



Authority to Construct 13964

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EQUIPMENT OWNER:

Goleta Valley Cottage Hospital 320000

EQUIPMENT OPERATOR:

Goleta Valley Cottage Hospital

EQUIPMENT LOCATION:

351 S. Patterson Avenue, Goleta

STATIONARY SOURCE/FACILITY:

Goleta Valley Cottage Hospital SSID: 03909
FID: 03909

EQUIPMENT DESCRIPTION:

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

PROJECT/PROCESS DESCRIPTION:

This permit is for the installation of three (3) Cleaver-Brooks 6.124 MMBtu/hr boilers, seven (7) Fulton 0.398 MMBtu/hr boilers, and two (2) permit exempt PVi 1.200 MMBtu/hr water heaters. When fully operational, this equipment will replace the two 4.250 MMBtu/hr boilers permitted under Reeval 12610-R1. This project is expected to be completed in January 2014.

CONDITIONS:

1. **Emission Limitations.** The emissions from the equipment permitted herein shall not exceed the values listed in Table 1 and Table 2. Compliance shall be based on the operational, monitoring, recordkeeping and reporting conditions of this permit.
 - a. BACT - Emissions from the boilers while operating on PUC quality natural gas shall not exceed the following BACT limits:

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- i. 9 ppmv NO_x at 3% O₂ and 50 ppmv CO at 3% O₂ for the 6.124 MMBtu/hr Cleaver Brooks boilers. Compliance shall be based on annual source testing for NO_x and CO.
 - ii. 30 ppmv NO_x at 3% O₂ and 100 ppmv CO at 3% O₂ for the 0.398 MMBtu/hr Fulton boilers. Compliance shall be based on annual source testing for NO_x and CO.
2. **Operational Restrictions.** The equipment permitted herein is subject to the following operational restrictions:
 - a. *Heat Input Limits.* The hourly, daily and annual heat input limits to each unit shall not exceed the values listed in Table 3. These limits are based on the design rating of the unit and the annual heat input value as listed in the permit application. Unless otherwise designated by the District, the following fuel content shall be used for determining compliance: Natural Gas = 1,050 Btu/scf.
 - b. *Public Utility Natural Gas Fuel Sulfur Limit.* The total sulfur and hydrogen sulfide (H₂S) content (calculated as H₂S at standard conditions, 60°F and 14.7 psia) of the public utility natural gas fuel shall not exceed 80 ppmv and 4 ppmv respectively. Compliance with this condition shall be based on billing records or other data showing that the fuel gas is obtained from a public utility gas company.
 - c. *Rule 360 Compliance.* Any boiler or hot water heater rated at or less than 2,000 MMBtu/hr and manufactured after October 17, 2003 shall be certified per the provisions of Rule 360. An ATC/PTO permit shall be obtained prior to installation of any grouping of Rule 360 applicable boilers or hot water heaters whose combined system design heat input rating exceeds 2,000 MMBtu/hr.
3. **Monitoring.** The equipment permitted herein is subject to the following monitoring requirements:
 - a. Fuel Usage Metering – The volume of PUC quality natural gas (in units of standard cubic feet) shall be measured through the use of dedicated District-approved calibrated non-resettable totalizing fuel meter for each boiler. The gas meter shall be temperature and pressure corrected. The fuel meters shall be accurate to within five percent (5%) of the full scale reading. The fuel meters shall be calibrated in accordance with the fuel meters manufacturer's procedures, but no later than the date of the next required emissions source test.
 - b. *Compliance Determination.* The following compliance determinations are applicable to the units subject to this permit:
 - i. Units Rated at 5.0 MMBtu/hr and Greater. Except for units that are granted a Rule 342 low use exemption, source testing shall be performed in accordance with the Source Testing Condition of this permit and Rule 342. Units granted the low

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use exemption shall tune the unit at least once every 12 months following the tuning procedure in Attachment 1 of Rule 342 or an alternative tuning procedure approved by the District.

- ii. Units Rated at 2,000 MMBtu/hr or Below. Any unit manufactured after October 17, 2003 shall be tuned once every 12 months following the manufacturer's recommended tuning procedure or by an alternative tuning procedure approved by the District.

4. **Recordkeeping.** The permittee shall record and maintain the following information. This data shall be maintained for a minimum of five (5) years from the date of each entry and made available to the District upon request:

- a. The volume (in units of standard cubic feet) of PUC quality natural gas used in each boiler each month.
- b. The number of days and hours each boiler operated on PUC quality natural gas each month.
- c. Maintenance logs for each boiler, fuel flow meter, and low NO_x burner.
- d. *Source Test Reports.* Source test reports for all District-required stack emission tests.
- e. *Tuning Records.* For units subject to Rule 360, maintain documentation verifying the required tune-ups, including a complete copy of each tune-up report.

5. **Reporting.** By March 1 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 include the following information:

- a. *Fuel Use Data.* The fuel use data required in the Recordkeeping Condition above. Units that track fuel use using the Default Rating Method are not required to submit an annual report for fuel use.
- b. *Source Test Report.* Source test reports shall be submitted to the District within 45 days of test completion.
- c. *Meter Calibration Records.* Copies of the most recent fuel use meter calibration.

6. **BACT.** The permittee shall apply emission control technology and plant design measures that represent Best Available Control Technology ("BACT") to the operation of the boilers as described in Table 4 and the District's *Permit Evaluation* for this permit. The BACT

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shall be in place, and shall be operational at all times, for the life of the project. Additional BACT related requirements are defined in the monitoring, recordkeeping and reporting permit conditions.

7. **External Combustion Units--Permits Required:**

- a. An ATC/PTO permit shall be obtained prior to installation of any grouping of Rule 360 applicable boilers or hot water heaters whose combined system design heat input rating exceeds 2.000 MMBtu/hr.
- b. An ATC permit shall be obtained prior to installation, replacement, or modification of any existing Rule 361 applicable boiler or water heater rated over 2.000 MMBtu/hr.
- c. An ATC shall be obtained for any size boiler or water heater if the unit is not fired on natural gas or propane.

8. **Source Testing.** The following source testing provisions shall apply:

- a. Source testing shall be performed on a schedule identified in Table 4, using January as the anniversary date. The permittee shall conduct source testing of air emissions and process parameters listed in Table 5 of this permit. More frequent source testing may be required if the equipment does not comply with permitted limitations or if other compliance problems, as determined by the District, occur.
- b. The permittee shall submit a written source test plan to the District for approval at least thirty (30) days prior to initiation of each source test. The source test plan shall be prepared consistent with the District's Source Test Procedures Manual (revised May 1990 and any subsequent revisions). The permittee shall obtain written District approval of the source test plan prior to commencement of source testing. The District shall be notified at least ten (10) calendar days prior to the start of source testing activity to arrange for a mutually agreeable source test date when District personnel may observe the test.
- c. Source test results shall be submitted to the District within forty-five (45) calendar days following the date of source test completion and shall be consistent with the requirements approved within the source test plan. Source test results shall document the permittee's compliance status with BACT requirements, mass emission rates in Table 1 and applicable permit conditions, rules and NSPS (if applicable). All District costs associated with the review and approval of all plans and reports and the witnessing of tests shall be paid by the permittee as provided for by District Rule 210.
- d. A source test for an item of equipment shall be performed on the scheduled day of testing (the test day mutually agreed to) unless circumstances beyond the control of the operator prevent completion of the test on the scheduled day. Such circumstances include mechanical malfunction of the equipment to be tested, malfunction of the source test equipment, delays in source test contractor arrival and/or set-up, or unsafe conditions on site. Except in cases of an emergency, the operator shall seek and obtain District approval

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before deferring or discontinuing a scheduled test, or performing maintenance on the equipment item on the scheduled test day. If the test cannot be completed on the scheduled day, then the test shall be rescheduled for another time with prior authorization by the District. Once the sample probe has been inserted into the exhaust stream of the equipment unit to be tested (or extraction of the sample has begun), the test shall proceed in accordance with the approved source test plan. In no case shall a test run be aborted except in the case of an emergency or unless approval is first obtained from the District. Failing to perform the source test of an equipment item on the scheduled test day without a valid reason and without the District's authorization shall constitute a violation of this permit. If a test is postponed due to an emergency, written documentation of the emergency event shall be submitted to the District by the close of the business day following the scheduled test day.

The timelines in (a), (b), and (c) above may be extended for good cause provided a written request is submitted to the District at least three (3) days in advance of the deadline, and approval for the extension is granted by the District.

9. **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.
10. **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.
11. **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.
12. **Severability.** In the event that any condition herein is determined to be invalid, all other conditions shall remain in force.
13. **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.
14. **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.
15. **Equipment Identification.** Identifying tag(s) or name plate(s) shall be displayed on the equipment to show manufacturer, model number, and serial number. The tag(s) or plate(s) shall be affixed to the equipment in a permanent and conspicuous position.

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16. **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.
17. **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.
18. **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.*
19. **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.
20. **Source Compliance Demonstration Period.** The equipment permitted herein is allowed to operate temporarily during a 120-day SCDP. Initial operations (start of SCDP) of the permitted equipment are defined as the first introduction of fuel gas to the combustion unit. Within 14 of days of initial operations, the permittee shall provide the District written notification of the SCDP start date (using the attached yellow SCDP notification card). During the SCDP, the permittee shall comply with all operational, monitoring, recordkeeping and reporting requirements as specified in this permit. During the SCDP, the permittee shall:
 - a. Begin recordkeeping as specified in the Recordkeeping Condition of this permit;
 - b. Remove the existing units, specified in the de-permitted equipment list, no later than 14 days after initial operations commence.
 - c. Arrange for District inspection not more than thirty (30) calendar days (or other mutually agreed to time period) after the SCDP begins. A minimum of three calendar days advance notice shall be given to the District. This inspection is required to verify that the equipment and its operation are in compliance with District Rules and Permit Conditions.
 - d. Submit a Permit to Operate (PTO) application and the appropriate filing fee not more than 90 calendar days after the SCDP begins pursuant to District Rule 201.E.2. Upon the District’s determination that the permit application is “complete”, the permittee may continue temporary operations under the SCDP until such time the PTO is issued final or one year from the date of PTO application completeness, whichever occurs earlier.

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Failure to submit the PTO application within the specified time period shall constitute a violation of this permit.

SCDP extensions of up to 30 days may be granted by the District for good cause. Such extensions may be subject to conditions. When good cause cannot be demonstrated, no administrative extension is available and the permittee shall cease operations. Alternatively, the permittee may submit an application to revise the ATC permit and upon the District finding the application complete the SCDP can be extended. A written request to extend the SCDP shall be made by the permittee at least seven days prior to the SCDP expiration date.

AIR POLLUTION CONTROL OFFICER

DATE

Attachments:

- Table 1 – Mass Emission Limits
- Table 2 – Emission Standards
- Table 3 – Heat Input Limits
- Table 4 – Device Specific Requirements Summary
- Table 5 – Source Testing Requirements
- Table 6 – Best Available Control Technology
- Permit Equipment List(s)
- Permit Evaluation for Authority to Construct 13964

Notes:

- This permit is valid for one year from the date stamped above if unused.
- Reevaluation Due Date: March 1, 2016.
- Additional information can be located online at <http://www.sbcapcd.org/eng/boiler.htm>.
- This permit is valid for one year from the date stamped above if unused.
- This permit supersedes Reeval 12610-R1

TABLE 1. MASS EMISSION LIMITS

Device ID #	NOx		ROC		CO		SOx		PM		PM10	
	lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy
114884	1.62	0.30	0.79	0.14	5.44	0.99	2.01	0.37	1.10	0.20	1.10	0.20
114885	1.62	0.30	0.79	0.14	5.44	0.99	2.01	0.37	1.10	0.20	1.10	0.20
114886	1.62	0.30	0.79	0.14	5.44	0.99	2.01	0.37	1.10	0.20	1.10	0.20
386179	0.34	0.06	0.05	0.01	0.35	0.06	0.13	0.02	0.07	0.01	0.07	0.01
386180	0.34	0.06	0.05	0.01	0.35	0.06	0.13	0.02	0.07	0.01	0.07	0.01
386181	0.34	0.06	0.05	0.01	0.35	0.06	0.13	0.02	0.07	0.01	0.07	0.01
386182	0.34	0.06	0.05	0.01	0.35	0.06	0.13	0.02	0.07	0.01	0.07	0.01
386183	0.34	0.06	0.05	0.01	0.35	0.06	0.13	0.02	0.07	0.01	0.07	0.01
386184	0.34	0.06	0.05	0.01	0.35	0.06	0.13	0.02	0.07	0.01	0.07	0.01
386185	0.34	0.06	0.05	0.01	0.35	0.06	0.13	0.02	0.07	0.01	0.07	0.01
Total	7.24	1.32	2.72	0.49	18.77	3.39	6.94	1.25	3.79	0.67	3.79	0.67

TABLE 2. EMISSION STANDARDS

Device ID #	NOx	CO	Units	Basis
114884	9	50	ppmvd @ 3% O2	BACT
114885	9	50	ppmvd @ 3% O2	BACT
114886	9	50	ppmvd @ 3% O2	BACT
386179	30	100	ppmvd @ 3% O2	BACT
386180	30	100	ppmvd @ 3% O2	BACT
386181	30	100	ppmvd @ 3% O2	BACT
386182	30	100	ppmvd @ 3% O2	BACT
386183	30	100	ppmvd @ 3% O2	BACT
386184	30	100	ppmvd @ 3% O2	BACT
386185	30	100	ppmvd @ 3% O2	BACT

TABLE 3. HEAT INPUT LIMITS

Device ID #	Fuel	MMBtu/hr	MMBtu/day	MMBtu/yr
114884	Natural Gas - Utility	6.124	146.976	53,646.24
114885	Natural Gas - Utility	6.124	146.976	53,646.24
114886	Natural Gas - Utility	6.124	146.976	53,646.24
386179	Natural Gas - Utility	0.398	9.552	3,486.48
386180	Natural Gas - Utility	0.398	9.552	3,486.48
386181	Natural Gas - Utility	0.398	9.552	3,486.48
386182	Natural Gas - Utility	0.398	9.552	3,486.48
386183	Natural Gas - Utility	0.398	9.552	3,486.48
386184	Natural Gas - Utility	0.398	9.552	3,486.48
386185	Natural Gas - Utility	0.398	9.552	3,486.48

TABLE 4. DEVICE SPECIFIC REQUIREMENTS SUMMARY

Device ID #	Applicable Rule	Source Testing	Tune-Ups	Fuel Use Method	Low Use Exemption	BACT
114884	R342	Annual	No	Fuel Meter	No	Yes
114885	R342	Annual	No	Fuel Meter	No	Yes
114886	R342	Annual	No	Fuel Meter	No	Yes
386179	R360	No	Annual	Fuel Meter	No	Yes
386180	R360	No	Annual	Fuel Meter	No	Yes
386181	R360	No	Annual	Fuel Meter	No	Yes
386182	R360	No	Annual	Fuel Meter	No	Yes
386183	R360	No	Annual	Fuel Meter	No	Yes
386184	R360	No	Annual	Fuel Meter	No	Yes
386185	R360	No	Annual	Fuel Meter	No	Yes

Table Notes:

- (a) Units subject to Rule 342 may comply with either the ppmvd or lb/MMBtu standards of the Rule.
- (b) NO_x as NO₂, SO_x as SO₂, lb/day = pounds per day, tpy = tons per year
- (c) Device ID # from permit equipment list.
- (d) Emission data that round down to 0.00 has been set to a default of 0.01.

TABLE 5. SOURCE TESTING REQUIREMENTS

Emission & Limit Test Points	Pollutants	Parameters	Test Methods ^(a)
External Combustion Unit Stacks <small>(b)(c)(d)(e)</small>	NO _x CO ROC Sampling Point Det. Stack Gas Flow Rate O ₂ , CO ₂ , Dry MW Moisture Content Stack Temperature	ppmv, lb/hr ppmv, lb/hr ppmv, lb/hr °F	EPA Method 7E, ARB 100 EPA Method 10, ARB 100 EPA Method 18 EPA Method 1 EPA Method 2 or 19 EPA Method 3 EPA Method 4 Calibrated Thermocouple
Fuel Gas ^(h)	Fuel Gas Flow Rate Higher Heating Value Total Sulfur Content Gas Composition	Btu/lb ppmw CHONS%, F-factor	Fuel Gas Meter ^(f) ASTM D 1826 or 3588 ASTM D 1072 or 5504 ^(g) ASTM 1945

Notes:

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- (a) Alternative methods may be acceptable on a case-by-case basis.
 - (b) The emission rates shall be based on EPA Methods 2 and 4, or Method 19 along with the heat input rate.
 - (c) For NO_x, CO and ROC and O₂ a minimum of three 40-minute runs shall be obtained during each test.
 - (d) See Tables 1 and 2 for the emission standards to be measured against during the test. Measured NO_x and CO shall not exceed the limit specified in the applicable Rule (e.g., Rule 361, Rule 342).
 - (e) All emission determinations shall be made in the as-found operating condition, at the maximum attainable firing rate to be approved by the source test plan. No determination of compliance shall be established within two hours after a continuous period in which fuel flow to the unit is shut off for 30 minutes or longer.
 - (f) Fuel meter shall meet the calibration requirements prior to testing.
 - (g) Total sulfur content fuel samples shall be obtained using EPA Method 18 with Tedlar Bags (or equivalent) equipped with Teflon tubing and fittings. Turnaround time for laboratory analysis of these samples shall be no more than 24 hours from sampling.
 - (h) Fuel gas heating value and composition are optional for Rule 361 applicable units. Sulfur content only required for units not run on utility purchased gas. For units rated at 5 MMBtu/hr or greater, heating value is required in all cases, but gas composition not required if Method 2 is used for stack flow.

TABLE 6 - BEST AVAILABLE CONTROL TECHNOLOGY

Emission Unit/Process	Control Technology	Pollutant	Performance Standard
Boilers (>2 MMBtu/hr)	Low-NO _x Gas Burner	NO _x CO	9 ppmvd at 3% O ₂ 50 ppmvd at 3% O ₂
Boilers (<2 MMBtu/hr)	Low-NO _x Gas Burner	NO _x CO	30 ppmvd at 3% O ₂ 100 ppmvd at 3% O ₂

Table Notes:

- (a) Units subject to Rule 342 may comply with either the ppmvd or lb/MMBtu standards of the Rule.
- (b) NO_x as NO₂, SO_x as SO₂, lb/day = pounds per day, tpy = tons per year.
- (c) Device ID # from permit equipment list.
- (d) Emission data that round down to 0.00 has been set to a default of 0.01.

Equipment List for Authority to Construct 13964

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PERMIT EQUIPMENT LIST - TABLE A

ATC 13964 / FID: 03909 Goleta Valley Cottage Hospital / SSID: 03909

A PERMITTED EQUIPMENT

1 Large Boiler #1

<i>Device ID #</i>	114884	<i>Device Name</i>	Large Boiler #1
<i>Rated Heat Input</i>	6.124 MMBtu/Hour	<i>Operator ID Serial Number</i>	
<i>Manufacturer Model</i>	Cleaver Brooks CBLE 700-150-125- HW		
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

2 Large Boiler #2

<i>Device ID #</i>	114885	<i>Device Name</i>	Large Boiler #2
<i>Rated Heat Input</i>	6.124 MMBtu/Hour	<i>Operator ID Serial Number</i>	
<i>Manufacturer Model</i>	Cleaver Brooks CBLE 700-150-125- HW	<i>Stacked Unit?</i>	
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

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3 Large Boiler #3

<i>Device ID #</i>	114886	<i>Device Name</i>	Large Boiler #3
<i>Rated Heat Input</i>	6.124 MMBtu/Hour	<i>Operator ID</i>	
<i>Manufacturer</i>	Cleaver Brooks	<i>Serial Number</i>	
<i>Model</i>	CBLE 700-150-125- HW	<i>Stacked Unit?</i>	
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

4 Small Boiler #1

<i>Device ID #</i>	386179	<i>Device Name</i>	Small Boiler #1
<i>Rated Heat Input</i>	0.398 MMBtu/Hour	<i>Physical Size</i>	0.39 MMBtu/Hour
<i>Manufacturer</i>	Fulton	<i>Operator ID</i>	
<i>Model</i>	ICS9.5	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

5 Small Boiler #2

<i>Device ID #</i>	386180	<i>Device Name</i>	Small Boiler #2
<i>Rated Heat Input</i>	0.398 MMBtu/Hour	<i>Physical Size</i>	0.39 MMBtu/Hour
<i>Manufacturer</i>	Fulton	<i>Operator ID</i>	
<i>Model</i>	ICS9.5	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

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6 Small Boiler #3

<i>Device ID #</i>	386181	<i>Device Name</i>	Small Boiler #3
<i>Rated Heat Input</i>	0.398 MMBtu/Hour	<i>Physical Size</i>	0.39 MMBtu/Hour
<i>Manufacturer</i>	Fulton	<i>Operator ID</i>	
<i>Model</i>	ICS9.5	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

7 Small Boiler #4

<i>Device ID #</i>	386182	<i>Device Name</i>	Small Boiler #4
<i>Rated Heat Input</i>	0.398 MMBtu/Hour	<i>Physical Size</i>	0.39 MMBtu/Hour
<i>Manufacturer</i>	Fulton	<i>Operator ID</i>	
<i>Model</i>	ICS9.5	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

8 Small Boiler #5

<i>Device ID #</i>	386183	<i>Device Name</i>	Small Boiler #5
<i>Rated Heat Input</i>	0.398 MMBtu/Hour	<i>Physical Size</i>	0.39 MMBtu/Hour
<i>Manufacturer</i>	Fulton	<i>Operator ID</i>	
<i>Model</i>	ICS9.5	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

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9 Small Boiler #6

<i>Device ID #</i>	386184	<i>Device Name</i>	Small Boiler #6
<i>Rated Heat Input</i>	0.398 MMBtu/Hour	<i>Physical Size</i>	0.39 MMBtu/Hour
<i>Manufacturer</i>	Fulton	<i>Operator ID</i>	
<i>Model</i>	ICS9.5	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

10 Small Boiler #7

<i>Device ID #</i>	386185	<i>Device Name</i>	Small Boiler #7
<i>Rated Heat Input</i>	0.398 MMBtu/Hour	<i>Physical Size</i>	0.39 MMBtu/Hour
<i>Manufacturer</i>	Fulton	<i>Operator ID</i>	
<i>Model</i>	ICS9.5	<i>Serial Number</i>	
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

B EXEMPT EQUIPMENT

1 Water Heater #1

<i>Device ID #</i>	386186	<i>Device Name</i>	Water Heater #1
<i>Rated Heat Input</i>	1.200 MMBtu/Hour	<i>Physical Size</i>	1.20 MMBtu/Hour
<i>Manufacturer</i>	PVi	<i>Operator ID</i>	
<i>Model</i>	500P 1250A-TLP	<i>Serial Number</i>	01121133622
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	201.G.1.a
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

Equipment List for Authority to Construct 13964

2 Water Heater #2

<i>Device ID #</i>	386187	<i>Device Name</i>	Water Heater #2
<i>Rated Heat Input</i>	1.200 MMBtu/Hour	<i>Physical Size</i>	1.20 MMBtu/Hour
<i>Manufacturer</i>	PVi	<i>Operator ID</i>	
<i>Model</i>	500P 1250A-TLP	<i>Serial Number</i>	01121133621
<i>Part 70 Insig?</i>	No	<i>District Rule Exemption:</i>	201.G.1.a
<i>Location Note</i>			
<i>Device Description</i>	Equipped with low NOx burner		

E DE-PERMITTED EQUIPMENT

1 Steam Boiler #2

<i>Device ID #</i>	111059	<i>Device Name</i>	Steam Boiler #2
<i>Rated Heat Input</i>	4.250 MMBtu/Hour	<i>Physical Size</i>	
<i>Manufacturer</i>	Rite Engineering & Mfg. Corp.	<i>Operator ID</i>	
<i>Model</i>	425SX	<i>Serial Number</i>	498L11
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	Natural draft; manufactured in 1963.		

2 Steam Boiler #1

<i>Device ID #</i>	111169	<i>Device Name</i>	Steam Boiler #1
<i>Rated Heat Input</i>	4.250 MMBtu/Hour	<i>Physical Size</i>	
<i>Manufacturer</i>	Rite Engineering & Mfg. Corp.	<i>Operator ID</i>	
<i>Model</i>	425SX	<i>Serial Number</i>	497L11
<i>Depermitted</i>		<i>Facility Transfer</i>	
<i>Device Description</i>	Natural draft; manufactured in 1963.		



**PERMIT EVALUATION FOR
AUTHORITY TO CONSTRUCT 13964**

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1.0 BACKGROUND

1.1 General: This permit is for the installation of three (3) new Cleaver-Brooks 6.124 MMBtu/hr boilers, seven (7) new Fulton 0.398 MMBtu/hr boilers, and two (2) permit exempt PVi 1.200 MMBtu/hr water heaters. All of these boilers will be fired on PUC natural gas. Additionally, two existing 4.250 MMBtu/hr boilers will be depermitted with this action.

This permit will be issued among with ATC/PTO 13963. The two Caterpillar C-32 emergency standby generators under this ATC/PTO will be treated as the same project as ATC 13964. The emissions from this project trigger Best Available Control Technology (BACT) requirements for NO_x.

1.2 Permit History:

PERMIT	FINAL ISSUED	PERMIT DESCRIPTION
ATC 08209	08/23/1991	See permit.
PTO 08209	04/08/1992	See permit.
Reeval 08209 R1	02/15/1996	See permit.
Reeval 08209 R2	02/16/1999	See permit.
PTO 11877	11/21/2005	E/S generator. CAT Model 3412, 742 bhp.
PTO 12610	05/06/2008	1963 Rite Engineering & Mgr Corp. Model 425 SX Installed 1964. Two units each rated at 4.250 MMBtu/hr.
Reeval 11877 R1	02/11/2009	E/S generator. CAT Model 3412, 742 bhp.
Reeval 12610 R1	05/06/2011	1963 Rite Engineering & Mgr Corp. Model 425 SX Installed 1964. Two units each rated at 4.250 MMBtu/hr
Reeval 11877 R2	02/10/2012	E/S generator. CAT Model 3412, 742 bhp.

1.3 Compliance History: This equipment was previously exempt from permit.

VIOLATION TYPE	NUMBER	ISSUE DATE	DESCRIPTION OF VIOLATION
NOV	4735	02/15/1994	Failed to submit quarterly report
NOV	8324	10/19/2005	Failure to file application for PTO, 742 HP Diesel Emergency Engine

2.0 ENGINEERING ANALYSIS

2.1 Equipment/Processes: These are external combustion units that produce hot water and steam. The Fulton boilers will operate in a led/lag configuration. This is designed to subject the boilers to even

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levels of operation and allows for maintenance flexibility. All permitted boilers are only allowed to fire PUC natural gas.

- 2.2 Emission Controls: The three 6.124 MMBtu/hr Cleaver Brooks boilers, seven 0.398 MMBtu/hr Fulton boilers, and two exempt 1.200 MMBtu/hr water heaters are equipped with low NO_x burners.
- 2.3 Emission Factors: Emission factors for the boilers are documented in the *Emission Calculations* Attachment. The specific documents referenced may be found in the administrative file for this permit.
- 2.4 Reasonable Worst Case Emission Scenario: The operating scenario is summarized as follows:
- Hourly*: Maximum fuel rating of each boiler (6.124 MMBtu/hr for large boilers and 0.398 MMBtu/hr for the smaller boilers)
- Daily*: Operation of all ten boilers at the hourly rating for 24 hours/day
- Annual*: Hourly rating of the ten boilers for 8,760 hours/year (PUC quality natural gas)
- 2.5 Emission Calculations: Daily emissions are calculated using the daily heat input (MMBtu/day) times the emission factor (lb/MMBtu). Annual emissions are calculated using the annual heat input (MMBtu/yr) times the emission factor (lb/MMBtu) and divided by 2000 lb/ton.
- 2.6 Special Calculations: The BACT limits for NO_x and CO have been converted from units of ppmv to lb/MMBtu in order to calculate the mass emissions associated with operating the boilers. The equation used to convert the BACT limits is as follows:

$$\frac{ppmv_{BACT}}{ppmv_{Rule342}} = \frac{lb/MMBtu_{BACT}}{lb/MMBtu_{Rule342}}$$

Where: $lb/MMBtu_{Rule\ 342 - NO_x} = 0.036\ lb/MMBtu$ $ppmv_{Rule\ 342 - NO_x} = 30\ ppmv$
 $lb/MMBtu_{Rule\ 342 - CO} = 0.297\ lb/MMBtu$ $ppmv_{Rule\ 342 - CO} = 400\ ppmv$

- 2.7 BACT Analyses: Best Available Control Technology was required for this project because the emissions from the boilers exceeded the 25 lb/day criteria pollutant threshold for BACT. BACT was defined as: boilers rated higher than 2.00 MMBtu/hr are required to be equipped with low NO_x burners capable of meeting a NO_x limit of 9 ppmv @ 3% O₂ and a CO limit of 50 ppmv @ 3% O₂ while fired on natural gas. Likewise boilers rated below 2.00 MMBtu/hr must be equipped with low NO_x burners capable of meeting a NO_x limit of 30 ppmv @ 3% O₂ and a CO limit of 100 ppmv @ 3% O₂ while fired on natural gas. Please see the *BACT Documentation* Attachment for the BACT Analysis for this project.
- 2.8 Enforceable Operational Limits: The permit has enforceable operating conditions that ensure the equipment is operated properly. The *Emission Limitations* condition restricts the NO_x and CO concentrations based on BACT. These limitations are enforced via heat input limits and annual source testing required by the *Source Testing* condition of this permit.

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2.9 Monitoring Requirements: Monitoring of the equipment's operational limits are required to ensure that these are enforceable. This includes the use of dedicated fuel meters and annual source testing of each boiler to confirm that the BACT, Rule 342, and Rule 360 limits are not exceeded.

2.10 Recordkeeping and Reporting Requirements: The permit requires that the data which is monitored be recorded and reported to the District. This includes maintaining records of the natural gas used, hours each boiler is operated per day, and the number of days per month that each boiler is operated.

3.0 REEVALUATION REVIEW (not applicable)

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 302.	Visible Emissions
Rule 303.	Nuisance
Rule 309.	Specific Contaminants
Rule 310.	Odorous Organic Sulfides
Rule 311.	Sulfur Content of Fuels
Rule 342.	Control of Oxides of Nitrogen (NO _x) from Boilers, Steam Generators, and Process Heaters
Rule 360.	Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers
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.

4.3 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 of this permit is equal to the PTE of the boilers. The facility NEI is equal to this permit's PTE plus the annual emissions of the two E/S generators permitted under ATC/PTO 13963.

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.

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

7.0 AIR TOXICS

A cancer Health Risk Assessment (HRA) screening was run for this project. The results showed a maximum cancer risk of 5.15 in a million, which is below the District's significant risk threshold of 10 in a million. This maximum cancer risk was calculated based on the following assumptions:

- Santa Barbara meteorological data is representative.
- Urban model type.
- Building downwash.
- 100% Load.
- 50 hrs. /year of operation for maintenance and testing.
- Worst-case minimum distance from the engine to the property boundary is 500 feet.

Acute and chronic non-cancer risks were also assessed. The maximum acute non-cancer risk was determined to be 0.0205 in a million while the maximum chronic non-cancer risk was calculated to be 0.0291 in a million. These figures are below the District threshold of 1 case per million people. The screening HRA inputs and results can be found in the *Air Toxics Documentation* Attachment to this permit.

8.0 CEQA / LEAD AGENCY

The District is the lead agency under CEQA for this project, and has prepared a Notice of Exemption. This project is exempt from CEQA pursuant to the Environmental Review Guidelines for the Santa Barbara County District (revised November 16, 2000). Appendix A (*District Projects Exempt from CEQA and Equipment or Operations Exempt from CEQA*) provides an exemption specifically for the type of project or equipment identified in this permit. 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.

11.0 FEE DETERMINATION

Fees for the District's work efforts are assessed on a fee basis. The Project Code is 320000 (*Boilers/Steam Generator/Turbine*). 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.

ATTACHMENT A
EMISSION CALCULATIONS

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Attachment: A-1

Date: 03/08/13

BOILER / STEAM GENERATOR CALCULATION WORKSHEET (ver. 6.0)

DATA

Permit No.	13964	
Owner/Operator	Goleta Valley Cottage Hospital	
Facility/Lease	Goleta Valley Cottage Hospital	
Boiler Type	Firetube	
Boiler Mfg.	Cleaver-Brooks	
Boiler Model No.	CBLE 700-150-125HW	
Boiler Serial/ID No.	TBD	
Boiler Horsepower	no data	Bhp
Burner Type	Gas	
Burner Mfg.	no data	
Burner Model No.	no data	
Max. Firing Rate of Burner	6.124	MMBtu/hr
Max. Annual Heat Input	53,646.240	MMBtu/yr
Daily Operating schedule	24	hrs/day
Yearly Load factor (%)	100	%
Fuel Type	PUC Natural Gas	
High Heating Value	1,050	Btu/scf
Sulfur Content of Fuel	80.00	ppmvd as H2S
Nitrogen Content of Fuel	-	wt. % N
Boiler Classification	Commercial	
Firing Type	Other Type	
PM Emission Factor	0.0075	lb/MMBtu
PM ₁₀ Emission Factor	0.0075	lb/MMBtu
NO _x Emission Factor	0.0110	lb/MMBtu
SO _x Emission Factor	0.0137	lb/MMBtu
CO Emission Factor	0.0370	lb/MMBtu
ROC Emission Factor	0.0054	lb/MMBtu

RESULTS

	<u>lb/hr</u>	<u>lb/day</u>	<u>TPY</u>
Nitrogen Oxides (as NO ₂)	0.07	1.62	0.30
Sulfur Oxides (as SO ₂)	0.08	2.01	0.37
PM ₁₀	0.05	1.10	0.20
Total Suspended Particulate (PM)	0.05	1.10	0.20
Carbon Monoxide	0.23	5.44	0.99
Reactive Organic Compounds (ROC)	0.03	0.79	0.14
Hourly Heat Release	6.124	MMBtu/hr	
Daily Heat Release.....	146.976	MMBtu/day	
Annual Heat Release	53,646.240	MMBtu/yr	
Rule 342 Applicability	53.6	Billion Btu/yr	

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Attachment: A-2

Date: 03/08/13

BOILER / STEAM GENERATOR CALCULATION WORKSHEET (ver. 6.0)

DATA

Permit No.	13964	
Owner/Operator	Goleta Valley Cottage Hospital	
Facility/Lease	Goleta Valley Cottage Hospital	
Boiler Type	Steam	
Boiler Mfg.	Fulton	
Boiler Model No.	ICS9.5	
Boiler Serial/ID No.		
Boiler Horsepower	no data	Bhp
Burner Type	Gas	
Burner Mfg.	no data	
Burner Model No.	no data	
Max. Firing Rate of Burner	0.398	MMBtu/hr
Max. Annual Heat Input	3,486.480	MMBtu/yr
Daily Operating schedule	24	hrs/day
Yearly Load factor (%)	100	%
Fuel Type	PUC Natural Gas	
High Heating Value	1,050	Btu/scf
Sulfur Content of Fuel	85.00	ppmvd as H2S
Nitrogen Content of Fuel	-	wt. % N
Boiler Classification	Commercial	
Firing Type	Other Type	
PM Emission Factor	0.0075	lb/MMBtu
PM ₁₀ Emission Factor	0.0075	lb/MMBtu
NO _x Emission Factor	0.0360	lb/MMBtu
SO _x Emission Factor	0.0137	lb/MMBtu
CO Emission Factor	0.0370	lb/MMBtu
ROC Emission Factor	0.0054	lb/MMBtu

RESULTS

	<u>lb/hr</u>	<u>lb/day</u>	<u>TPY</u>
Nitrogen Oxides (as NO ₂)	0.01	0.34	0.06
Sulfur Oxides (as SO ₂)	0.01	0.13	0.02
PM ₁₀	0.00	0.07	0.01
Total Suspended Particulate (PM)	0.00	0.07	0.01
Carbon Monoxide	0.01	0.35	0.06
Reactive Organic Compounds (ROC)	0.00	0.05	0.01
Hourly Heat Release	0.398	MMBtu/hr	
Daily Heat Release	9.552	MMBtu/day	
Annual Heat Release	3,486.480	MMBtu/yr	
Rule 342 Applicability	3.5	Billion Btu/yr	

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ATTACHMENT B
IDS TABLES

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**PERMIT EVALUATION FOR
AUTHORITY TO CONSTRUCT/PERMIT TO OPERATE 13963**

Facility Net Emissions Increase													
Company: Goleta Valley Cottage Hospital													
Date: March 8, 2013													
I. This Projects "I" NEI-90													
Permit No.	Date Issued	NOx		ROC		CO		SOx		PM		PM10	
		lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
13964	TBD	7.24	1.32	2.72	0.49	18.77	3.39	6.94	1.25	3.79	0.67	3.79	0.67
Totals		7.24	1.32	2.72	0.49	18.77	3.39	6.94	1.25	3.79	0.67	3.79	0.67
II. This Facility's "P1s"													
Enter all facility "P1" NEI-90s below:													
PTO 7250-R8, PTO 8010-R7, & PTO 9136-R6													
Permit No.	Date Issued	NOx		ROC		CO		SOx		PM		PM10	
		lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
13963	TBD		0.78		0.04		0.42		0.00		0.02		0.02
Totals		0.00	0.78	0.00	0.04	0.00	0.42	0.00	0.00	0.00	0.02	0.00	0.02
Notes: (1) Facility NEI from IDS.													
III. This Facility's "P2" NEI-90 Decreases													
Enter all facility "P2" NEI-90s below:													
Permit No.	Date Issued	NOx		ROC		CO		SOx		PM		PM10	
		lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
Totals		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Notes: (1) Facility NEI from IDS.													
IV. This Facility's Pre-90 "D" Decreases													
Enter all facility "D" decreases below:													
Permit No.	Date Issued	NOx		ROC		CO		SOx		PM		PM10	
		lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr
Totals		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Notes: (1) Facility "D" from IDS.													
V. Calculated This Facility's NEI-90													
Table below summarizes facility NEI-90 as equal to: I+ (P1-P2) -D													
Term	NOx		ROC		CO		SOx		PM		PM10		
	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	lb/day	ton/yr	
Project "I"	7.24	1.32	2.72	0.49	18.77	3.39	6.94	1.25	3.79	0.67	3.79	0.67	
P1	0.00	0.78	0.00	0.04	0.00	0.42	0.00	0.00	0.00	0.02	0.00	0.02	
P2	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
D	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
FNEI-90	7.24	2.10	2.72	0.53	18.77	3.81	6.94	1.25	3.79	0.69	3.79	0.69	
Notes: (1) Resultant FNEI-90 from above Section I thru IV data. (2) Totals only apply to permits for this facility ID. Totals may not appear correct due to rounding. (3) Because of rounding, values in this table shown as 0.00 are less than 0.005, but greater than zero.													

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PERMIT POTENTIAL TO EMIT

	NO _x	ROC	CO	SO _x	PM	PM ₁₀
lb/day	7.24	2.72	18.77	6.94	3.79	3.79
lb/hr						
TPQ						
TPY	1.32	0.49	3.39	1.25	0.67	0.67

FACILITY POTENTIAL TO EMIT

	NO _x	ROC	CO	SO _x	PM	PM ₁₀
lb/day	69.38	6.62	52.69	7.02	5.73	5.73
lb/hr						
TPQ						
TPY	2.10	0.53	3.81	1.25	0.69	0.69

FACILITY NEI90

	NO _x	ROC	CO	SO _x	PM	PM ₁₀
lb/day	7.24	2.72	18.77	6.94	3.79	3.79
lb/hr						
TPQ						
TPY	2.10	0.53	3.81	1.25	0.69	0.69

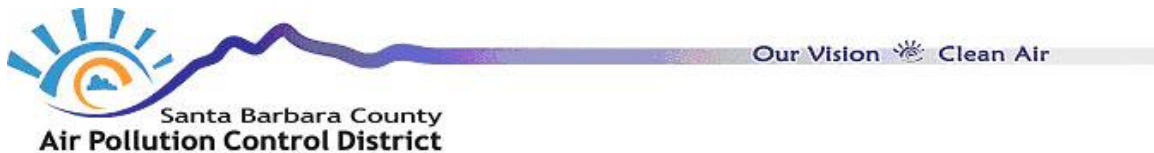
Notes:

- (1) Emissions in these tables are from IDS.
- (2) Because of rounding, values in these tables shown as 0.00 are less than 0.005, but greater than zero.

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ATTACHMENT C
AIR TOXICS DOCUMENTATION



Santa Barbara County District Health Risk Assessment Screening Report

Facility: Goleta Valley Cottage Hospital

I. Summary

In October, 2012, the Santa Barbara County Air Pollution Control District (District) conducted an air toxics Health Risk Assessment (HRA) screening for the proposed installation of eleven new natural gas fired boilers and two new diesel fired emergency standby generators at Goleta Valley Cottage Hospital in Goleta. The HRA screening was performed using SCREEN3 software, Version 5.00, and the District's Diesel IC Engine Screening Risk Tool. Cancer risk and chronic and acute non-cancer Hazard Index (HI) risk values were calculated and compared to *significance thresholds* for cancer and chronic and acute non-cancer risk adopted by the District's Board of Directors. The calculated risk values and applicable thresholds are as follows:

	<u>Goleta Valley Cottage Hospital Max Risks</u>	<u>Significance Threshold</u>
Cancer risk:	5.15 /million	≥10/million
Chronic non-cancer risk:	0.0205	≥ 1
Acute non-cancer risk:	0.0291	≥ 1

Based on these results, the installation of eleven natural gas fired boilers and two diesel fired emergency standby generators would not present a significant risk to the school or the surrounding community. For

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this reason, Authority to Construct 13964 and Authority to Construct/Permit to Operate No.13963 will be issued for this project.

II. Background

This permitting action is for the installation of eleven natural gas fired boilers and two diesel fired emergency standby generators at Goleta Valley Cottage Hospital located at 351 S. Patterson Avenue in Goleta. The property boundary of Goleta Valley Cottage Hospital is within 1000 feet of St. Raphael School, located at 160 St. Joseph Street, where students and faculty are present. For that reason, a health risk assessment screening was required. The District conducted two HRA screenings, one based on a residential lifetime exposure duration of 70 years for the nearest residential area, and another based on a 40 year worker exposure duration for the nearest industrial area. Both of these HRA screenings showed risks below the significance thresholds adopted by the District's Board of Directors, and the maximum risks are shown above.

III. Facility Information

EQUIPMENT OWNER/OPERATOR: Goleta Valley Cottage Hospital

SOURCE IDENTIFICATION NUMBER: 03909

EQUIPMENT LOCATION: 351 S. Patterson Avenue, Goleta

EQUIPMENT DESCRIPTION: Eleven (11) natural gas fired boilers and two (2) diesel fired emergency standby generators. The boilers consist of three (3) Cleaver-Brooks 6.124 MMBtu/hr boilers, seven (7) Fulton 0.398 MMBtu/hr boilers, and two (2) PVi 1.200 MMBtu/hr water heaters. The generators consist of two (2) identical 1474 bhp Caterpillar engines.

IV. Stack and Modeling Parameters (a.k.a. Emission Release Points)

The emissions from the boilers were modeled as point sources with the exhaust stacks as the exit points. All eleven boiler exhausts will be manifolded into one common exhaust header and then exhausted through four identical exhaust stacks. The emissions from the generators were modeled based on the default modeling parameters contained in the Diesel IC Engine Screening Risk Tool. The minimum receptor distance for the 40 year worker risk scenario was set to 140 feet as this is the minimum distance from the closest exhaust stack to the nearest property boundary. The minimum receptor distance for the 70 year resident risk scenario was set to 500 feet as this is the minimum distance from the closest exhaust stack to the nearest residential property boundary. The stack parameter inputs to the dispersion model are as follows:

Source	Stack	Stack	Stack	Stack	Stack
--------	-------	-------	-------	-------	-------

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	Height (ft)	Temperature (°F)	Velocity (fpm)	Flow Rate (acfm)	Diameter (ft)
Boiler Stack 1	38	400	1260	2750	1.6667
Boiler Stack 2	38	400	1260	2750	1.6667
Boiler Stack 3	38	400	1260	2750	1.6667
Boiler Stack 4	38	400	1260	2750	1.6667

The stack velocity was calculated from the volumetric flow.

V. Emissions

The speciated organic emissions for the boilers were based on the manufacturer’s specified maximum heat inputs for the equipment and the Ventura County District’s *AB 2588 Combustion Emission Factors for Natural Gas Fired External Combustion Equipment rated less than 10 MMBtu/hr*. The speciated metal emissions for the boilers were based on manufacturer’s specified maximum heat input for the equipment and USEPA AP-42 Table 1.4-4 *Emission Factors for Metals from Natural Gas Combustion*. The diesel particulate matter emissions for the generators were based on manufacturer’s specified maximum horsepower rating for the equipment and the tier III PM emission standard of 0.15 g/bhp-hr. The resultant emission profile for the facility may be found in the spreadsheet files referenced in the Attachment section of this report.

VI. Building Information

The boiler exhaust stacks will be located on a building. The dimensions of this building were provided by the applicant and included in the health risk assessment modeling. The diesel generator exhaust stacks will be located near a building, so the building downwash option was used in the diesel engine screening tool.

VII. Met Data & DEM Files

Meteorological data used in the dispersion analysis was SCREEN3 screening met data. Screening met data was used as a worst case assumption for this project. Since the health risk assessment using screening met data showed the health risk was below the District’s significance thresholds, a refined HRA was not required.

VIII. Results

Cancer risk and chronic and acute non-cancer Hazard Index (HI) risk values were calculated and compared to significance thresholds for cancer risk and chronic and acute non-cancer risk adopted by the District’s Board of Directors. The calculated risk values and applicable thresholds are as follows:

	<u>Calculated Max Risks</u>	<u>Significance Threshold</u>
Cancer risk:	5.15 /million	≥10/million
Chronic non-cancer risk:	0.0205	≥ 1

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Acute non-cancer risk: 0.0291 ≥ 1

IX. Conclusion

Per District guidelines, if a facility's toxic emissions result in a cancer risk equal to or greater than 10 in a million, it is considered a *significant risk* facility. For non-cancer risk, if a facility's toxic emissions result in a Hazard Index equal to or greater than 1.0, it is considered a *significant risk* facility. The HRA screening results show that the installation of eleven natural gas fired boilers and two diesel fired emergency standby generators would not present significant risk to the school or the surrounding community. Therefore, based on the results of this HRA, Authority to Construct 13964 and Authority to Construct/Permit to Operate No.13963 will be issued for this project.

X. References

- Risk notification levels were adopted by Santa Barbara Air Pollution Control Board of Directors on June 1993. The risk notification levels were set at 10 per million for cancer risk and a Hazard Index of 1.0 for non-cancer risk.
- Risk reduction thresholds were adopted by Santa Barbara Air Pollution Control Board of Directors on September 17, 1998. These risk reduction thresholds were set at the same level as public notification thresholds, i.e., 10 per million for cancer risk and a Hazard Index of 1.0 for non-cancer risk.
- Ventura County Air Pollution Control District's *AB 2588 Natural Gas Combustion Emission Factors* (<http://www.vcapcd.org/pubs/Engineering/AirToxics/combem.pdf>).
- USEPA AP-42 Table 1.4-4 *Emission Factors for Metals from Natural Gas Combustion* (July, 1997) (<http://www.epa.gov/ttn/chief/ap42/ch01/final/c01s04.pdf>).

XI. Attachments

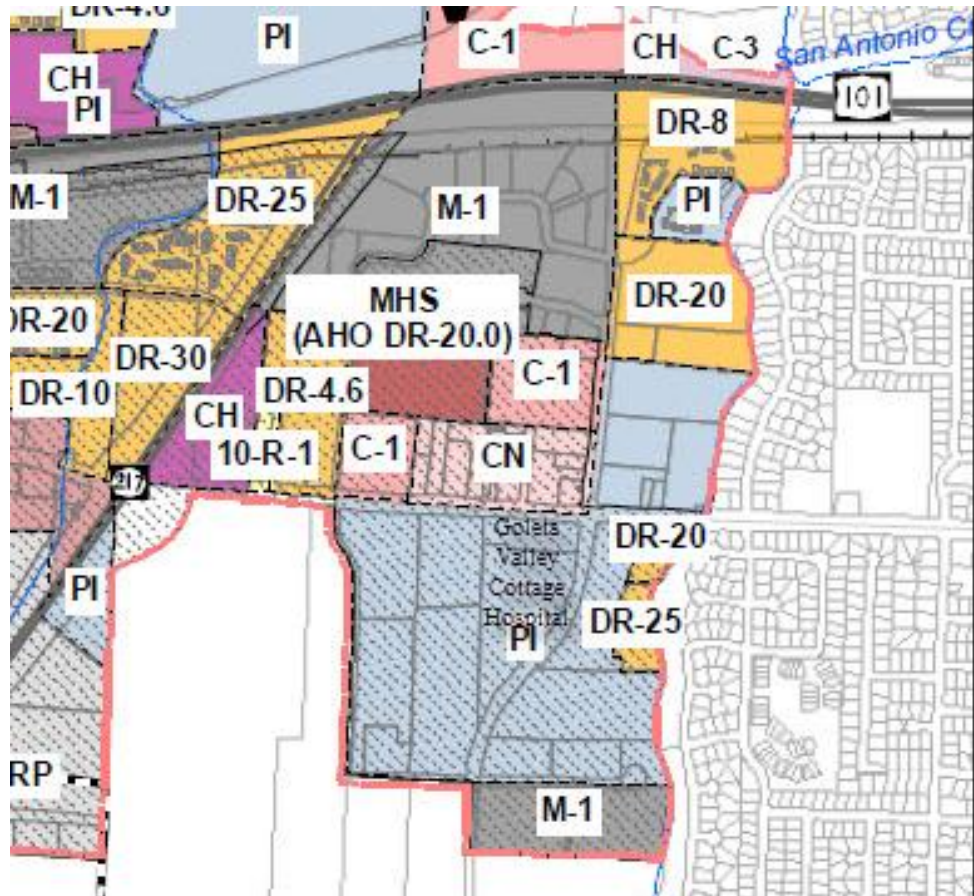
- A. Goleta Valley Cottage Hospital Neighboring Parcel Land-Use Designation
- B. Diesel IC Engine Screening Risk Tool Output

Source parameter data and HRA input and output files may be found in the following location:
[\\sbcapcd.org\toxics\Sources\SSID03909GoletaValleyCottageHospital\ATC 13964 HRA Screening \(Nearest Receptor\).xls](http://sbcapcd.org/toxics/Sources/SSID03909GoletaValleyCottageHospital/ATC%2013964%20HRA%20Screening%20(Nearest%20Receptor).xls)

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Attachment A – Goleta valley Cottage Hospital Neighboring Parcel Land-Use Designation



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Attachment B - Diesel IC Engine Screening Risk Tool Output

Diesel I.C. Engines (DICE) Screening Risk Tool

Project Information		Receptor Data																
Region: <input type="checkbox"/>	Facility ID: <input type="text"/>	Unit #: <input type="text"/>	Quad: <input type="text" value="QUAD 1"/>															
Project #:	<input type="text" value="ATC13964"/>		Distance(m): <input type="text" value="152.4"/>															
Date:	<input type="text" value="10/24/2012"/>		<table border="1" style="width: 100%; text-align: center; border-collapse: collapse;"> <tr> <td>NW</td> <td>N</td> <td>NE</td> </tr> <tr> <td>W</td> <td>Quad 4</td> <td>Quad 1</td> <td>E</td> </tr> <tr> <td>SW</td> <td>Quad 3</td> <td>Quad 2</td> <td>SE</td> </tr> <tr> <td></td> <td>S</td> <td></td> <td></td> </tr> </table>	NW	N	NE	W	Quad 4	Quad 1	E	SW	Quad 3	Quad 2	SE		S		
NW	N	NE																
W	Quad 4	Quad 1	E															
SW	Quad 3	Quad 2	SE															
	S																	
Met Station		Miles: <input type="text"/>	Feet: <input type="text" value="500"/>															
District	<input type="text" value="SBAPCD"/>		Yards: <input type="text"/>															
Met Site	<input type="text" value="SANTA BARBARA"/>		10th Mi: <input type="text"/>															
Model Type	<input type="text" value="URBAN BD"/>																	
Year:	<input type="text" value="63"/>																	
Engine Data																		
BHP:	<input type="text" value="1474"/>	Convert to G/BHP																
% Load:	<input type="text" value="100"/>																	
PM10 EF (g/BHP):	<input type="text" value="0.15"/>	Convert to G/KW																
Hours / Yr:	<input type="text" value="50"/>																	
Lbs / Yr:	<input type="text" value="24.37"/>																	
<input type="button" value="Update Emissions"/>																		
Cancer Risk																		
Resident Risk:		Maximum Res. Risk																
In a Million	0.85	6.51																
Worker Adjustment Factor %		<input type="text" value="37.91"/>																
Worker Risk:		Maximum Worker Risk																
In a Million	0.32	2.47																
<input type="button" value="Calculate Risk"/>		Quad:	<input type="text" value="1"/>															
<input type="button" value="Print Form"/>		Distance:	<input type="text" value="25"/>															

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ATTACHMENT D
FEE STATEMENT

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FEE STATEMENT

ATC No. 13964

FID: 03909 Goleta Valley Cottage Hospital / SSID: 03909



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
114884	Large Boiler #1	A3	6.124	476.20	Per 1 million Btu input	No	1	1.000	2,916.25	0.00	0.00	2,916.25
114885	Large Boiler #2	A3	6.124	476.20	Per 1 million Btu input	No	1	1.000	2,916.25	0.00	0.00	2,916.25
114886	Large Boiler #3	A3	6.124	476.20	Per 1 million Btu input	No	1	1.000	2,916.25	0.00	0.00	2,916.25
386179	Small Boiler #1	A3	0.398	476.20	Per 1 million Btu input	No	1	1.000	189.53	0.00	0.00	189.53
386180	Small Boiler #2	A3	0.398	476.20	Per 1 million Btu input	No	1	1.000	189.53	0.00	0.00	189.53
386181	Small Boiler #3	A3	0.398	476.20	Per 1 million Btu input	No	1	1.000	189.53	0.00	0.00	189.53
386182	Small Boiler #4	A3	0.398	476.20	Per 1 million Btu input	No	1	1.000	189.53	0.00	0.00	189.53
386183	Small Boiler #5	A3	0.398	476.20	Per 1 million Btu input	No	1	1.000	189.53	0.00	0.00	189.53
386184	Small Boiler #6	A3	0.398	476.20	Per 1 million Btu input	No	1	1.000	189.53	0.00	0.00	189.53
386185	Small Boiler #7	A3	0.398	476.20	Per 1 million Btu input	No	1	1.000	189.53	0.00	0.00	189.53
Device Fee Sub-Totals =									\$10,075.44	\$0.00	\$0.00	
Device Fee Total =												\$10,075.44

Permit Fee

Fee Based on Devices

10,075.44

Fee Statement Grand Total = \$10,075

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.