROC/THC ratio from gas analysis is for the gas from the Carpinteria Gas Plant.

**ATTACHMENT**  
Emissions Calculations

**Emission Calculation for Bleed Rates**

Equipment	Bleed Rate scf/hr	Bleed Rate scf/yr	Mass Flow rate lb/yr	Mass Flow rate lb/day	ROC Emissions lb/day	ROC Emissions tpy
Metering pump	0.360	3,153.60	161.88	0.4435	0.043	0.0078
Gas Sampler	0.018	157.68	8.09	0.0222	0.002	0.0004
H <sub>2</sub> S analyzer	0.400	3,504.00	169.24	0.4637	0.0498	0.0082
Adsorption System <sup>1</sup>					0.050	0.0100
<b>Total</b>	<b>0.778</b>	<b>6,815.28</b>	<b>339.21</b>	<b>0.9294</b>	<b>0.14</b>	<b>0.03</b>

Parameters      Value      Units      Reference

Annual Operation	8,760	hr/yr	
Specific Gravity of Gas	0.64		From application
Density of Air	1.29	g/L	
Density of Air	0.0805	lb/scf	
Density of gas (lb/scf)	0.0483	lb/scf	See Equation 1 below
ROC/THC ratio	0.097		Gas analysis (excludes methane and ethane)

Equations

- Density of Gas = (Specific Gravity)\*(Air Density)
- Mass Flow rate = (Bleed Rate)\*(Density of Gas)
- ROC Emissions = (Mass Flow rate)\*(ROC/THC ratio)

Note:

- The emission rate for the adsorption system is from PTO 8601-R4.

Permit to Operate 10959 - R3

**ATTACHMENT  
Emissions Calculations**

**GAS ANALYSIS CALCULATION WORKSHEET**

**COMPANY:** So Cal Gas Venoco Carpinteria  
**LOCATION:** 5800 Carpinteria Avenue Carpinteria

**FILENAME:**

<b>COMPONENT</b>	<b>Mole Percent</b> (lb-mole/lb-mole - gas)	<b>MW</b> (lb/lb-mole)	<b>Weight</b> (lb/lb-mole - gas)	<b>Gas Wt %</b> (lb/lb-gas)	<b>High Heat Content</b> Btu/cf
Nitrogen, N <sub>2</sub>	2.55	28.01	71.33	3.87	0
Oxygen, O <sub>2</sub>	0.00	32.00	0.00	0.00	0
Methane, C1	88.10	16.04	1413.07	76.67	995
Carbon Dioxide, CO <sub>2</sub>	0.50	44.01	21.86	1.19	0
CO	0.00			0.00	317
Water	0.00	18.02	0.00	0.00	
Ethane, C2	5.26	30.07	158.07	8.58	1731
Propane, C3	2.45	44.09	108.17	5.87	2465
i-Butane, iC4	0.47	58.12	27.12	1.47	
n-Butane, nC4	0.52	58.12	30.03	1.63	
i-Pentane, iC5	0.09	72.15	6.25	0.34	
n-Pentane, nC5	0.06	72.15	4.09	0.22	
Iso Hexane Plus	0.03	114.23	3.05	0.17	
Total Sulfur, H <sub>2</sub> S					
Gas	100.00	18.43	1843.04	100.00	1089.00
C1+	96.96		1749.84	94.94	
C2+	8.86		336.77	18.27	
C3+	3.61			9.70	
C4+	0.69				
C5+	0.17				

**AVERAGE GAS MOLECULAR WEIGHT = 18.43 lb/lb-mole**

**REACTIVE ORGANIC FRACTION (ROC/Gas) = 0.183 lb ROC/lb Gas (ROC excludes methane, includes ethane)**  
**0.097 lb ROC/lb Gas (ROC excludes methane and ethane)**

Heating Value  
Gross = High  
Net = Lower

Obtained when the water produced in the combustion is condensed  
Obtained when the water produced in the combustion is not condensed

**ATTACHMENT**  
**IDS Tables & NEI Calculations**

**Potential to Emit (PTE)**

	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
lb/day	0.00	20.76	0.00	0.00	0.00	0.00
tons/year	0.00	3.79	0.00	0.00	0.00	0.00

**Net Emissions Increase (NEI)**

NEI Equation:  $NEI = I + (P1 - P2) - D$

I = Potential to emit of the modification

P1 = All prior PTE increases requiring permits on or after November 15, 1990

P2 = All prior PTE decreases requiring permits on or after November 15, 1990

D = Pre-1990 baseline actual emission decreases

I =

	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
lb/day	0.00	0.00	0.00	0.00	0.00	0.00
tons/year	0.00	0.00	0.00	0.00	0.00	0.00

P1 =

	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
lb/day	0.00	2.78	0.00	0.00	0.00	0.00
tons/year	0.00	0.51	0.00	0.00	0.00	0.00

P2 =

	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
lb/day	0.00	0.00	0.00	0.00	0.00	0.00
tons/year	0.00	0.00	0.00	0.00	0.00	0.00

D =

	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
lb/day	0.00	6.87	0.00	0.00	0.00	0.00
tons/year	0.00	1.25	0.00	0.00	0.00	0.00

FNEI90/NEI =

	<b>NO<sub>x</sub></b>	<b>ROC</b>	<b>CO</b>	<b>SO<sub>x</sub></b>	<b>PM</b>	<b>PM<sub>10</sub></b>
lb/day	0.00	0.00	0.00	0.00	0.00	0.00
tons/year	0.00	0.00	0.00	0.00	0.00	0.00

The facility net emission increase since November 15, 1990 (FNEI90) is equal to the NEI for this permit.

Permit to Operate 10959 - R3

**ATTACHMENT**  
**IDS Tables & NEI Calculations**

**I Term Calculations from ATC 10959**  
 Rolled into the P1 Term (See Below)

**New Fugitive Emissions**

Component Type	Closed Leak Path (CLP)	THC Emission Factor lb/day-CLP	ROC/THC Ratio	ROC Emissions lb/day-CLP	ROC Emissions lb/day	ROC Emissions tpy
Valve	6	1.0580	0.097	0.103	0.62	0.11
Connection	35	0.0580	0.097	0.006	0.20	0.04
Compressor Seal	0	10.7940	0.097	1.047	0.00	0.00
Pump Seal	0	3.3000	0.097	0.320	0.00	0.00
Pressure Relief	1	9.9470	0.097	0.964	0.96	0.176
<b>Total</b>	<b>42</b>				<b>1.78</b>	<b>0.324</b>

**New Equipment**

Equipment	Bleed Rate scf/hr	Bleed Rate scf/yr	Mass Flow rate lb/yr	Mass Flow rate lb/day	ROC Emissions lb/day	ROC Emissions tpy
Metering pump	0.36	3153.6	161.9	0.444	0.043	0.008
<b>Total</b>	<b>0.36</b>	<b>3153.6</b>	<b>161.9</b>	<b>0.444</b>	<b>0.043</b>	<b>0.008</b>

Permit to Operate 10959 - R3

**ATTACHMENT**  
**IDS Tables & NEI Calculations**

**Total I Term**

	<b>ROC Emissions lb/day</b>	<b>ROC Emissions Tpy</b>
Fugitive	1.78	0.324
Equipment	0.043	0.008
<b>Total I Term</b>	<b>1.82</b>	<b>0.33</b>

**ATTACHMENT**  
IDS Tables & NEI Calculations

**D Term Calculations**

**Removed Fugitive Components and Emissions**

Component Type	Closed Leak Path (CLP)	THC Emission Factor lb/day-CLP	ROC/THC Ratio	ROC Emission Factor lb/day-CLP	ROC Emissions lb/day	ROC Emissions tpy
Valve	29	1.0580	0.097	0.103	2.98	0.54
Connection	98	0.0580	0.097	0.006	0.55	0.10
Compressor Seal	0	10.7940	0.097	1.047	0.00	0.00
Pump Seal	0	3.3000	0.097	0.320	0.00	0.00
Pressure Relief	3	9.9470	0.097	0.964	2.89	0.53
<b>Total</b>	130				<b>6.42</b>	<b>1.17</b>

**Emission Decrease from Removed Equipment**

Equipment	Bleed Rate scf/hr	Bleed Rate scf/yr	Mass Flow rate lb/yr	Mass Flow rate lb/day	ROC Emissions lb/day	ROC Emissions tpy
Metering pump	3.75	32850	1686.3	4.620	0.45	0.08
<b>Total</b>	3.75	32850	1686.3	4.620	<b>0.45</b>	<b>0.08</b>

**Total D Term**

	ROC Emissions lb/day	ROC Emissions tpy
Fugitive	6.42	1.17
Equipment	0.45	0.08
<b>Total D Term</b>	<b>6.87</b>	<b>1.25</b>

Permit to Operate 10959 - R3

**ATTACHMENT**  
**IDS Tables & NEI Calculations**

**P1 Term Calculations**

**Equipment Installed after November 15, 1990 and Emissions**

Equipment	ROC Emissions lb/day	ROC Emissions tpy
Equipment installed under ATC 10959	1.82	0.33
Horizontal filter separator (Permitted under ATC 10216, issued March 1, 2000)	0.96	0.18
<b>Total P1 Term</b>	<b>2.78</b>	<b>0.51</b>

**FEE STATEMENT**

**PTO No. 10959 - R3**

**FID: 02406 Venoco Carp O & M / SSID: 02406**



**Santa Barbara County  
Air Pollution Control District**

**Device Fee**

Device No.	Device Name	Fee Schedule	Qty of Fee Units	Fee per Unit	Fee Units	Max or Min. Fee Apply?	Number of Same Devices	Pro Rate Factor	Device Fee	Penalty Fee?	Fee Credit	Total Fee per Device
109024	Odorant Storage Tank	A1.a	1.000	63.48	Per equipment	No	1	1.000	63.48	0.00	0.00	63.48
109025	Gas Operated Metering Pump	A1.a	1.000	63.48	Per equipment	No	1	1.000	63.48	0.00	0.00	63.48
109027	Horizontal Filter Separator	A1.a	1.000	63.48	Per equipment	No	1	1.000	63.48	0.00	0.00	63.48
109028	Vertical Filter Separator	A1.a	1.000	63.48	Per equipment	No	1	1.000	63.48	0.00	0.00	63.48
109030	Charcoal Filters	A1.a	1.000	63.48	Per equipment	No	2	1.000	126.96	0.00	0.00	126.96
109029	Gas Sampler	A1.a	1.000	63.48	Per equipment	No	1	1.000	63.48	0.00	0.00	63.48
109031	H2S Analyzer	A1.a	1.000	63.48	Per equipment	No	1	1.000	63.48	0.00	0.00	63.48
109032	Valves - Gas Service	A1.a	1.000	63.48	Per equipment	No	1	1.000	63.48	0.00	0.00	63.48
<b>Device Fee Sub-Totals =</b>									<b>\$571.32</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$571.32</b>
<b>Device Fee Total =</b>									<b>\$571.32</b>	<b>\$0.00</b>	<b>\$0.00</b>	<b>\$571.32</b>

**Permit Fee**

Fee Based on Devices

571.32

**Fee Statement Grand Total = \$571**

**Notes:**

- (1) Fee Schedule Items are listed in District Rule 210, Fee Schedule "A".
- (2) The term "Units" refers to the unit of measure defined in the Fee Schedule.



**Santa Barbara County  
Air Pollution Control District**

MAR 05 2013

Certified Mail 7011 3500 0002 7299 1083  
Return Receipt Requested

Mary Hale  
Southern California Gas Company  
PO Box 2300, ML 9314  
Chatsworth, CA 91313-2300

FID: 02406  
Permit: P 10959 - R3  
SSID: 02406

Re: Final Permit to Operate 10959 - R3  
Fee Due: \$ 571

Dear Ms. Hale:

Enclosed is the final Permit to Operate (PTO) No. 10959 - R3 for the Venoco Carpinteria Odorant & Metering station at 5800 Carpinteria Avenue.

Please carefully review the enclosed documents to ensure that they accurately describe your facility and that the conditions are acceptable to you. Note that your permitted emission limits may, in the future, be used to determine emission fees.

This PTO is for the triennial (every three years) reevaluation of existing air quality permits at your facility, as required by Air Pollution Control District (District) Rule 201. This permit may contain new conditions added to ensure compliance with current laws and updated regulations.

You should become familiar with all District rules pertaining to your facility. This permit does not relieve you of any requirements to obtain authority or permits from other governmental agencies.

This permit requires you to:

- Pay a fee of \$571, which is due immediately and is considered late after 30 calendar days from the date stamped on the permit. Pursuant to District Rule 210.IV.B, no appeal shall be heard unless all fees have been paid. See the attached invoice for more information.
- Follow the conditions listed on your permit. Pay careful attention to the recordkeeping and reporting requirements.
- Ensure that a copy of the enclosed permit is posted or kept readily available near the permitted equipment.
- Promptly report changes in ownership, operator, or your mailing address to the District.

If you are not satisfied with the conditions of this permit, **you have thirty (30) days from the date of this issuance to appeal this permit to the Air Pollution Control District Hearing Board** (ref: California Health and Safety Code, §42302.1). Any contact with District staff to discuss the terms of this permit will not stop or alter the 30-day appeal period.

Please include the facility identification (FID) and permit numbers as shown at the top of this letter on all correspondence regarding this permit. If you have any questions, please contact Paula Iorio of my staff at (805) 961-8867.

Sincerely,

A handwritten signature in black ink, appearing to read "Michael Goldman". The signature is fluid and cursive, with the first name "Michael" written in a larger, more prominent script than the last name "Goldman".

Michael Goldman, Manager  
Engineering Division

enc: Final PTO 10959 - R3  
Final Permit Evaluation  
Invoice # R 10959 - R3  
Air Toxics "Hot Spots" Fact Sheet District Form 12B

cc: Venoco Carp O & M 02406 Project File  
ECD Chron File  
Accounting (Invoice only)  
Ben Ellenberger (Cover letter only)  
Paula Iorio (Cover letter only)

S:\WP\Oil&Gas\GSD\02406 SoCal Gas Carp O&M\Reeval 10959-R3\Reeval 10959 R3 - Final Letter - 2-27-2013.doc



**Santa Barbara County  
Air Pollution Control District**

260 N San Antonio Rd, Suite A  
Santa Barbara, CA 93110-1315

Invoice: R 10959 - R3

Date: **MAR 05 2013**

Terms: Net 30 Days

300800/6600/3282

## INVOICE

**BILL TO:**

Norma Cobb  
Southern California Gas Company (001102)  
PO Box 2300, M/L 9314  
Chatsworth, CA 91313-2300

**FACILITY:**

Venoco Carp O & M  
02406

Permit: Permit to Operate (PTO) No. 10959 - R3

Fee Type: Permit Reevaluation Fee (see the Fee Statement in your permit for a breakdown of the fees)

**Amount Due: \$ 571**

**REMIT PAYMENTS TO THE ABOVE ADDRESS**

Please indicate the invoice number R 10959 - R3  
on your remittance.

**IF YOU HAVE ANY QUESTIONS REGARDING YOUR INVOICE PLEASE CONTACT  
OUR ADMINISTRATION DIVISION AT (805) 961-8800**

The District charges \$25 for returned checks. Other penalties/fees may be incurred as a result of returned checks and late payment (see District Rule 210). Failure to pay this Invoice may result in the cancellation or suspension of your permit. Please notify the District regarding any changes to the above information