



Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

Page 1 of 13

EQUIPMENT OWNER:

Celite Corporation

205129

EQUIPMENT OPERATOR:

Celite Corporation

EQUIPMENT LOCATION:

2500 San Miguelito Road, Lompoc

STATIONARY SOURCE/FACILITY:

Celite Corporation

SSID: 01735

FID: 00012

AUTHORIZED MODIFICATION:

This permit authorizes the installation and temporary operation of a 54.65 MMBtu/hr Nebraska high pressure steam boiler. This temporary project is permitted for a maximum of 6 months in duration. The boiler is expected to comply with Rule 342 and BACT requirements.

EQUIPMENT DESCRIPTION:

External combustion equipment as listed in the table at the end of this permit.

PROJECT/PROCESS DESCRIPTION:

Celite currently mines and processes diatomaceous earth (DE) at its Lompoc Plant. Celite operates multiple product lines each with "wet end" and "dry end" processing. Wet diatomaceous earth crude is surface mined, crushed, milled and dried and/or calcined at high temperatures. The dried product is classified into a variety of grades and bagged or bulk loaded for shipment to distributors and customers. Process material is ventilated to a number of baghouses for product sizing and dust control, and baghouses also control dust from the storage silos and packing stations. System #7 is currently operating under an extended SCDP. The Celite Facility ID is 0012 and the Stationary Source ID is 1735.

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

Page 2 of 13

CONDITIONS:

**9.A Standard Administrative Conditions**

**A.1 Compliance with Permit Conditions**

- (a) The permittee shall comply with all permit conditions in Sections 9.A, 9.B and 9.C.
- (b) This permit does not convey property rights or exclusive privilege of any sort.
- (c) Any permit noncompliance constitutes a violation of the Clean Air Act and is grounds for enforcement action; for permit termination, revocation and re-issuance, or modification; or for denial of a permit renewal application.
- (d) It shall not be a defense for the permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
- (e) A pending permit action or notification of anticipated noncompliance does not stay any permit condition.
- (f) Within a reasonable time period, the permittee shall furnish any information requested by the Control Officer, in writing, for the purpose of determining:
  - (i) compliance with the permit, or
  - (ii) whether or not cause exists to modify, revoke and reissue, or terminate a permit or for an enforcement action. [*Re: 40 CFR Part 70.6, District Rules 1303.D.1*]
- (g) In the event that any condition herein is determined to be in conflict with any other condition contained herein, then, if principles of law do not provide to the contrary, the condition most protective of air quality and public health and safety shall prevail to the extent feasible.

**A.2 Emergency Provisions.** The permittee shall comply with the requirements of the District, Rule 505 (Upset/Breakdown rule) and/or District Rule 1303.F, whichever is applicable to the emergency situation. In order to maintain an affirmative defense under Rule 1303.F, the permittee shall provide the District, in writing, a "notice of emergency" within 2 days of the emergency. The "notice of emergency" shall contain the information/documentation listed in Sections (1) through (5) of Rule 1303.F. [*Re: 40 CFR 70.6, District Rule 1303.F*]

**A.3 Compliance Plan.**

- (a) The permittee shall comply with all federally-enforceable requirements that become applicable during the permit term, in a timely manner, as identified in the Compliance Plan.

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

Page 3 of 13

- (b) For all applicable equipment, the permittee shall implement and comply with any specific compliance plan required under any federally-enforceable rules or standards. [*Re: District Rule 1302.D.2*]

A.4 **Right of Entry.** The Regional Administrator of USEPA, the Control Officer, or their authorized representatives, upon the presentation of credentials, shall be permitted to enter upon the premises where a Part 70 Source is located or where records must be kept:

- (a) To inspect the stationary source, including monitoring and control equipment, work practices, operations, and emission-related activity;
- (b) To inspect and duplicate, at reasonable times, records required by this Permit to Operate;
- (c) To sample substances or monitor emissions from the source or assess other parameters to assure compliance with the permit or applicable requirements, at reasonable times. Monitoring of emissions can include source testing. [*Re: District Rule 1303.D.2*]

A.5 **Payment of Fees.** The permittee shall reimburse the District for all its Part 70 permit processing and compliance expenses for the stationary source on a timely basis. Failure to reimburse on a timely basis shall be a violation of this permit and of applicable requirements and can result in forfeiture of the Part 70 permit. Operation without a Part 70 permit subjects the source to potential enforcement action by the District and the USEPA pursuant to section 502(a) of the Clean Air Act. [*Re: District Rules 1303.D.1 and 1304.D.11, 40 CFR 70.6*]

A.6 **Prompt Reporting of Deviations:** The permittee shall submit a written report to the District documenting each and every deviation from the requirements of this permit or any applicable federal requirements within 7 days after discovery of the violation, but not later than 180-days after the date of occurrence. The report shall clearly document 1) the probable cause and extent of the deviation, 2) equipment involved, 3) the quantity of excess pollutant emissions, if any, and 4) actions taken to correct the deviation. The requirements of this condition shall not apply to deviations reported to District in accordance with Rule 505. *Breakdown Conditions*, or Rule 1303.F *Emergency Provisions*. [District Rule 1303.D.1, 40 CFR 70.6(a) (3)]

A.7 **Reporting Requirements/Compliance Certification:** The permittee shall submit compliance certification reports to the USEPA and the Control Officer every six months. These reports shall be submitted on District forms and shall identify each applicable requirement/condition of the permit, the compliance status with each requirement/condition, the monitoring methods used to determine compliance, whether the compliance was continuous or intermittent, and include detailed information on the occurrence and correction of any deviations (excluding emergency upsets) from permit requirement. The reporting periods shall be each half of the calendar year, e.g., January through June for the first half of the year. These reports shall be submitted by September 1 and March 1, respectively, each year. Supporting monitoring data shall be submitted in accordance with the "Semi-Annual Monitoring/Compliance Verification Report" condition in section 9.C. The permittee shall include a written statement from the responsible

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

Page 4 of 13

official, which certifies the truth, accuracy, and completeness of the reports. [Re: District Rules 1303.D.1, 1302.D.3, 1303.2.c]

A.8 **Federally-Enforceable Conditions.** Each federally-enforceable condition in this permit shall be enforceable by the USEPA and members of the public. None of the conditions in the District-only enforceable section of this permit are federally-enforceable or subject to the public/USEPA review. [Re: CAAA, § 502(b)(6), 40 CFR 70.6]

A.9 **Recordkeeping Requirements.** Records of required monitoring information shall include the following:

- (a) The date, place as defined in the permit, and time of sampling or measurements;
- (b) The date(s) analyses were performed;
- (c) The company or entity that performed the analyses;
- (d) The analytical techniques or methods used;
- (e) The results of such analyses; and
- (f) The operating conditions as existing at the time of sampling or measurement;

The records (electronic or hard copy), as well as all supporting information including calibration and maintenance records, shall be maintained for a minimum of five (5) years from date of initial entry by the permittee and shall be made available to the District upon request. [Re: District Rule 1303.D.1.f, 40CFR70.6(a)(3)(ii)(A)]

A.10 **Conditions for Permit Reopening.** The permit shall be reopened and revised for cause under any of the following circumstances:

- (a) Additional Requirements: If additional applicable requirements (e.g., NSPS or MACT) become applicable to the source which has an unexpired permit term of three (3) or more years, the permit shall be reopened. Such a reopening shall be completed no later than 18 months after promulgation of the applicable requirement. However, no such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended. All such re-openings shall be initiated only after a 30-day notice of intent to reopen the permit has been provided to the permittee, except that a shorter notice may be given in case of an emergency.
- (b) Inaccurate Permit Provisions: If the District or the USEPA determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emission standards or other terms or conditions of the permit, the permit shall be reopened. Such re-openings shall be made as soon as practicable.
- (c) Applicable Requirement: If the District or the USEPA determines that the permit must be revised or revoked to assure compliance with any applicable requirement including a federally-enforceable requirement, the permit shall be reopened. Such re-openings shall be made as soon as practicable.

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

Page 5 of 13

Administrative procedures to reopen and revise/revoke/reissue a permit shall follow the same procedures as apply to initial permit issuance. Re-openings shall affect only those parts of the permit for which cause to reopen exists.

If a permit is reopened, the expiration date does not change. Thus, if the permit is reopened, and revised, then it will be reissued with the expiration date applicable to the re-opened permit. [Re: 40 CFR 70.7, 40 CFR 70.6]

### **9.B. Generic Conditions**

- B.1 **Circumvention (Rule 301):** A person shall not build, erect, install, or use any article, machine, equipment or other contrivance, the use of which, without resulting in a reduction in the total release of air contaminants to the atmosphere, reduces or conceals an emission which would otherwise constitute a violation of Division 26 (Air Resources) of the Health and Safety Code of the State of California or of these Rules and Regulations. This Rule shall not apply to cases in which the only violation involved is of Section 41700 of the Health and Safety Code of the State of California, or of District Rule 303. [Re: *District Rule 301*]
- B.2 **Visible Emissions (Rule 302).** Celite shall not discharge into the atmosphere from any single source of emission any air contaminants for a period or periods aggregating more than three minutes in any one hour which is:
- (a) As dark or darker in shade as that designated as No. 1 on the Ringlemann Chart, as published by the United States Bureau of Mines, or
  - (b) Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in subsection B.2(a) above.

Compliance shall be determined by visible emission evaluations by certified observers. All visible emission observation and inspection sheets and records shall be maintained consistent with the recordkeeping condition of this permit. [Ref: *District Rule 302*].

- B.3 **Nuisance (Rule 303):** No pollutant emissions from any source at the permittee shall create nuisance conditions. Operations shall not endanger health, safety or comfort, nor shall they damage any property or business. [Re: *District Rule 303*]
- B.4 **PM Concentration – Northern Zone (Rule 304).** Celite shall not discharge into the atmosphere, from any source, particulate matter in excess of 0.3 grain per cubic foot of gas as standard conditions. [Ref: *District Rule 304*].

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

Page 6 of 13

**9.C Requirements and Equipment Specific Conditions**

This section includes non-generic federally enforceable conditions including emissions and operation limits, monitoring and recordkeeping and reporting for each specific equipment group. This section may also contain other non-generic requirements.

C.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: 30 ppmv NO<sub>x</sub> at 3% O<sub>2</sub> and 100 ppmv CO at 3% O<sub>2</sub>. Compliance shall be based on weekly emissions monitoring testing for NO<sub>x</sub> and CO.

C.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 (H<sub>2</sub>S) content (calculated as H<sub>2</sub>S 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. **Anhydrous Ammonia.** This unit shall not operate with the usage of an anhydrous ammonia emissions control system. The use, storage or transportation of anhydrous ammonia at this facility is prohibited.

C.3 **Monitoring.** The equipment permitted herein is subject to the following monitoring requirements:

- a. **Fuel Usage Metering.** The volume of fuel gas used (in units of standard cubic feet) shall be measured through the use of dedicated District-approved calibrated non-resettable totalizing fuel meter for each unit. 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 meter shall be calibrated according to manufacturer's specifications and the calibration records shall be made available to the District upon request. The fuel meters shall be calibrated within 30 days of the start of operations.

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

Page 7 of 13

- b. *Emissions Monitoring.* The permittee shall conduct monitoring of the NO<sub>x</sub> and CO air emissions on a weekly basis. If the results from the first four (4) weekly emissions monitoring tests show compliance with all emissions limitations of this permit, the emissions monitoring frequency may be decreased to a monthly basis. The emissions monitoring shall be performed according to the "South Coast Air Quality Management District Combustion Gas Periodic Monitoring Protocol" document, and shall be performed using a District approved NO<sub>x</sub>/CO analyzer. The permittee shall immediately assess compliance with the requirements of this permit and if found to be out of compliance shall initiate the required actions for bringing the equipment into compliance or commence equipment shut-down. Notwithstanding the frequency stated above, the permittee shall perform emissions monitoring at any time upon request by District staff.

C.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. *Fuel Use.* The volume of fuel gas used each month (in units of standard cubic feet) and the number of days in each month that the unit operated. The fuel use data shall also be summarized for each calendar year. If the District default Higher Heating Value is not used, maintain lab analysis records of the fuel's heating value.
- b. *Fuel Use Meter Calibration Records.* Calibration records of District-approved fuel use meters.
- c. *Emissions Monitoring Reports.* Emissions monitoring reports for all District-required stack emission testing.
- d. *Maintenance Logs.* Maintenance logs for the boiler, fuel flow meter and low NO<sub>x</sub> burner.

C.5 **Reporting.** On a semi-annual basis, a report detailing the previous six month's activities shall be provided to the District. The report must list all the data required by condition 9.C.13 of PTO 5840-R3 (*Semi-Annual Monitoring/Compliance Verification Reports*). In addition, this report shall include:

- 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. *Meter Calibration Records.* Copies of the most recent fuel use meter calibration.
- c. *Emissions Monitoring Reports.* Copies of each weekly/monthly emissions monitoring report shall be submitted within 7 days after completion of the testing (Attn: *Celite Project Manager*).

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

Page 8 of 13

- C.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 5 and the District’s *Permit Evaluation* for this permit. The BACT 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.
- C.7 **Initial Operations and Inspection.** The permittee shall:
- a. Notify the District in writing (Attn: *Engineering & Compliance Division*) of the initial equipment operation date. Initial operations are defined as first introduction of fuel gas into the unit at the Celite Lompoc plant. This notification shall be provided within 7 days of initial operations.
  - b. Arrange for equipment inspection by contacting the APCD’s *Compliance Supervisor*, no later than three (3) calendar days after initial operations commence. The equipment inspection shall occur not more than seven (7) calendar days (or other mutually agreed upon time period) after initial operations begins. This inspection is required to verify that the equipment and its operation are in compliance with APCD Rules and Permit Conditions. The inspection shall be coordinated to occur during the first weekly emissions monitoring test.
- C.8 **Permit Expiration.** This permit is valid for 180 days from the date of initial operations, defined as first introduction of fuel gas into the unit at the Celite Lompoc plant. The District may extend the life of this permit for good cause. To obtain an extension, the permittee shall make the request in writing at least 15 days prior to the expiration of this permit. Notwithstanding the above, the District may suspend and/or terminate this permit at any time if the terms and condition of this permit are not fully complied with.
- C.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.
- C.10 **Testing Facilities.** The permittee shall provide testing facilities in accordance with Rule 205.E and as specified below:
- a. Sampling ports adequate for test methods applicable to the equipment being tested. This includes (i) constructing the air pollution control system such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and procedures and (ii) providing a stack or duct free of cyclonic flow as demonstrated by applicable EPA, CARB and APCD test methods and procedures.
  - b. Sample ports in accordance with item 1 above shall be provided at the device process flow entry point and exit point at the locations on each device listed below:

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

Page 9 of 13

- (i) Steam Boiler: outlet located at boiler exhaust stack to atmosphere
  - c. Safe sampling platform(s).
  - d. Safe access to sampling platform(s).
  - e. Utilities for sampling and testing equipment.
- C.11 **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.
- C.12 **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.

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

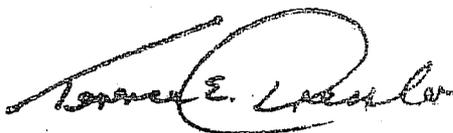
Page 10 of 13

**9.D District-Only Conditions**

The following section lists permit conditions that are not enforceable by the USEPA or the public. However, these conditions are enforceable by the District and the State of California. These conditions are issued pursuant to District Rule 206 (*Conditional Approval of Authority to Construct or Permit to Operate*), which states that the Control Officer may issue an operating permit subject to specified conditions. Permit conditions have been determined as being necessary for this permit to ensure that operation of the facility complies with all applicable local and state air quality rules, regulations and laws. Failure to comply with any condition specified pursuant to the provisions of Rule 206 shall be a violation of that rule, this permit, as well as any applicable section of the California Health & Safety Code.

**D.1 Permit Activation.** All aspects of this permit are enforceable by the District and the State of California upon the issuance date stamped below. The Part 70 aspects of this permit are not final until:

- (a) The USEPA has provided written comments to the District and these comments require no modification to this permit. The District will issue a letter stating that this permit is a final Part 70 permit. The effective date that this permit will be considered a final Part 70 permit will be the date stamped on the District's letter.
- (b) After the USEPA has provided the District written comments that require a modification to this permit, the District will modify this permit to address the USEPA's comments and issue the Part 70 permit as final. The re-issued permit will supersede this permit in its entirety.



---

AIR POLLUTION CONTROL OFFICER

MAY 10 2011

---

DATE

Attachments:

- Table 1 – Mass Emission Limits
- Table 2 – Emission Standards
- Table 3 – Heat Input Limits
- Table 4 – Device Specific Requirements Summary
- Table 5 – Best Available Control Technology
- Permit Equipment List
- Permit Evaluation for Authority to Construct/Permit to Operate 13675

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

Page 11 of 13

Notes:

- Reevaluation Due Date: March 1, 2012
- Additional information can be located online at <http://www.sbcapcd.org/eng/boiler.htm>
- 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.

\\sbcapcd.org\shares\Groups\ENGR\WP\CELITE\Permits\ATCPTO\ATC-PTO 13675\ATC-PTO 13675 - Draft Permit - 4-20-2011.doc

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

TABLE 1. MASS EMISSION LIMITS

Device ID #	NO <sub>x</sub>		ROC		CO		SO <sub>x</sub>		PM		PM10		CO <sub>2</sub>	
	lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy	lb/day	tpy
113870	47.22	4.25	7.08	0.64	97.06	8.74	17.97	1.61	9.84	0.89	9.84	0.89	153,311	13,798

TABLE 2. EMISSION STANDARDS

Device ID #	NO <sub>x</sub>	CO	Units	Basis
113870	30	100	ppmvd @ 3% O <sub>2</sub>	BACT

TABLE 3. HEAT INPUT LIMITS

Device ID #	Fuel	MMBtu/hr	MMBtu/day	MMBtu/yr
113870	Natural Gas - Utility	54.650	1311.600	236088.000

TABLE 4. DEVICE SPECIFIC REQUIREMENTS SUMMARY

Device ID #	Applicable Rule	Source Testing	Tune-Ups	Fuel Use Method	Low Use Exemption	BACT
113870	R342	None	None	Fuel Meter	No	Yes

TABLE 5. BEST AVAILABLE CONTROL TECHNOLOGY

Emission Unit/Process	Control Technology	Pollutant	Performance Standard
Steam Boilers	Low-NO <sub>x</sub> Gas Burner	NO <sub>x</sub>	30 ppmvd at 3% O <sub>2</sub>
		CO	100 ppmvd at 3% O <sub>2</sub>

*Table Notes:*

- (a) Units subject to Rule 342 may comply with either the ppmvd or lb/MMBtu standards of the Rule.
- (b) NO<sub>x</sub> as NO<sub>2</sub>, SO<sub>x</sub> as SO<sub>2</sub>, 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.

Authority to Construct/Permit to Operate 13675  
and Part 70 Minor Modification 13675

Page 13 of 13

BOILER/EXTERNAL COMBUSTION PERMIT EQUIPMENT LIST

ATC/PTO 13675 / FID: 00012 CELITE CORPORATION / SSID: 01735

**A PERMITTED EQUIPMENT**

**1 STEAM BOILER**

<i>Device ID #</i>	113870	<i>Device Name</i>	Steam Boiler
<i>Rated Heat Input</i>	54.650 MMBtu/Hour	<i>Operator ID</i>	Temporary Boiler
<i>Manufacturer</i>	Nebraska	<i>Serial Number</i>	O-5033-T
<i>Model</i>	NOS-2A-53		
<i>Location Note</i>			
<i>Emission Control Basis</i>	R342		
<i>Device Description</i>	Equipped with Low NOx Todd burner, model Variflame V485IGO. Fired on PUC-quality natural gas. Uses exhaust gas recirculation at 12-15% recirculation. Guaranteed to meet 30 ppmv NOx @ 3% O2. Fuel Meter: Eldridge Products Mater-Touch Thermal Gas Mass Flowmeter		



Santa Barbara County  
**Air Pollution Control District**

PERMIT EVALUATION for  
AUTHORITY TO CONSTRUCT/PERMIT TO OPERATE 13675  
AND PART 70 MINOR MODIFICATION 13675

Page 1 of 5

**1.0 BACKGROUND**

- 1.1 General: Celite mines and processes diatomaceous earth (DE) at its Lompoc Plant. Celite operates multiple product lines each with “wet end” and “dry end” processing. Wet diatomaceous earth crude is surface mined, crushed, milled and dried and/or calcined at high temperatures. The dried product is classified into a variety of grades and bagged or bulk loaded for shipment to distributors and customers. In early 2008 System 7 was redesigned with some existing equipment removed and new equipment installed. The SCDP for System #7 has been extended several times to allow for troubleshooting, repair of equipment, and completion of compliance testing. A PTO has not yet been issued pending completion of the SCDP as currently specified in ATC12105-13. The Celite Facility ID is 0012 and the Stationary Source ID is 1735.

On April 12, 2011, Celite submitted an application for the installation and temporary operation of a high pressure steam boiler at their Lompoc plant. This temporary project is required due to the breakdown of equipment at the plant. The temporary steam boiler will be a Nebraska model NOS-2A-53 rated at 54.65 MMBtu/hr equipped with a Todd Veriflame low-NO<sub>x</sub> burner and exhaust gas recirculation. BACT requirements were triggered for this project due to potential emissions of NO<sub>x</sub> exceeding 25 lbs/day. BACT for this temporary rental unit was determined to be a low-NO<sub>x</sub> burner and EGR to meet an emissions concentration limit of 30 ppmv NO<sub>x</sub> at 3% O<sub>2</sub>. This permit limits includes a permit expiration condition 180 days after the first use of the equipment to ensure the temporary nature of the project. If operation beyond 180 days is required, a new BACT analysis will be required for a permanent unit. Due to the temporary nature of this project, an initial source test of the boiler will not be required. In order to determine compliance with permitted and BACT emission limits, weekly emissions monitoring with a District-approved portable NO<sub>x</sub>/CO monitor is required.

This steam boiler will be considered a new source of emissions at the facility, and the emissions from the boiler will be counted towards Net Emissions Increase (NEI) total for the source. After the completion of the project these emissions will be removed from the NEI calculations.

PERMIT EVALUATION For  
AUTHORITY TO CONSTRUCT/PERMIT TO OPERATE 13675  
AND PART 70 MINOR MODIFICATION 13675

Page 2 of 5

**2.0 ENGINEERING ANALYSIS**

- 2.1 Equipment/Processes: One Nebraska high pressure steam boiler rated at 54.65 MMBtu/hr. The boiler is permitted to operate on PUC quality natural gas, no back-up or secondary fuel is allowed. The boiler is required to be controlled with BACT which includes a low NO<sub>x</sub> burner as described below.
- 2.2 Emission Controls: This steam boiler is equipped with a Todd Veriflame low-NO<sub>x</sub> burner and exhaust gas recirculation (EGR) to control emissions. The unit will not be equipped with an optional anhydrous ammonia selective catalytic reduction (SCR) system due to the requirements of Rule 342.E.3.
- 2.3 Emission Factors: Mass emissions in Table 1 of the permit are based on the Manufacturer's emission guarantee for NO<sub>x</sub> and CO, USEPA AP-42 (ref: Tables 1.4-1 and 1.4-2, July 1998) for ROC and PM<sub>10</sub> and mass balance for SO<sub>x</sub>.
- 2.4 Reasonable Worst Case Emission Scenario: The operating scenario is summarized as follows:
- Hourly*: Maximum fuel rating of the boiler (54.65 MMBtu/hr)  
*Daily*: Operation of the boiler at the maximum hourly rating 24 hours/day.  
*Annual*: Operation of the boiler at the maximum hourly rating of the boiler 4,320 hours for the duration of the project.
- 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. Detailed emissions calculations may be found in Attachment "A".
- 2.6 Special Calculations: The Carbon Dioxide (CO<sub>2</sub>) emissions have been calculated for this permit using the CO<sub>2</sub> emission factor for natural gas combustion found in Chapter 12 of the *CARB Instructional Guidance for Mandatory Green House Gas Emission Reporting* document. The CO<sub>2</sub> emission factor was converted from units of kg CO<sub>2</sub>/MMBtu to lb CO<sub>2</sub>/MMBtu.
- 2.7 BACT Analyses: Best Available Control Technology was required for this project since the RACT controlled emissions from the boilers exceeded the 25 lb/day criteria pollutant threshold for BACT. The boilers must operate with a low NO<sub>x</sub> burner capable of meeting a NO<sub>x</sub> limit of 30 ppmv @ 3% O<sub>2</sub> and a CO limit of 100 ppmv @ 3% O<sub>2</sub> while fired on natural gas. Please see Attachment "C" for the BACT Analysis for this project.
- 2.8 Enforceable Operational Limits: The permit has enforceable operating conditions that ensure the control device is operated properly. The *Emission Limitations* condition restricts the NO<sub>x</sub> and CO concentrations based on BACT. These limitations are enforced via heat input limits and weekly emissions monitoring testing required by the *Monitoring* condition of this permit.

PERMIT EVALUATION For  
AUTHORITY TO CONSTRUCT/PERMIT TO OPERATE 13675  
AND PART 70 MINOR MODIFICATION 13675

Page 3 of 5

2.9 Monitoring Requirements: Monitoring conditions are provided to track fuel use emissions limits compliance.

2.10 Recordkeeping and Reporting Requirements: Records of fuel use, fuel meter calibrations, maintenance logs and weekly emissions monitoring results are required.

**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 301.	Circumvention
Rule 302.	Visible Emissions
Rule 303.	Nuisance
Rule 311.	Sulfur Content of Fuels
Rule 342	Control of Oxides of Nitrogen (NO <sub>x</sub> ) from Boilers, Steam Generators, and Process Heaters
Rule 360.	Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers
Rule 361.	Small Boilers, Steam Generators, and Process Heaters
Rule 801.	New Source Review
Rule 802.	Nonattainment Review
Rule 803.	Prevention of Significant Deterioration

4.2 Rules Requiring Review:

4.2.1 *Rule 342 - Control of Oxides of Nitrogen (NO<sub>x</sub>) from Boilers, Steam Generators, and Process Heaters*: This rule applies to boilers, steam generators and process heaters with rated heat inputs greater than or equal to 5 MMBtu/hr used in industrial, institutional and commercial operations, and therefore applies to the unit permitted herein. Section E.3 of this rule prohibits the use of anhydrous ammonia to meet emissions requirements. In order to stay in compliance with this requirement, BACT for the temporary boiler was determined to be a low-NO<sub>x</sub> burner with exhaust gas recirculation capable of meeting 30 ppmv NO<sub>x</sub> at 3% O<sub>2</sub> and 100 ppmv CO at 3% O<sub>2</sub>. Therefore, this unit is expected to comply with all the requirements of this rule.

PERMIT EVALUATION For  
AUTHORITY TO CONSTRUCT/PERMIT TO OPERATE 13675  
AND PART 70 MINOR MODIFICATION 13675

Page 4 of 5

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 values for the stationary source (the I, P1, P2 and D term of the NEI calculation) are Attachment "A". This permit action resulted in an increase in the potential to emit, and a corresponding I term to the NEI calculation. See Attachment "B" for emission increase calculations. Upon completion of this temporary steam boiler project, the NEI term from this project will be removed from the total NEI for this stationary source.

**5.0 AQIA**

The stationary source NEI is under the Rule 802 and 803 AQIA thresholds.

**6.0 OFFSETS/ERCs**

6.1 **General:** The emission offset thresholds of Regulation VIII are not exceeded for this permitting action.

6.2 **Offsets:** Offsets are not required for this permitting action.

6.3 **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**

The District is the lead agency under CEQA for this project. Pursuant to Section 15061(b)(3) of the California Environmental Quality Act ("CEQA") Guidelines, the proposed modifications authorized under this permit are exempt from CEQA because the temporary project does not have the potential for causing a significant effect on the environment. Further, no cross-media impacts are projected.

**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 The permittee was issued a draft Permit to Operate on April 28, 2011. The permittee submitted comments on April 29, 2011. The District responses to those comments appear in Attachment D of this permit.

**11.0 FEE DETERMINATION**

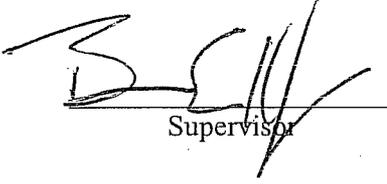
Fees for the APCD's work efforts are assessed on a cost reimbursement basis. The Project Code is 205129.

PERMIT EVALUATION For  
AUTHORITY TO CONSTRUCT/PERMIT TO OPERATE 13675  
AND PART 70 MINOR MODIFICATION 13675

Page 5 of 5

**12.0 RECOMMENDATION**

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

<u>David Harris</u> AQ Engineer/Technician	<u>5/3/2011</u> Date	 Supervisor	<u>5/6/11</u> Date
---	-------------------------	--	-----------------------

**13.0 ATTACHMENT(S)**

- A. Emission Calculations
- B. Stationary Source NEI Table
- C. Engineering Evaluation BACT Discussion
- D. Response to Comments

## ATTACHMENT A Emissions Calculations

Attachment: A-1

Date: 04/22/11

BOILER / STEAM GENERATOR CALCULATION WORKSHEET (ver. 6.0)
---

**DATA**

Permit No. ....	ATC 13675
Owner/Operator .....	Celite
Facility/Lease .....	Celite
Boiler Type .....	"O" Type
Boiler Mfg. ....	abcock and Wilcox
Boiler Model No. ....	FMO-40
Boiler Serial/ID No. ....	-3234
Boiler Horsepower .....	no data Bhp
Burner Type .....	Gas
Burner Mfg. ....	Todd
Burner Model No. ....	Veriflame
Max. Firing Rate of Burner .....	54.650 MMBtu/hr
Max. Annual Heat Input .....	236,088.000 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 .....	Industrial
Firing Type .....	Other Type
PM Emission Factor .....	0.0075 lb/MMBtu
PM <sub>10</sub> Emission Factor .....	0.0075 lb/MMBtu
NO <sub>x</sub> Emission Factor .....	0.0360 lb/MMBtu
SO <sub>x</sub> Emission Factor .....	0.0137 lb/MMBtu
CO Emission Factor .....	0.0740 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 <sub>2</sub> ) .....	1.97	47.22	4.25
Sulfur Oxides (as SO <sub>2</sub> ) .....	0.75	17.94	1.61
PM <sub>10</sub> .....	0.41	9.84	0.89
Total Suspended Particulate (PM) .....	0.41	9.84	0.89
Carbon Monoxide .....	4.04	97.06	8.74
Reactive Organic Compounds (ROC) .....	0.30	7.08	0.64
Hourly Heat Release .....	54.650	MMBtu/hr	
Daily Heat Release.....	1,311.600	MMBtu/day	
Annual Heat Release .....	236,088.000	MMBtu/yr	
Rule 342 Applicability .....	236.1	Billion Btu/yr	

Authority to Construct/Permit to Operate 13675

## ATTACHMENT B Stationary Source NEI Table

ATTACHMENT B - Stationary Source NEI

ATC-PTO 13675

Celite Corporation - Lompoc and Celpure Plants

I. This Project's "T" 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
ATC/PTO 13675	TBD	47.22	4.25	7.08	0.64	97.06	8.74	17.97	1.62	9.84	0.89	9.84	0.89
<b>Totals</b>		<b>47.22</b>	<b>4.25</b>	<b>7.08</b>	<b>0.64</b>	<b>97.06</b>	<b>8.74</b>	<b>17.97</b>	<b>1.62</b>	<b>9.84</b>	<b>0.89</b>	<b>9.84</b>	<b>0.89</b>

II. Stationary Source "P1s"

Enter all stationary source "P1" 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
PTO 5840-R2 <sup>1</sup>	6/1/2003					145.40	25.25	3.60	0.23	10.46	4.25	12.12	2.13
A/P 11107	12/26/2003									1.90	0.33	1.90	0.33
PTO 11008	3/8/2004									6.48	1.15	1.85	0.33
PTO 11083	4/12/2004									0.55	0.03	0.55	0.03
ATC/PTO 11224	9/1/2004									16.07	2.57	16.07	2.57
PTO 11007	3/24/2005									0.59	0.10	0.59	0.10
ATC/PTO 11224-01	4/28/2006									0.48	0.08	0.48	0.08
ATC 12091	10/26/2006									16.24	2.96	16.24	2.96
ATC 12208	1/31/2007									19.84	3.62	19.84	3.62
ATC 12091-01 <sup>2</sup>	3/26/2007									0.00	0.00	0.00	0.00
ATC 12105	6/11/2007	48.53	8.86	10.74	1.96	147.41	26.90	84.63	15.45	151.81	27.32	145.45	26.42
ATC 12208-01 <sup>3</sup>	8/31/2007									0.00	0.00	0.00	0.00
ATC 12091-02	9/25/2007									11.31	2.06	11.31	2.06
ATC 12208-02	12/28/2007									7.16	1.31	7.16	1.31
ATC 12315	1/11/2008									33.08	1.59	16.06	0.79
ATC 12105-01	1/25/2008									57.79	10.55	57.79	10.55
ATC 12091-03	6/6/2008									2.06	0.38	2.06	0.38
PTO 12398 <sup>4</sup>	7/8/2008									23.15	4.22	23.15	4.22
PTO 12315	3/9/2009										1.43		0.68
PTO 12208	3/9/2009									0.49	0.09	0.49	0.09
ATC-Mod 12105-09	3/1/2010									15.97	2.92	15.97	2.92
ATC-Mod 12105-11	5/12/2010	5.85	1.07	1.29	0.23	17.76	3.25	3.36	0.61	1.80	0.33	1.80	0.33
ATC 13544	10/8/2010									0.36	0.07	0.36	0.07
<b>Totals</b>		<b>54.38</b>	<b>9.93</b>	<b>12.03</b>	<b>2.19</b>	<b>310.57</b>	<b>55.40</b>	<b>91.59</b>	<b>16.29</b>	<b>377.59</b>	<b>67.35</b>	<b>351.24</b>	<b>61.96</b>

Notes:

1. Stationary source (Lompoc and Celpure Plant) NEI as found in Table 5.6 of Pt70 PTO 5840-R2 issued 6/24/03
2. PTE remains the same under modification ATC 12091-01 as PTE under ATC 12091; therefore, no increase in PTE.
3. PTE remains the same under modification ATC 12208-01 as PTE under ATC 12208; therefore, no increase in PTE.
4. P1 includes ATC 12398 project plus an increase of 3.35 lb/day PM/PM10 incorporated in PTO 12398.

III. Stationary Source "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
PTO 11083	4/12/2004									0.24	0.03	0.24	0.03
ATC 12105-01	1/25/2008	28.06	5.12	6.21	1.13	85.25	15.56	12.68	2.32	80.84	14.75	80.84	14.75
PTO-Mod 5840-07	3/1/2010									38.28	6.64	14.27	2.39
ATC 12105-14	2/16/2011									13.25	2.42	13.25	2.42
<b>Totals</b>		<b>28.06</b>	<b>5.12</b>	<b>6.21</b>	<b>1.13</b>	<b>85.25</b>	<b>15.56</b>	<b>12.68</b>	<b>2.32</b>	<b>132.61</b>	<b>23.84</b>	<b>108.60</b>	<b>19.59</b>

Authority to Construct/Permit to Operate 13675

**ATTACHMENT B**  
**Stationary Source NEI Table**

**IV. Stationary Source Pre-90 "D" Decreases**

Enter all stationary source "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
ATC 12105-01 <sup>1,2</sup>	1/25/2008	20.47	3.74	2.04	0.37	121.90	22.15	75.55	13.36	201.13	38.18	176.05	32.13
<b>Totals</b>		<b>20.47</b>	<b>3.74</b>	<b>2.04</b>	<b>0.37</b>	<b>121.90</b>	<b>22.15</b>	<b>75.55</b>	<b>13.36</b>	<b>201.13</b>	<b>38.18</b>	<b>176.05</b>	<b>32.13</b>

Notes: 1. "D"-Term values in table above excludes reductions which are subject to DOI 047 ERC application (see table below).

This is necessary so that NEI remains non-negative per Rule 801

2. Original ATC 12105 NOx, SOx, and PM "D" Term adjusted to account for equipment removal in ATC 12105-01

Total Reductions from ATC 12105 ("D" Term)  
 D Term Adjustment I - (P1-P2) on June 11, 2007 (issue date of ATC 12105)  
 Add I Term from ATC 12105-01  
 Subtract Above P2 Decrease  
 Remaining Reductions subject to DOI 047 application

NOx		SOx		PM	
lb/day	TPY	lb/day	TPY	lb/day	TPY
65.82	12.01	1147.42	209.40	355.87	64.95
48.53	8.86	88.23	15.68	224.18	42.38
				57.79	10.55
28.06	5.12	12.68	2.32	80.84	14.75
45.35	8.27	1071.87	196.04	270.32	47.87

**V. Calculated Stationary Source NEI-90**

Table below summarizes stationary source 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
I	47.22	4.25	7.08	0.64	97.06	8.74	17.97	1.62	9.84	0.89	9.84	0.89
P1	54.38	9.93	12.03	2.19	310.57	55.40	91.59	16.29	377.59	67.35	351.24	61.96
P2	28.06	5.12	6.21	1.13	85.25	15.56	12.68	2.32	132.61	23.84	108.60	19.59
D	20.47	3.74	2.04	0.37	121.90	22.15	75.55	13.36	201.13	38.18	176.05	32.13
<b>NEI-90</b>	<b>53.07</b>	<b>5.32</b>	<b>10.87</b>	<b>1.33</b>	<b>200.48</b>	<b>26.42</b>	<b>21.33</b>	<b>2.23</b>	<b>53.69</b>	<b>6.21</b>	<b>76.42</b>	<b>11.13</b>

Notes: Per Rule 801, "In no event shall the net emission increase for a stationary source be less than zero."

## ATTACHMENT C BACT Determination

### BACT DETERMINATION

1. Pollutant(s): NO<sub>x</sub>, CO
2. Emission Unit: Temporary high pressure Nebraska Model NOS-2A-53 steam boiler, Serial No: 201-3435, 54.65 MMBtu/hr, Emission Controls: Low NO<sub>x</sub> burner, exhaust gas recirculation. PUC quality natural gas fired.
3. BACT Determination Summary: (See Attachment A for emission calculations)  
  
*Technology*: Low NO<sub>x</sub> burner (PUC quality natural gas)  
*Performance Standard*: 30 ppmvd at 3 percent oxygen for NO<sub>x</sub>  
100 ppmvd at 3 percent oxygen for CO
4. Level of Stringency:  Achieved in Practice  
 Technologically Feasible  
 RACT, BARCT, NSPS, NESHAPS, MACT
5. BACT Selection Process Discussion: Celite requires the use of a temporary boiler capable of producing high pressure steam. The most stringent control available for a temporary natural gas fired boiler < 100MMBtu/hr is 9 ppmv NO<sub>x</sub> using Low NO<sub>x</sub> burners, exhaust gas recirculation (EGR) and selective catalytic reduction (SCR). During the course of a detailed BACT analysis, it was determined that all rental boilers that meet this emissions limitation and are available in the United States incorporate anhydrous ammonia in the SCR design. Santa Barbara County District Rule 342 Section E.3 prohibits the use of anhydrous ammonia in SCR control systems associated with industrial boilers. Therefore, it is not technically feasible for a rental boiler to achieve 9 ppmv NO<sub>x</sub> and comply with Santa Barbara County District Rule 342. Celite will therefore install and temporarily operate a high pressure steam boiler with low NO<sub>x</sub> burners and EGR which will meet the District Rule 342 limit of 30 ppmv NO<sub>x</sub>. This represents the best available NO<sub>x</sub> performance for high pressure rental boilers currently available in the United States.
6. BACT Effectiveness: BACT is expected to be effective over all operating loads except during start-up and shut-down.
7. BACT During Non-Standard Operations: Non-standard operations would only be during start-up and shut-down.
8. Operating Constraints: The boilers are required to operate with low NO<sub>x</sub> burners and exhaust gas recirculation.
9. Continuously Monitored BACT: CEMS are not required for this project.
10. Source Testing Requirement: Weekly monitoring with a District approved portable NO<sub>x</sub>/CO analyzer is required.

**ATTACHMENT C**  
**BACT Determination**

11. Compliance Averaging Times: The concentration limits shall be enforced based on the approved weekly monitoring test procedures (SCAQMD Combustion Gas Periodic Monitoring Protocol).
12. Multi-Phase Projects: This is not a multi-year project.
13. Referenced Documents: The SCAQMD BACT Guidelines are found online at:  
SCAQMD BACT Guidelines: <http://www.aqmd.gov/bact/BACTGuidelines.htm>
14. PSD BACT: Not Applicable.

## **ATTACHMENT D**

### **Response to Comments**

**The following are the APCD responses to comments on the draft permit by Celite in a letter dated April 29, 2011:**

1. Celite Comment: Celite requests that a third party NO<sub>x</sub>/CO analyzer monitoring be conducted within the first month of operation and that a source test be conducted if operations extend beyond four (4) months, as discussed with the District at the inception of this project.

APCD Response: Monitoring condition C.3.b has been revised to require weekly NO<sub>x</sub>/CO analyzer monitoring for the first four weeks of operation, which may then be relaxed to monthly NO<sub>x</sub>/CO analyzer monitoring if all four weekly monitoring tests showed compliance with the emission limits of this permit.

2. Celite Comment: Due to the availability of the initially proposed rental unit, Celite has had to change the temporary boiler to be permitted. The heat rating will remain the same, and all other specifications of the new temporary boiler are nearly identical to the initially proposed unit. The appropriate application forms have been revised and are attached.

APCD Response: The final permit has been revised to reflect the new proposed rental unit.

3. Celite Comment: Celite has submitted manufacturer's data specifying an emission factor of 0.005 lb/MMBtu for PM/PM10, and requests that potential to emit is calculated using this emission factor.

APCD Response: It is District's policy to use default AP-42 emission factors for PM/PM10 emissions calculations for all boiler permitting, regardless of manufacturer emission guarantees for PM/PM10. Without source testing for particulate matter, we cannot permit a unit at a PM/PM10 emissions level lower than the default AP-42 emissions standard.