



**Air Pollution Control Board**

Greg Cox	District 1
Dianne Jacob	District 2
Dave Roberts	District 3
Ron Roberts	District 4
Bill Horn	District 5

June 7, 2013

ANDREW CHEW  
US EPA AIR DIVISION  
REGION IX AIR-3  
75 HAWTHORNE STREET  
SAN FRANCISCO, CA 94105

MICHAEL TOLLSTRUP  
CALIFORNIA AIR RESOURCES BOARD  
PO BOX 2815  
SACRAMENTO, CA 95812

ROBERT SMITH  
PALA BAND OF MISSION INDIANS  
25008 PALA TEMECULA ROAD  
PMB 50  
PALA, CA 92059

The San Diego Air Pollution Control District (District) is in receipt of an application for a modification to the Title V operating permit for Solar Turbines Incorporated, located at 4200 Ruffin Road, San Diego, CA 92123. After a preliminary review of this application, the District has determined that the requested changes constitute a minor Title V modification. This letter is to inform you that the District has received a complete application.

The proposed project is under review at the Air Pollution Control District. Please refer to Application No. APCD2013-APP-002789 on all correspondence regarding this project. Questions may be directed to me at (858) 586-2717 or [douglas.erwin@sdcounty.ca.gov](mailto:douglas.erwin@sdcounty.ca.gov).

Sincerely,

A handwritten signature in blue ink that reads "Douglas L. Erwin".

Douglas L. Erwin  
Senior Air Pollution Control Engineer

enclosure



**SAN DIEGO AIR POLLUTION CONTROL DISTRICT**

**SUPPLEMENTAL APPLICATION**  
**TITLE V MINOR PERMIT**  
**MODIFICATION (Form 1410-B)**

**San Diego APCD Use Only**  
**Appl. No.:** 2013-APP-002789  
**ID No.:** 1976-SITE-01130

**Minor Permit Modification**

*Completion of this form meets the requirements of Rule 1414(f)*

**I. BACKGROUND INFORMATION**

Title V Permit to Operate No. 960991                      Affected existing District Permit No. 2011-APP-001769

Provide a general description of the proposed permit modification: This purpose of Title V permit modification is to the request the following change:

**Modifying the conditions District Authority to Construct 2011-APP-001769 by removing the initial source testing requirements and altering sulfur condition for consistency with other permits at the facility.**

**II. APPLICABLE REQUIREMENTS**

List all Rules and Regulations that apply to the Title V permit modification.

Rule	Adoption Date	Rule Description	Test Method or Rule Section	Monitoring, Records, Reports, Rule Section
69.2	9/27/94	Industrial And Commercial Boilers, Process Heaters And Steam Generators	Section (b)	Section (iv)

**III. MONITORING, RECORDKEEPING & REPORTING (MR&R) REQUIREMENTS AND TEST METHODS**

- The MR&R requirements and Test Methods contained in the Authority to Construct and/or the rules identified in Section II above, will be used to determine compliance with the applicable requirements.
- Additional or modified MR&R and/or Test Methods are proposed. See attachment number \_\_\_\_\_.

**IV. MINOR MODIFICATION OPTIONS (Check the applicable option)**

- Request the procedures specified in 1410(j) be used to modify the Title V Operating Permit.
- Request the proposed permit action be publicly noticed in accordance with the requirements of 1415(a).
- The proposed modifications will be implemented prior to final permit action being taken by the District.

Please provide the following:

- Draft Title V permit conditions for the emission unit affected by this application.
- A summary of the proposed emission changes, including calculations.

**V. OTHER REQUIREMENTS, IF APPLICABLE**

- This modification is subject to a Schedule of Compliance. See attachment number \_\_\_\_\_
- This modification is subject to the requirements of CAM. See attachment number \_\_\_\_\_

**VI. COMPLIANCE STATEMENT**

*Read each statement listed below carefully and check each applicable statement.*

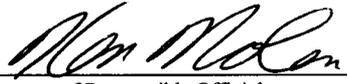
- Modified Source-  
Based on information and belief formed after reasonable inquiry, the equipment identified above is operating in compliance with the applicable requirements identified in Section II above.
- Modified Source-

Based on information and belief formed after reasonable inquiry, the equipment identified above will operate in compliance with the proposed Title V permit conditions specified in Section IV above, until final permit action is taken by the District.

- New Source-  
Based on information and belief formed after reasonable inquiry, the equipment identified above will operate in compliance with the applicable requirements identified in Section II above.
- Based on information and belief formed after reasonable inquiry, the equipment identified in Section I above, will comply with future-effective applicable requirement(s) on a timely basis.
- Based on information and belief formed after reasonable inquiry, the equipment identified in Section I above, will comply with all applicable requirements in accordance with the attached schedule of compliance and Rule 1414(f)(3)(viii).

**VII. SIGNATURE AND CERTIFICATION**

- Based on information and belief formed after reasonable inquiry, the proposed modification meets the criteria of a minor permit modification.
- Based on information and belief formed after reasonable inquiry, I certify that all information submitted with this application, including all attachments, is true, accurate, and complete.

  
\_\_\_\_\_  
Signature of Responsible Official

5/2/13  
\_\_\_\_\_  
Date

(858) 694-6694  
\_\_\_\_\_  
Telephone No

Kenneth Nolen  
\_\_\_\_\_  
Print Name of Responsible Official

Vice President, Oil and Gas  
\_\_\_\_\_  
Title of Responsible Official

# Solar<sup>®</sup> Turbines

*A Caterpillar Company*

Solar Turbines Incorporated

P.O. Box 85376  
San Diego, CA 92186-5376  
Tel: (619) 544-5000  
Fax: (619) 544-2832

April 30, 2013

Mr. John Annicchiarico  
10124 Old Grove Road  
San Diego, CA 92131

Subject: Title V Minor Modification Application for a Thermal Oxidizer  
Permit No. 2011-APP-001769

Dear Mr. Annicchiarico,

As we have discussed, the District issued Authority to Construct (ATC) 2011-APP-001769 for a Thermal Oxidizer at Solar Turbines Incorporated (Solar) Kearny Mesa facility. Solar would like to modify the conditions to this ATC by removing the initial source testing requirements and altering the sulfur condition for consistency with the other test cell permits at the facility. Attached is a District application, a Title V Minor Permit Modification Form 1410-B and a time and material fee deposit of \$2,699.

Please feel free to contact Lori Haase at (619) 544-5237 or Nadine Spertus at (619) 544-5242 if you have any questions.

Sincerely,



Craig Anderson  
Director, Environmental Health and Safety

cc: Doug Erwin, SDAPCD



County of San Diego  
AIR POLLUTION CONTROL DISTRICT  
10124 Old Grove Road, San Diego, CA 92131

(858) 586-2600  
FAX (858) 586-2601  
Smoking Vehicle Hotline  
1-800-28-SMOKE  
www.sdapcd.org

December 21, 2011

Owner Manager  
Solar Turbines  
PO Box 85376 Mail Zone T-2  
San Diego, Ca 92186

After examination of your Application APCD2011-APP-001769 for an Air Pollution Control District (District) Authority to Construct and Permit to Operate for equipment to be located at 4200 RUFFIN RD, SAN DIEGO, CA 92123 in San Diego County, the District has decided on the following actions:

Authority to Construct is granted pursuant to Rule 20 of the Air Pollution Control District Rules and Regulations for equipment to consist of:

Thermal Oxidizer, Turner Envirologic, natural gas fired, 120 MMBtu/hr, S/N TBD; with two low-NOx burners, North American, Model 4796-20, 60 MMBtu/hr each.

This Authority to Construct is issued with the following conditions:

- 1 Operation of this equipment shall be conducted in accordance with all data and specifications submitted with the application under which this permit is issued unless otherwise noted below.
- 2 Permittee shall comply with all applicable requirements of Rules 53 and 62.
- 3 A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
- 4 This thermal oxidizer shall be fired only on natural gas.
- 5 Natural gas used in this equipment shall be Public Utility Commission (PUC) quality natural gas only. The applicant shall maintain, on-site, quarterly records of the natural gas sulfur content (grains of sulfur compounds per 100 dscf of natural gas) and the higher and lower heating values (Btu/scf) of the natural gas; and provide such records to District personnel upon request.
- 8 The exhaust stack shall be equipped with source test ports and platforms to allow for the measurement and collection of stack gas samples consistent with all approved test protocols. The ports and platforms shall be constructed in accordance with San Diego Air Pollution Control District Method 3A, Appendix Figure 2, and approved by the District.
- 9 The emissions of oxides of nitrogen (NOx), calculated as nitrogen dioxide, from the exhaust of this equipment shall not exceed 65 parts per million volume on a dry basis (ppmvd) corrected to 3% oxygen. Compliance with this limit shall be demonstrated at the

initial compliance test unless otherwise directed in writing by the District.

- 10 The emissions of carbon monoxide (CO) from the exhaust of this equipment shall not exceed 400 parts per million volume on a dry basis (ppmvd) corrected to 3% oxygen. Compliance with this limit shall be demonstrated at the initial compliance test unless otherwise directed in writing by the District.
- 11 Within 60 days after the initial startup, an initial source test shall be conducted by an independent, ARB approved tester or the District, at the applicant's expense, to determine initial compliance with the emission standards of this Authority to Construct. A source test protocol shall be submitted to the District for approval at least 30 days prior to the initial source test. The source test protocol shall comply with the following requirements:

- a. Measurements of outlet oxides of nitrogen (NOx), carbon monoxide (CO), and stack gas oxygen content (O2%) shall be conducted in accordance with the District Source Test Method 100, or the Air Resources Board (ARB) Test Method 100 as approved by the U.S. Environmental Protection Agency (EPA).

- b. Source testing shall be performed at no less than 80% of the burner rated load.

- 12 Within 30 days after completion of the initial source tests, a final test report shall be submitted to the District for review and approval. The testing contractor shall include, as part of the test report, a certification that to the best of his knowledge the report is a true and accurate representation of the test conducted and the results.
- 13 In the event the initial source test results do not demonstrate compliance with District Rules and Regulations and emissions standards specified herein, to the satisfaction of the District, the applicant shall take corrective action to meet these standards. Any proposed corrective action that would result in a modification to the equipment shall require an application for a District Authority to Construct for such modification.
- 14 Based on source testing, additional monitoring parameters may be established through modification of a Startup Authorization or Permit to Operate to ensure compliance. Operating characteristics monitored by continuous parametric monitors may also be restricted to specified ranges or limits, as determined by the District, based upon manufacturer's recommended operating procedures and initial compliance source test results.

See other permit starting with correlation #4

- 15 ~~#4~~ The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal oxidizers are together hereinafter referred to as "test cells." (Rules(s):21)
- 16 ~~#5~~ From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.
- 17 ~~#6~~ No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine

families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of Index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.

- 18 The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:  $[(\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG})] / 2$ , where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.
- 19 No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation:  $[(\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG})] / 2$ . Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel Index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves a change in a submitted fuel Index values for a calendar year, the permittee shall recalculate and record the NOx emissions for that calendar year using the changed fuel index value(s) within 60 days of the date the District approves such a change. For the purposes of determining compliance with the NOx limits specified in this permit, the calculation methodology specified in this condition shall take precedence over any other calculation methodology specified in this permit. The records required by this condition shall be maintained for a minimum of five years and made available to the District upon request.
- 20 When required to determine compliance with a PM10 emissions limit stated in this permit, permittee shall calculate and record daily PM10 emissions using the following equation:  $[(1.16) \cdot (\text{DF}) + (0.47) \cdot (\text{NG})]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.
- 21 When required to determine compliance with a SOx emission limit stated in this permit, permittee shall calculate and record daily SOx emissions using the following equation:  $[(\text{S})(\text{DF}) + (0.03)(\text{NG})]$ . Where (DF) and (NG) are the respective fuel usages in 1000

- pounds per day and (S) is the weighted average sulfur content of the distillate fuel in pounds of fuel.
- 11) 22 Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.
  - 12) 23 When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate or 13.5 million pounds of gaseous fuel, on any day thereafter, daily fuel usage shall not cause PM10 emissions from all test cells to exceed 493.8 pounds per day.
  - 13) 24 When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate, on any day thereafter that a fuel with sulfur content greater than 0.10% by weight is used, daily fuel usage shall not cause SOx emissions from all test cells to exceed 543.8 pounds per day.
  - 14) 25 Permittee shall maintain supplier records of the sulfur content of the distillate fuel. Permittee shall keep daily records of fuel usage for any fuel with sulfur content greater than 0.10% by weight. If supplier records are not available, sulfur content shall be determined in accordance with a protocol approved in advance by the District.
  - 15) 26 Permittee shall maintain records of daily and monthly cumulative calendar usage of each type of fuel used in the test cells. All usage records shall be corrected to standard conditions.
  - 16) 27 A non-resettable totalizing gaseous fuel meter shall be maintained on-site to measure fuel usage. The meter shall either be self-correcting to standard conditions (68 deg F and 14.7 PSIA) or shall display meter gas pressure and temperature data.
  - 17) 28 At the request of the District, permittee shall provide a test cell testing schedule covering a two week period. The schedule shall be submitted within 10 calendar days of the District's request and the two week period shall begin on the date the test schedule is submitted. The schedule shall specify the type of turbines to be tested and the type of test to be performed. Any specific measurements or additional data requested by the District shall be handled at the time of the test and may include, if possible, additional emissions readings (e.g., NOx, CO, HC) taken during a given test.
  - 18) 29 Permittee shall maintain records of all tests performed in the test cells. The records shall include:
    - the type of equipment tested
    - operating conditions of the test
    - actual emissions if measured or the emission factor used to calculate emissions
  - 19) 30 Access, facilities, utilities, and any necessary safety equipment for source testing and inspections shall be provided upon request of the Air Pollution Control District.
  - 20) 31 The applicant shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxic "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 2230 Et. Seq.).
  - 21) 32 This Air Pollution Control District Authority to Construct does not relieve the holder from obtaining permit or authorizations required by other governmental agencies.

This Authority to Construct authorizes temporary operation of the above-specified equipment. This temporary Permit to Operate shall take effect upon written notification to the District that construction (or modification) has been completed in accordance with this Authority to Construct. This temporary Permit to Operate will remain in effect, unless withdrawn or modified by the District,

and a revised temporary permit (Startup Authorization) is issued or a Permit to Operate is granted or denied.

Upon completion of construction (or modification) in accordance with this Authority to Construct, and prior to commencing operation, the applicant must complete and mail, deliver or fax the enclosed Construction Completion Notice to the District. After mailing, delivering or faxing the notice, the applicant may commence operation of the equipment. Operation must be in compliance with all the conditions of this Authority to Construct and applicable District Rules.

This Authority to Construct shall be posted on or within 25 feet of the above described equipment or maintained readily available at all times on the operating premises.

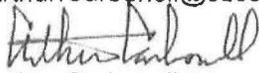
This Air Pollution Control District Authority to Construct does not relieve the holder from obtaining permits or authorizations, which may be required by other governmental agencies. This Authority to Construct is not authority to exceed any applicable emission standard established by this District or any other governmental agency. This authorization is subject to cancellation if any emission standard or condition is violated.

Within 30 days after receipt of this Authority to Construct, the applicant may petition the Hearing Board for a hearing on any conditions imposed herein in accordance with Rule 25.

This Authority to Construct will expire on 12/21/2012 unless an extension is granted in writing.

This is not a Permit to Operate. Please be advised that installation or operation of this process or equipment without written authorization may be a misdemeanor subject to fines and penalties.

If you have any questions regarding this action, please contact me at (858) 586 2741 or via email at [Arthur.Carbonell@sdcounty.ca.gov](mailto:Arthur.Carbonell@sdcounty.ca.gov).

  
Arthur Carbonell  
Associate Engineer

CC: Compliance Division

## Erwin, Douglas

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**From:** Lori J. Haase <Haase\_Lori\_J@solarturbines.com>  
**Sent:** Tuesday, May 14, 2013 11:20 AM  
**To:** Erwin, Douglas; Carbonell, Arthur  
**Cc:** Annicchiarico, John; Craig D. Anderson  
**Subject:** RE: Solar's Minor Mod Application  
**Attachments:** 2011-001769 - 250 TO ATC Sulfur Conditions.pdf; PO# 976905 Thermal Oxidizer Bldg 16.pdf

Doug,

The sulfur condition in the ATC that we want removed is highlighted on the attached ATC and states "The applicant shall maintain, on-site quarterly records of the natural gas sulfur content (grains of sulfur compounds per 100 dscf of natural gas) and the higher and lower heating values (Btu/scf) of the of the natural gas; and provide such records to the District personnel upon request."

Also attached is a copy of one of the existing Thermal Oxidizer permits at our Kearny Mesa facility. All of these conditions on the existing Thermal Oxidizers are already included in this ATC. Solar requests that extra conditions (i.e. regarding source testing and sulfur, etc.) in the ATC be removed and the final permit for APCD2011-APP-001769 have the exact same wording as the two existing Thermal Oxidizer permits APCD2008-PTO 976905 and APCD2008-PTO 976913.

Lori Haase  
Environmental, Health and Safety Office  
Office: (619) 544-5237  
Cell: (858) 663-0894  
[lhaase@solarturbines.com](mailto:lhaase@solarturbines.com)

From: "Erwin, Douglas" <[Douglas.Erwin@sdcounty.ca.gov](mailto:Douglas.Erwin@sdcounty.ca.gov)>  
To: "Lori J. Haase" <[Haase\\_Lori\\_J@solarturbines.com](mailto:Haase_Lori_J@solarturbines.com)>  
Cc: "Annicchiarico, John" <[John.Annicchiarico@sdcounty.ca.gov](mailto:John.Annicchiarico@sdcounty.ca.gov)>  
Date: 05/10/2013 08:11 AM  
Subject: RE: Solar's Minor Mod Application

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Lori,

Could you please specify your requested change to the sulfur condition? If you could identify the condition in the permit being changed, and the condition you want it to match, that should clarify it.

Thanks,  
Doug Erwin

**From:** Lori J. Haase [[mailto:Haase\\_Lori\\_J@solarturbines.com](mailto:Haase_Lori_J@solarturbines.com)]  
**Sent:** Wednesday, May 08, 2013 1:29 PM  
**To:** Annicchiarico, John; Carbonell, Arthur; Erwin, Douglas  
**Cc:** Craig D. Anderson  
**Subject:** Solar's Minor Mod Application

John, Doug and Arthur,