

# PROPOSED DRAFT

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## San Diego County Air Pollution Control District

10124 Old Grove Rd  
San Diego, CA 92131  
(858) 586-2600

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## TITLE V OPERATING PERMIT # APCD2006-PTO-960991

### Issued To:

Solar Turbines Incorporated  
Site ID # APCD1976-SITE-01130

### Site Address

4200 Ruffin Road  
San Diego, CA 92123  
(858) 694-6625  
(858) 544-5126

### Mailing Address

PO Box 85376, MZ T-2  
San Diego, CA 92186-5376

**Responsible Official** – Steve Gosselin, President

- Kenneth Nolen, Vice President – Power Generation

**Facility Contact** - Craig Anderson, EHS Manager

**Permit Information Contact** - Craig Anderson, EHS Manager

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Issued by the San Diego County Air Pollution Control District on June 27, 2011.

Modified under 2013-APP-002789 on \_\_\_\_\_.

This Title V Operating Permit expires on June 27, 2016.

Signed by: \_\_\_\_\_

Robert Kard, Air Pollution Control Officer

Date: \_\_\_\_\_

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## **PREAMBLE**

This Title V Operating Permit consists of this document and all appendices, including District permits incorporated by reference. The facility is subject to all applicable requirements identified within this permit, unless a specific permit shield is specified within this permit. If an applicable requirement is omitted from this permit, the facility is still obligated to comply with such an applicable requirement. The permittee must comply with all of the terms listed in each section of this permit.

This permit contains five major sections: Section I contains the Regulation XIV requirements required to carry out the Title V Operating Permit program. Section II contains the requirements that are applicable to the facility on a facility-wide basis. Section III contains the requirements that are applicable to individual emission units which have been issued District permits or District registration, or which have been determined to be insignificant emission units. Section IV contains terms and requirements pertaining to variance procedures and compliance schedules, if applicable to the facility. Section V contains five appendixes. Appendix A contains all the District permits incorporated within this permit. Appendix B contains a table of all rules approved by the District, the rules contained in the State Implementation Plan (SIP), and federal rules that are potential applicable requirements. Appendix C contains a list of abbreviations used within this permit. Appendix D1 contains definitions of terms for the purpose of implementing 40 CFR Part 63 Subpart M. Appendix D2 contains calculation procedures for implementing 40 CFR Part 63 Subpart M. The basis for each condition is noted in brackets following each condition.

Copies of the Rules and Regulations of the Air Pollution Control District of San Diego County and the Rules and Regulations for San Diego County contained in the SIP approved by EPA may be obtained at the District. Copies are also available for review at the following locations:

SD Air Pollution Control District (Library & Public Review Area)	County of SD Law Library (Downtown)	County of SD Law Library (North County)
10124 Old Grove Rd.	1105 Front St.	325 S. Melrose Suite 300
San Diego, CA 92131	San Diego, CA 92101	Vista, CA 92083
(858) 586-2600	(619) 531-3900	(760) 940-4386

The current Rules and Regulations of the Air Pollution Control District of San Diego County may also be viewed and downloaded using the following internet address:

[www.sdapcd.org](http://www.sdapcd.org)

The following addresses should be used to submit any certifications, reports or other information required by this permit:

SD Air Pollution Control District Compliance Division 10124 Old Grove Rd. San Diego, CA 92131	USEPA Region IX Director of the Air Division Attn: Air-3 75 Hawthorne Street San Francisco, CA 94105
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## **SECTION I. REGULATION XIV PERMIT REQUIREMENTS**

### **A. ADMINISTRATIVE PERMIT TERMS**

1. This Title V Operating Permit expires on June 27, 2016. [Rule 1410]
2. Commencing or continuing operation under this permit to operate shall be deemed acceptance of all terms and conditions specified within this permit. This does not limit the right of the applicant to seek judicial review or seek federal EPA review of a permit term or condition. [Rule 1421]
3. This permit may be modified, revoked, reopened and reissued, or terminated by the District for cause. [Rule 1421]
4. The filing of a request by the facility for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay the applicability of any permit condition. [Rule 1421]
5. This permit does not convey any property rights of any sort, nor any exclusive privilege. [Rule 1421]
6. The need for the permittee to halt or reduce a permitted activity in order to maintain compliance with any term or condition of this permit shall not be a defense for any enforcement action brought as a result of a violation of any such term or condition. [Rule 1421]
7. In the event of challenge to any portion of this permit, the rest of the permit remains valid. [Rule 1421]
8. For the purpose of submitting compliance certifications or establishing whether or not a person has violated or is in violation of any applicable requirement in this permit, nothing in this permit shall preclude the use, including the exclusive use, of any credible evidence or information, relevant to whether a source would have been in compliance with applicable requirements if the appropriate performance or compliance test or procedure had been performed. [Rule 1421]

### **B. RENEWAL REQUIREMENTS AND TERMS**

1. The permittee shall submit a complete application for renewal of this permit to the Air Pollution Control Officer no later than June 27, 2015, and no earlier than December 27, 2014. [Rule 1410]
2. If an administratively complete application for renewal of this permit has been submitted to the Air Pollution Control Officer within the dates specified in Section I.B.1., the terms and conditions of this permit shall remain in effect and the source may continue operations under these terms and conditions after June 27, 2016, until the Air Pollution Control Officer issues or denies the permit renewal. [Rule 1410]

**C. MONITORING, RECORDKEEPING & REPORTING REQUIREMENTS**

1. The permittee shall provide the District access to the facility and all equipment subject to this permit, and access to all required records pursuant to California Health and Safety Code Section 41510. [Rule 1421 (b)(2)(i)]
2. The permittee shall maintain all records required by this permit including any calibration, maintenance, and other supporting information and copies of all reports required by this permit for at least five years from their date of creation. Such records shall be maintained on-site for a minimum of three years. [Rule 1421(b)(1)(iii)]
3. The permittee shall submit monitoring and recordkeeping summary reports and all other monitoring and recordkeeping reports required by this permit to the District every six months, unless a shorter time frame is required by a specific permit condition contained in Section III of this permit. Unless other dates are specified in Section III, reports for data required to be collected from January 1 through June 30, shall be submitted no later than September 1 of the calendar year, and reports for data required to be collected from July 1 through December 31, shall be submitted no later than March 1 of the following calendar year. The report for the final six months of the year may be consolidated with the annual compliance certification required below. All instances of noncompliance from federally enforceable applicable requirements shall be clearly identified in these reports. (Timely completion of District Certification Reports Form J1 and Form J2, if applicable, and all indicated attachments, fulfills the requirements of this condition.) [Rule 1421]
4. Each calendar year, the permittee shall submit to the District and to the federal EPA an annual compliance certification, in a manner and form approved in writing by the District, for the previous calendar year that includes the identification of each applicable term or condition of the final permit for which the compliance status is being certified, the compliance status and whether the facility was in continuous or intermittent compliance during the previous calendar year, identification of the method used to determine compliance during the previous calendar year, and any other information required by the District to determine the compliance status. The annual compliance certification for a calendar year shall be submitted no later than March 1 of the following calendar year and may be consolidated with the monitoring and recordkeeping report for the last six months of the year for which compliance is certified. (Timely completion of District Certification Reports Form J1 and Form J2, if applicable, and all indicated attachments, fulfills the requirements of this condition.) [Rule 1421(b)(2)(iii) and Rule 1421 (b)(2)(iv)]
5. Any report submitted to the District or federal EPA pursuant to this permit to comply with a federally enforceable applicable requirement, shall be certified by a responsible official stating that, based on information and belief formed after reasonable inquiry, the report is true, accurate and complete. [Rule 1421 (b)(2)(iv)]
6. The permittee shall make any trade secret designations of records, documents, or other information submitted to the District or federal EPA in accordance with District Rule 176. [Rule 176]

7. The permittee shall report all deviations from any and all federally enforceable permit terms and conditions including: (a) breakdowns, whether or not they result in excess emissions, (b) deviations that result in excess emissions of any regulated air pollutant, and (c) deviations from monitoring, recordkeeping, reporting and other administrative requirements that do not result in excess emissions. For deviations that result from breakdowns under District Rule 98, the permittee shall report the breakdown within two hours of detection of the breakdown and provide a follow-up written report after corrective actions have been taken. For deviations not due to a breakdown but which result in excess emissions, the permittee shall report the deviation within ten calendar days of detection. For all other deviations where no specific time frame for reporting a deviation applies, the permittee shall report the deviation at the time of the next semi-annual monitoring summary or annual compliance certification, whichever occurs first. If an underlying applicable requirement contains a definition of prompt or otherwise specifies a time frame for reporting deviations, then the criteria for the applicable requirement shall apply. The report must include the probable cause of such deviations and any corrective actions or preventive measures taken. [Rule 1421]

#### **D. GENERAL PERMIT REQUIREMENTS**

1. The permittee shall comply with all terms and conditions of this permit. This permit consists of this document and Appendices A, B, C, D1, and D2. Any noncompliance with the federally applicable terms and conditions of this permit shall constitute a violation of the federal Clean Air Act. Noncompliance with any federally applicable permit term or condition of this permit is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application. Noncompliance with any District permit term or condition is grounds for enforcement action by the District. [Rule 1421 (b)(1)(vi)]
2. Upon a written request by the District, the permittee shall furnish to the District any information needed to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit; any information required to determine compliance with this permit; or any records required to be maintained pursuant to this permit. Such information shall be provided within a reasonable time, as specified within the District's written request. [Rule 1421 (b)(1)(x)]
3. The permittee shall pay annual fees in accordance with District Rule 40. [Rule 1421(b)(1)(xi)]
4. The permittee shall provide access, facilities, utilities and any necessary safety equipment for source testing and inspection upon request of the District. [Rule 19]
5. This permit shall be maintained on-site at all times and be made available to the District upon request. [Rule 1410 (c)]
6. The Rule Reference Table provided in Appendix B shall be used to determine whether a cited rule is a federally and District enforceable requirement or a District only enforceable requirement. Any new or revised District rule shall not be considered federally enforceable until the rule is approved by EPA into the SIP. In cases where

SIP approval is pending for a revised District rule, the rule citation shall refer to both the current SIP approved rule and the revised District rule. [Rule 1421]

## SECTION II. FACILITY-WIDE REQUIREMENTS

### A. GENERAL PERMIT PROGRAM APPLICABLE REQUIREMENTS

The permittee shall comply with the applicable requirements specified in the Rules and Regulations cited below, unless specifically exempted by the same Rule or Regulation.

Regulation	Rule Citation	Title
SDCAPCD Reg. II	10	Permits Required
SDCAPCD Reg. II	19	Provision of Sampling & Testing Facilities
SDCAPCD Reg. II	19.3	Emission Information
SDCAPCD Reg. II	21	Permit Conditions
SDCAPCD Reg. IV	60	Circumvention
SDCAPCD Reg. V	98	Breakdown Conditions: Emergency Variance
SDCAPCD Reg. VIII	131	Stationary Source Curtailment Plan
SDCAPCD Reg. VIII	132	Traffic Abatement Plan

### B. GENERAL PROHIBITORY APPLICABLE REQUIREMENTS

The permittee shall comply with the generally applicable requirements specified in the Rules and Regulations cited below, unless specifically exempted by the same Rule or Regulation. These generally applicable requirements apply on a facility-wide basis to all permitted equipment, registered equipment, and insignificant activities. In cases where a requirement, in addition to being generally applicable, is also specifically applicable to one or more permitted emission units, the requirement is also included in Section III.A. of this permit.

Regulation	Rule Citation	Title
SDCAPCD Reg. IV	50	Visible Emissions
SDCAPCD Reg. IV	51	Nuisance
SDCAPCD Reg. IV	67.0	Architectural Coatings
SDCAPCD Reg. IV	67.17	Storage of Materials Containing VOC
SDCAPCD Reg. IV	71	Abrasive Blasting
SDCAPCD Reg. VI	102	Open Fires - Western Section
SDCAPCD Reg. VI	105	Burning Permits
SDCAPCD Reg. VI	106	Permit Duration
SDCAPCD Reg. VI	107	Burning Hours
SDCAPCD Reg. VI	108	Burning Conditions
SDCAPCD Reg. VI	111	Prior Notification
SDCAPCD Reg. VI	112	Burning Report
SDCAPCD Reg. XI	Subpart M, 361.145	Standard for Demolition and Renovation
SDCAPCD Reg. XI	Subpart M, 361.150	Standard for Waste Disposal for Manufacturing, Fabricating, Demolition, Renovation, and Spraying Operations
40 CFR Part 82	Subpart F	Recycling and Emissions Reduction

**C. 40 CFR Part 68, Chemical Accident Prevention Provisions (RMP Requirements)**

Not applicable to this source.

**D. PERMIT SHIELDS**

Not applicable to this source.

**E. 40 CFR PART 63 SUBPART MMMM REQUIREMENTS**

EMISSION LIMITATIONS AND GENERAL REQUIREMENTS

1. The permittee shall comply with all applicable requirements of 40 CFR Part 63 Subpart MMMM (Subpart MMMM) and 40 CFR Part 63 Subpart A. [40 CFR Part 63 Subpart MMMM and Rule 1421]
2. Terms used in this permit and associated calculation procedure addressing Subpart MMMM requirements are defined in Appendix D1, in the federal Clean Air Act, in 40 CFR §63.2, and in Subpart MMMM. If any term defined in Appendix D1, conflicts with a term in the federal Clean Air Act, in 40 CFR §63.2, or in Subpart MMMM as it is defined for use in Subpart MMMM, the definition of the term federal Clean Air Act, in 40 CFR §63.2, or in Subpart MMMM shall take precedence. [40 CFR Part 63 Subpart MMMM and Rule 1421]
3. During the initial compliance period and each and every compliance period thereafter, except for surface coating operations that occur at research or laboratory facilities or are part of janitorial, building, and facility maintenance operations and coating operations affected by other NESHAPs, all affected coating operations of miscellaneous metal parts at this facility including, but not limited, to coating operations under Permits to Operate Nos. 3977, 978792, and 050303 and portable coating operations with or without a valid District permit to operate including, but not limited to, contracted operations shall not emit more organic HAPs per gallon of coating solids than the applicable Subpart MMMM Emission Limit in the following table or a Facility-Specific Emission Limit, if applicable. [40 CFR Part 63 Subpart MMMM and Rule 1421]

<b>Coating Subcategory</b>	<b>Limit, lbs/gal</b>	<b>Limit, kg/l</b>
General use coatings	2.6	0.31
High temperature coatings	27.5	3.3
Rubber-to-metal coatings	37.7	4.5
Extreme performance fluoropolymer coatings	12.4	1.5

4. The permittee may elect to use a Facility-Specific Emission Limit calculated in accordance with the Subpart MMMM Calculation Procedures for any coating operation or group of coating operations in lieu of a Subpart MMMM Emission Limit(s). [40 CFR Part 63 Subpart MMMM and Rule 1421]
5. For the initial compliance period and each and every compliance period thereafter, compliance with the applicable Subpart MMMM Emission Limit or Facility-Specific Emission Limit shall be demonstrated by calculations performed in accordance with the procedures specified in the Subpart MMMM Calculation Procedures which are incorporated in this permit in Appendix D2 and 40 CFR Part 63 Subpart MMMM. Any mathematically and scientifically equivalent procedure may be used with the written approval of the District, including procedures implemented wholly or partially in an electronic spreadsheet(s). Any changes to procedures implemented after the effective date of this permit require the advanced written approval of the District.  
Rules(s): [40 CFR Part 63 Subpart MMMM and Rule 1421]
6. The permittee may elect to use either the Compliant Material Option or the Emission Rate Option Without Add-On Controls (Emission Rate Option) as specified in the Subpart MMMM Calculation Procedure to demonstrate compliance with the Subpart MMMM Emission Limit or Facility-Specific Emission Limit during the initial compliance period and each successive compliance period thereafter. Either the Compliant Material Option or the Emission Rate Option may be used for any individual coating operation or group of coating operations as determined by the permittee. However, the Compliant Material Option or the Emission Rate Option cannot both be used during the same compliance period for an individual coating operation or group of coating operations. For purposes of this condition, for compliance periods with overlapping time periods, the use of a different compliance option for the different compliance periods is not considered use of different compliance options in the same compliance period.  
[40 CFR Part 63 Subpart MMMM and Rule 1421]
7. For the Compliant Material Option, compliance with the Subpart MMMM Emission Limit or Facility-Specific Emission Limit is demonstrated for a compliance period if each individual coating used during the compliance period in the coating operation or group of operations for which this option is applicable complies with the applicable Subpart MMMM Emission Limit or Facility-Specific Emission Limit and each thinner and/or other additive and each cleaning material used during the compliance period are non-HAP materials. [40 CFR Part 63 Subpart MMMM]
8. For the Emission Rate Option, the permittee may elect to account for the mass of organic HAP contained in waste in accordance with Subsection 3.5 of the Subpart MMMM Calculation Procedures. [40 CFR Part 63 Subpart MMMM and Rule 1421]
9. For the Emission Rate Option, if an operation or group of operations uses only coatings subject to a single Subpart MMMM Emission Limit and a Facility-Specific Emission Limit is not applicable, compliance with the Subpart MMMM emission limit is demonstrated for a compliance period if the organic HAP emission rate during the

compliance period for the coating operation or group of operations for which this option is applicable is less than the applicable Subpart M MMMM Emission Limit. [40 CFR Part 63 Subpart M MMMM]

10. For the Emission Rate Option, if compliance is being demonstrated for an operation that uses coatings in with more than one applicable Subpart M MMMM Emission Limit, and a facility-specific emission limit is not applicable, compliance can be demonstrated for each subcategory separately provided that all of the following are complied with:
  - a. Only non-HAP materials are used for thinning and cleaning or the amount of thinner and cleaning materials used is recorded separately for each coating subcategory and is not estimated from mixing ratios.
  - b. No allowance for waste is made in the compliance demonstration or the amount of coating waste generated from the use of coatings in each coating subcategory is separately recorded for each coating subcategory.

Otherwise, compliance must be demonstrated with the most stringent Subpart M MMMM Emission Limit applicable to any of the coatings being used.  
[40 CFR Part 63 Subpart M MMMM]

11. For the Emission Rate Option, if the permittee has elected to use a Facility-Specific Emission Limit for the compliance period, then the compliance demonstration for the Emission Rate Option must include all affected coating operations and all coating operations affected by another NESHAP as a single group.  
[40 CFR Part 63 Subpart M MMMM]
12. For coatings that are composed of more than one component, not including thinners and additives, compliance shall be demonstrated for each individual component, when using the Compliant Material Option, and based on each individual component's emissions, when using the Emission Rate Option, except that, for two-component coatings purchased as a kit containing both components where there is a single, fixed mixing ratio for the components identified by the coating manufacturer, compliance may be demonstrated for the two components as mixed provide that all of the following conditions are met:
  - a. Calendar monthly records are maintained of the use of each coating component.
  - b. The excess use of each component calculated in accordance with Section 3.8 of the Subpart M MMMM Calculation Procedures is less than 50 gallons for all affected coating operations at the facility.
  - c. The total excess use of all such coating components at the facility when added to the total use of any other coatings used in quantities of less than 50 gallons, as applied, that the permittee has elected to exclude from being subject to Subpart M MMMM is less than 250 gallons, as applied.
  - d. Any thinner or additive used with the coating is a non-HAP material.

If compliance for a two-component coating is being demonstrated as above for a coating as mixed, noncompliance with provisions of a–d of this condition is a deviation in addition to any deviation for noncompliance with the applicable emission limit.  
[40 CFR Part 63 Subpart M MMM and Rule 1421]

13. The permittee may elect to exclude coatings used in total volumes of less than 50 gallons, as applied, for the facility as a whole in a compliance period from any compliance demonstration for an affected coating operation and from compliance with the applicable Subpart M MMM Emission Limit or Facility-Specific Emission Limit, provided that the total volume of such excluded coatings at the facility does not exceed 250 gallons, as applied, in the compliance period.  
[40 CFR Part 63 Subpart M MMM]
14. For purposes of demonstrating compliance with the applicable emission limit using the Emission Rate Option, the volume of thinning material used to thin coatings may be estimated from the recommended manufacturer or supplier thinning provided that all of the following conditions are met or a non-HAP thinner is used:
  - a. The estimated amount does not exceed the manufacturer’s or supplier’s recommendation.
  - b. The difference between the amount of virgin thinner, which is thinner that has not been recycled, dispensed during the month and the estimated amount used in thinning coatings is considered used as a cleaner, with no allowance for waste.
  - c. All coating operations using the thinner for any reason (for example, coating thinning and/or cleaning) are grouped together for purposes of demonstrating compliance and all the thinner dispensed is assigned as used by these coating operations and compliance is demonstrated with the most stringent Subpart M MMM Emission Limit among the subcategories of the coatings being used or a Facility-Specific Emission Limit.

In this case, the calendar monthly recordkeeping of the amount of virgin thinner dispensed shall satisfy the recordkeeping requirements for the volume of thinner used.  
[40 CFR Part 63 Subpart M MMM and Rule 1421]

15. The permittee shall perform and record the applicable calculations that demonstrate compliance with Subpart M MMM no later than the end of the calendar month following the end of each compliance period or 30 days following the end of each compliance period, whichever is later. The calculations and compliance demonstration for a compliance period may be revised by the District or, with the advanced written approval of the District, by the applicant based on new manufacturer or supplier information or test results received after the end of the compliance period that the District deems is applicable to the compliance period.  
[40 CFR Part 63 Subpart M MMM and Rule 1421]

16. Following the end of each compliance period, the permittee may elect to change the compliance option for any operation for that compliance period provided such a change is elected no later than the end of the calendar month following the end of that compliance period or 30 days following the end of that compliance period, whichever is later.  
[40 CFR Part 63 Subpart MMMM and Rule 1421]
17. A compliance option is applicable to the entire compliance period. For each operation subject to Subpart MMMM, the permittee shall record the date a change is made to the compliance option for that operation. [40 CFR Part 63 Subpart MMMM]
18. No later than July 31, 2011, the permittee shall identify the compliance option chosen for each subject coating operation for the initial compliance period and the date and each successive compliance period ending on or before June 30, 2011.  
[40 CFR Part 63 Subpart MMMM and Rule 1421]

#### RECORDKEEPING

19. The permittee shall maintain copy of each notification and report that is submitted to comply with Subpart MMMM, 40 CFR §63.9, or §63.10 and the documentation supporting each notification and report. [40 CFR Part 63 Subpart MMMM]
20. The permittee shall maintain a current copy of information provided by material suppliers or manufacturers, such as the manufacturer's formulation data or test data, used to determine the mass fraction of organic HAP and material density for each coating, thinner and/or other additive, and cleaning material and, for each coating, the volume fraction of coating solids. [40 CFR Part 63 Subpart MMMM]
21. For multi-component coatings, the permittee shall maintain records of the manufacturer's or supplier's recommended mix ratio(s), the recommended amount of thinner to be added, if necessary, to the mixed coating, and any recommended additives.  
[40 CFR Part 63 Subpart MMMM and Rule 1421]
22. Beginning on July 1, 2011, if the permittee elects to demonstrate compliance with a Subpart MMMM Emission Limit(s) or a Facility-Specific Emission Limit with two-component coatings as mixed, the permittee shall maintain calendar monthly records of the excess use of each component and records of the total excess use of each component for each compliance period calculated in accordance with Section 3.8 of the Subpart MMMM Calculation Procedures. [40 CFR Part 63 Subpart MMMM and Rule 1421]
23. The permittee shall maintain records that identify each coating that is excluded from the required compliance demonstration for an affected coating operation and record the total volume, as applied, of each such coating used at the facility and the total volume, as applied, of all such coating used at the facility during each calendar month and during each compliance period. [40 CFR Part 63 Subpart MMMM and Rule 1421]

24. The permittee shall maintain a copy of the complete test report used to measure the mass fraction of organic HAP, density, or volume fraction of coating solids, except that the permittee need only maintain a summary sheet of results provided by the manufacturer or supplier for information provided by the manufacturer or supplier that was based on testing. [40 CFR Part 63 Subpart M] ]
25. For each compliance period, the permittee shall maintain the following records:
- a. Calendar monthly records for each coating operation that indicate, for each compliance period, whether compliance for that operation is being demonstrated with respect to a Subpart M Emission Limit or a Facility-Specific Emission Limit, whether compliance for that coating operation is being demonstrated with the Compliant Material Option or the Emission Rate Option, whether compliance is being demonstrated for that coating operation individually or as part of a group of coating operations, and, if compliance is being demonstrated as part of a group of coating operations, the other coating operations that constitute the group;
  - b. For each coating used in operations for which the permittee demonstrates compliance using the Compliant Material Option, if any, a calendar monthly record of the calculation of the organic HAP content in accordance with the Subpart M Calculation Procedures ;
  - c. For each coating operation or group of coating operations for which the permittee elected to use the Emission Rate Option, if any, a calendar monthly record of the calculation in accordance with the Subpart M Calculation Procedures of the total mass of organic HAP emissions for the coatings, thinners and/or other additives, and cleaning materials used each month; and, if applicable, the mass of organic HAP in waste materials; the total volume of coating solids used each month; and the organic HAP emission rate for the compliance period;
  - d. A record of the name and calendar monthly records of the volume of each coating, thinner and/or other additive, and cleaning material used during each month of the compliance period and the total volume of each material used during the compliance period or, if the Compliant Material Option is used for all coatings at the source, may maintain purchase records for each material used rather than a record of the volume used;
  - e. A record of the mass fraction of organic HAP for each coating, thinner and/or other additive, and cleaning material used;
  - f. A record of the volume fraction of coating solids for each coating;
  - g. A record of the density for each coating, thinner and/or other additive, and cleaning material used;
  - h. For each coating operation for which the Emission Rate Option is used to demonstrate compliance, if any, and for which organic HAP in waste is accounted for in the demonstration of compliance, calendar monthly records of the organic HAP contained in waste materials for those operations that is sent to or designated

for shipment to a treatment, storage, and disposal facility (TSDF) and the following additional records:

- i. The name and address of each TSDF to which waste materials were sent for which an allowance other than zero was used in Equation 3.4.1 of the Subpart MMMM Calculation Procedures; a statement of which subparts under 40 CFR parts 262, 264, 265, and 266 apply to the facility; and the date of each shipment.
- ii. Identification of the coating operations producing waste materials included in each shipment and the month or months in which an allowance other than zero for these materials was used in Equation 3.4.1 of the Subpart MMMM Calculation Procedures.
- iii. The methodology used to determine the total amount of waste materials sent to or the amount collected, stored, and designated for transport to a TSDF each month; and the methodology to determine the mass of organic HAP contained in these waste materials. This must include the sources for all data used in the determination, methods used to generate the data, frequency of testing or monitoring, and supporting calculations and documentation, including the waste manifest for each shipment.

and;

- i. The date, time, and duration of each deviation.  
[40 CFR Part 63 Subpart MMMM and Rule 1421]

## REPORTING

26. The permittee shall file semiannual compliance reports in accordance with 40 CFR §63.3920. [40 CFR Part 63 Subpart MMMM]
27. Each semiannual compliance report that is subsequent to the initial compliance report required under 40 CFR §63.3920, must cover the subsequent semiannual reporting period from January 1 through June 30 or the semiannual reporting period from July 1 through December 31. Each such semiannual compliance report shall be postmarked or delivered no later than March 1 or September 1, whichever date is the first date following the end of the semiannual reporting period. [40 CFR Part 63 Subpart MMMM and Rule 1421]
28. The semiannual compliance report must contain all the following information:
  - a. Company name and address.
  - b. Statement by a responsible official with that official's name, title, and signature, certifying the truth, accuracy, and completeness of the content of the report.
  - c. Date of report and beginning and ending dates of the reporting period. The reporting period is the 6-month period ending on June 30 or December 31. Note that the information reported for each of the 6 months in the reporting period will

be based on the last 12 months of data prior to the date of each calendar monthly calculation demonstrating compliance with Subpart M MMMM.

- d. The compliance option or options that were used for each coating operation during the reporting period. If compliance options for a coating operation were switched during the reporting period, the report shall indicate the beginning and ending dates for each option used.
- e. If the Emission Rate Option is used to demonstrate compliance for one or more coating operations, the organic HAP emission rate as calculated by the Subpart M MMMM Calculation Procedures for each such coating operation for each compliance period that ends during the 6-month reporting period.
- f. If there were no deviations from the applicable Subpart M MMMM Emission Limits or Facility-Specific Emission Limit, the semiannual compliance report must include a statement that there were no deviations from the applicable Subpart M MMMM Emission Limits or the Facility-Specific Emission Limit, if applicable, during the reporting period.
- g. If the Compliant Material Option is used and there was a deviation from the applicable Subpart M MMMM Emission Limit(s) or Facility-Specific Emission Limit, the semiannual compliance report must contain the following information on or attached to District Form J2:
  - i. Identification of each coating used that deviated from the applicable emission limit, and each thinner and/or other additive, and cleaning material used that contained organic HAP, and the dates and time periods each was used;
  - ii. The calculation of the organic HAP content in accordance with the Subpart M MMMM Calculation Procedures for each coating identified above—background data supporting this calculation ( *e.g.*, information provided by coating suppliers or manufacturers, or test reports) does not need to be provided;
  - iii. The determination of mass fraction of organic HAP for each thinner and/or other additive, and cleaning material identified—background data supporting this calculation ( *e.g.*, information provided by coating suppliers or manufacturers, or test reports) does not need to be provided; and
  - iv. A statement of the cause of each deviation.
- h. If the Emission Rate Option is used and there was a deviation from the applicable Subpart M MMMM Emission Limit(s) or Facility-Specific Emission Limit, the semiannual compliance report must contain the following information on or attached to District Form J2:
  - i. The beginning and ending dates of each compliance period during which the 12-month organic HAP emission rate exceeded the Subpart M MMMM Emission Limit or Facility-Specific Emission Limit.

- ii. The calculations used to determine the organic HAP emission rate for the compliance period in which the deviation occurred. Calculations for the applicable sections and subsections of the Subpart MMMM Calculation Procedures must be submitted. However, background data supporting this calculation ( *e.g.*, information provided by coating suppliers or manufacturers, or test reports) does not need to be provided.
- iii. A statement of the cause of each deviation.

[40 CFR Part 63 Subpart MMMM and Rule 1421]

- 29. All semiannual compliance reports shall be submitted to the District Compliance Division and EPA, Region IX unless the Administrator of EPA waives the requirement to submit the report to EPA. [40 CFR Part 63 Subpart MMMM]

### NOTIFICATIONS

- 30. The permittee shall comply with the notification requirements of 40 CFR §63.9 and 40 CFR §63.3910. [40 CFR Part 63 Subpart A and 40 CFR Part 63 Subpart MMMM]

### TEST METHODS

- 31. For purposes of calculating HAP content, the mass fraction of each organic HAP in each material shall be determined from supplier or manufacturer information, including, but not limited to, the manufacturer's formulation data and/or material safety data sheets, provided that the manufacturer or supplier information represents each organic HAP that is present at 0.1 percent by mass or more for OSHA-defined carcinogens as specified in 29 CFR §1910.1200(d)(4) and at 1.0 percent by mass or more for other compounds and, for reactive adhesives, in which some of the HAPs react to form solids that are not emitted to the atmosphere, the manufacturer's data expressly states the organic HAP or volatile matter mass fraction emitted, except that, when deemed necessary by the District, the mass fraction of organic HAP of any material shall be measured in accordance with EPA Method 311. [40 CFR Part 63 Subpart MMMM]
- 32. The permittee may elect to use Table 3 to Subpart MMMM to estimate the mass fraction of HAPs for blended solvents as described in Subpart MMMM when test data or manufacturer or supplier formulation data is not available.  
[40 CFR Part 63 Subpart MMMM]
- 33. For purposes of this permit, the mass fraction of HAPs in recycled cleaning or thinning material shall be considered the same as for the virgin material.  
[40 CFR Part 63 Subpart MMMM]
- 34. The volume fraction of solids in each material shall be determined by supplier or manufacturer information, including, but not limited to, the manufacturer's formulation

data and material safety data sheets, or by the method specified in the Subpart Mmmm Calculation Procedures for this facility, except that, when deemed necessary by the District, the volume fraction of solids of any material shall be measured in accordance with ASTM Method D2697–86 (Reapproved 1998), “Standard Test Method for Volume Nonvolatile Matter in Clear or Pigmented Coatings” or ASTM Method D6093–97 (Reapproved 2003), “Standard Test Method for Percent Volume Nonvolatile Matter in Clear or Pigmented Coatings Using a Helium Gas Pycnometer.” The nonvolatile volume percent obtained with these methods is divided by 100 to calculate volume fraction of coating solids. Alternative measurement methods may be used with the advanced written approval of the EPA. [40 CFR Part 63 Subpart Mmmm and Rule 1421]

35. The average density of the volatile material in each coating shall be determined by supplier or manufacturer information, including, but not limited to, manufacturer's formulation data and material safety data sheets, except that, when deemed necessary by the District, the average density of a material shall be measured in accordance with ASTM Method D1475–98, “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products.” Alternative measurement methods may be used with the advanced written approval of EPA. [40 CFR Part 63 Subpart Mmmm and Rule 1421]
36. The density of each liquid material shall be determined by supplier or manufacturer information, including, but not limited to, manufacturer's formulation data and material safety data sheets, or, for pure materials, reference sources providing density or specific gravity, except that, when deemed necessary by the District, the density of a liquid material shall be measured in accordance with ASTM Method D1475–98, “Standard Test Method for Density of Liquid Coatings, Inks, and Related Products.” Alternative measurement methods may be used with the advanced written approval of EPA. [40 CFR Part 63 Subpart Mmmm and Rule 1421]
37. The total volatile matter content of each material shall be determined by supplier or manufacturer information, including, but not limited to, manufacturer's formulation data and material safety data, except that, when deemed necessary by the District, the total volatile matter content of any material shall be measured in accordance with EPA Method 24. Alternative measurement methods may be used with the advanced written approval of EPA. [40 CFR Part 63 Subpart Mmmm and Rule 1421]
38. For powder coatings, the density of each material shall be determined by supplier or manufacturer information, including, but not limited to, manufacturer's formulation data and material safety data sheets, except that, when deemed necessary by the District, the total volatile matter content of any material shall be measured in accordance with ASTM Method D5965–02, “Standard Test Methods for Specific Gravity of Coating Powders” (incorporated by reference, see 40 CFR §63.14). Alternative measurement methods may be used with the advanced written approval of EPA. [40 CFR Part 63 Subpart Mmmm and Rule 1421]
39. In the case there is a difference between the values of any parameter as measured by the applicable test method and the value provided by the manufacturer or supplier, the measured value shall take precedence unless the permittee, in consultation with the

District, demonstrates to the satisfaction of the District that the manufacturer or supplier information is correct. [40 CFR Part 63 Subpart MMMM and Rule 1421]

**F. ADDITIONAL TERMS**

1. Any emission unit described in this Title V operating permit as being fired on natural gas, shall only use Public Utility Commission (PUC)-quality natural gas, unless the emission unit permit specifies otherwise. Permittee shall provide records of the natural gas sulfur content to the District upon request. [Rule(s) 53, 62]
2. Records required by this permit shall be considered as being maintained "on-site" if records for the previous 12-month period are available at the stationary source and any additional records are maintained at Solar Turbines Harbor Drive Facility located at 2200 Pacific Highway, San Diego CA 92101, and made readily available to the District upon request. [Rule 21]

**SECTION III. EMISSION UNIT REQUIREMENTS**

**A. DISTRICT PERMITTED EMISSION UNITS**

The District Permits listed at the introduction to Appendix A, including all terms and conditions of such permits, constitute the emission unit portion of this Title V Operating Permit.

**B. REGISTERED AND LEASED EMISSION UNITS**

The permittee shall comply with the source specific applicable requirements specified in the Rules and Regulations cited below for all registered and leased emission units, unless specifically exempted by the same Rule or Regulations.

<b>Regulation</b>	<b>Rule Citation</b>	<b>Title</b>
SDCAPCD Reg. IV	62	Sulfur Content of Fuels
SDCAPCD Reg. IV	69.4	Stationary Reciprocating Internal Combustion Engines

**C. REQUIREMENTS FOR EMERGENCY ENGINES**

The emergency engines are subject to 40 CFR 63 Subpart ZZZZ -- *National Emission Standards for Hazardous Air Pollutants (NESHAP) for Stationary Reciprocating Internal Combustion Engines (RICE)*. Applicable requirements include, but may not be limited to, the following:

1. The permittee must change engine oil and filter every 500 hours of operation or annually, whichever comes first; or test the oil in accordance with 40 CFR § 63.6625(i). (40 CFR 63 Subpart ZZZZ § 63.6603(a) and Table 2d(4)(a))
2. The permittee must inspect the air cleaner of a compression ignition engine or inspect spark plugs of a spark ignition engine, every 1,000 hours of operation or annually,

whichever comes first, and replace as necessary. (40 CFR 63 Subpart ZZZZ §63.6603(a) and Table 2d(4)(b) or Table 2d(5)(b))

3. The permittee must inspect all hoses and belts every 500 hours of operation or annually, whichever comes first, and replace as necessary. (40 CFR 63 Subpart ZZZZ §63.6603(a) and Table 2d(4)(c))
4. The permittee shall maintain files of all required information (including all reports and notifications) in accordance with the general provisions of 40 CFR § 63.10(b).

**C. INSIGNIFICANT EMISSION UNITS AND ACTIVITIES**

The permittee shall comply with the source specific applicable requirements specified in the Rules and Regulations cited below for all emission units not required to obtain a District Permit to Operate pursuant to Rule 11, unless specifically exempted by the same Rule or Regulations.

<b>Regulation</b>	<b>Rule Citation</b>	<b>Title</b>
SDCAPCD Reg. IV	62	Sulfur Content of Fuels
SDCAPCD Reg. IV	66	Organic Solvents
SDCAPCD Reg. IV	66.1	Miscellaneous Surface Coating Operations and Other Processes Emitting Volatile Organic Compounds
SDCAPCD Reg. IV	69.2.1	Small Boilers, Process Heaters, and Steam Generators

**D. PERMIT SHIELDS**

Not applicable to this source.

**SECTION IV. VARIANCE PROCEDURES & COMPLIANCE SCHEDULES**

**A. VARIANCE PROCEDURES**

1. The permittee may seek relief from District enforcement action in the event of a breakdown in accordance with District Rule 98. Notwithstanding the foregoing, the granting by the District of breakdown relief or the issuance by the Hearing Board of a variance does not provide relief from federal enforcement or citizen's suits. [Rule 98]

**B. COMPLIANCE SCHEDULES**

Not applicable to this source.

## SECTION V. APPENDICES

### APPENDIX A: DISTRICT PERMITS (Attached)

Authority to Construct Numbers	Permit Numbers	Source Category
	3886	Test Cell/Pad (08)
	3977	Metal Parts Coating
	4015	Test Cell/Pad (07)
	4252	Test Cell/Pad (01)
	4253	Test Cell/Pad (02)
	4254	Test Cell/Pad (03)
	4255	Test Cell/Pad (04)
	4256	Test Cell/Pad (05)
	4257	Test Cell/Pad (06)
	4258	Test Cell/Pad (09)
	4495	Test Cell/Pad (10)
	4496	Test Cell/Pad (11)
	4733	Test Cell/Pad (12)
	7750	Abrasive Blasting
	20875	Test Cell/Pad (19)
	20876	Test Cell/Pad (30)
	20877	Test Cell/Pad (18)
	20878	Test Cell/Pad (17)
	20879	Test Cell/Pad (16)
	20880	Test Cell/Pad (15)
	20881	Test Cell/Pad (13)
	20882	Test Cell/Pad (14)
	920710	Duct Burner Test Pad
	930697	Metal Inspection Tanks
	975790	Test Cell/Pad (16-4)
	975791	Test Cell/Pad (21)
	975792	Test Cell/Pad (22)
	975793	Test Cell/Pad (23)
	976905	Thermal Oxidizer
	976913	Thermal Oxidizer
	978792	Metal Parts Coating
APCD2012-APP-001939		Test Cell/Pad (24)
APCD2012-APP-001941		Test Cell/Pad (26)
APCD2012-APP-001942		Test Cell/Pad (25)
	976907	Emergency Engine
	960542	Emergency Engine
	961078	Emergency Engine
	1582	Industrial Coatings

	50303	Metal Parts Coating
	1529	Test Cell/Pad (20)
APCD2011-APP-001769		Thermal Oxidizer

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www.sdapcd.org

Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1997-APP-970217

PERMIT ID  
APCD2008-PTO-003886



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zone T2  
San Diego CA 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST CELL #08: GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### **A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, 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.  
[Rule(s): NSR, 21]
8. 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:  $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$ . 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

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

### B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT  
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EXPIRES  
JUNE 27, 2016

## PERMIT TO OPERATE

THE FOLLOWING IS HEREBY GRANTED A PERMIT TO OPERATE THE ARTICLE, MACHINE, EQUIPMENT OR CONTRIVANCE DESCRIBED BELOW. THIS PERMIT IS NOT TRANSFERABLE TO A NEW OWNER NOR IS IT VALID FOR OPERATION OF THE EQUIPMENT AT ANOTHER LOCATION, EXCEPT FOR PORTABLE EQUIPMENT. RULE 10C REQUIRES THIS PERMIT TO OPERATE OR COPY BE POSTED ON OR WITHIN 25 FEET OF THE EQUIPMENT, OR MAINTAINED READILY AVAILABLE AT ALL TIMES ON THE OPERATING PREMISES.

PERMITTEE  
SOLAR TURBINES INC.  
ENVIRONMENTAL ENGR MZ-T2  
PO BOX 85376  
SAN DIEGO, CA 92186-5376

EQUIPMENT ADDRESS

4200 RUFFIN ROAD  
SAN DIEGO, CA 92123

### EQUIPMENT DESCRIPTION

METAL PARTS APPLICATION STATION: ONE BINKS PAINT SPRAY BOOTH, 28.3' X 45' X 15'H, EQUIPPED WITH EXHAUST FAN AND FILTERS. ONE BINKS FORCED-AIR DRYING OVEN, S/N 22998, OPERATED AT LESS THAN 190 DEGREES FAHRENHEIT; USING COATING APPLICATION METHODS SPECIFIED IN RULE 67.3; AND A RULE 67.3 COMPLIANT APPLICATION EQUIPMENT CLEANING STATION SHARED WITH PERMITS TO OPERATE NOS. 3977, 978792 AND 050303 AND USING EQUIPMENT INCLUDING BUT NOT LIMITED TO AN ENCLOSED GUN WASHER AND A CLEANING TANK.

FOR PURPOSES OF COMPLYING WITH THE CONDITIONS BELOW, THE FOLLOWING EQUIPMENT GROUPS ARE DEFINED:

EQUIPMENT GROUP CO1: COATING AND ADHESIVE OPERATIONS INCLUDING, BUT NOT LIMITED TO, COATING APPLICATION, ADHESIVE APPLICATION, AND SURFACE PREPARATION, BUT EXCLUDING APPLICATION EQUIPMENT CLEANUP AND SOLVENT RECLAMATION UNDER PERMITS TO OPERATE NOS. 3977, 978792, AND 050303.

EQUIPMENT GROUP CO2: EQUIPMENT CLEANUP AND SOLVENT RECLAMATION UNDER PERMITS TO OPERATE NOS. 3977, 978792, AND 050303 AND A FIVE GALLON SOLVENT STILL.

EVERY PERSON WHO OWNS OR OPERATES THIS EQUIPMENT IS REQUIRED TO COMPLY WITH THE CONDITIONS LISTED BELOW AND ALL APPLICABLE REQUIREMENTS AND DISTRICT RULES, INCLUDING BUT NOT LIMITED TO RULE(S) 67.3.

FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR AND IS SUBJECT TO CIVIL AND CRIMINAL PENALTIES.

### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. PERMITTEE SHALL OPERATE THE COATING APPLICATION STATION DESCRIBED ABOVE IN COMPLIANCE WITH ALL APPLICABLE STANDARDS OF RULE 67.3 SECTION (D), INCLUDING APPLICATION METHODS, SURFACE PREPARATION AND CLEANUP REQUIREMENTS, COATING VOC LIMITS AND APPLICATION EQUIPMENT CLEANUP REQUIREMENTS. [RULE 67.3]
2. PERMITTEE SHALL MAINTAIN RECORDS FOR THE APPLICATION STATION DESCRIBED ABOVE IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS OF RULE 67.3 SECTION (F). [RULE 67.3]
3. USAGE DATA FOR COATINGS, SURFACE PREPARATION AND CLEANUP FOR THE OPERATIONS DESCRIBED IN PERMITS TO OPERATE NOS. 978792 AND 050303 AND THE APPLICATION EQUIPMENT CLEANING EQUIPMENT SHARED WITH PERMIT TO OPERATE NO. 3977 SHALL BE RECORDED IN A COMMON LOGBOOK SHARED BETWEEN THE OPERATIONS. [RULE 67.3]
4. IF REQUESTED BY THE DISTRICT OR EPA, THE APPLICABLE TEST METHODS LISTED IN RULE 67.3 SECTION (G) SHALL BE USED TO DETERMINE COMPLIANCE WITH THE APPLICABLE STANDARDS OF RULE 67.3 SECTION (D). [RULE 67.3]
5. THE AVERAGE QUANTITY OF VOC EMISSIONS FROM THE COATING OPERATIONS DESCRIBED IN PERMITS TO OPERATE NOS. 978792 AND 050303 AND THE APPLICATION EQUIPMENT CLEANING EQUIPMENT SHARED WITH PERMIT TO OPERATE NO. 3977 SHALL NOT EXCEED 470 POUNDS PER OPERATING DAY PER CALENDAR MONTH. [NSR]

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6. THE MAXIMUM QUANTITY OF VOC EMISSIONS FROM THE COATING OPERATIONS DESCRIBED IN PERMITS TO OPERATE NOS. 978792 AND 050303 AND THE APPLICATION EQUIPMENT CLEANING EQUIPMENT SHARED WITH PERMIT TO OPERATE NO. 3977 SHALL NOT EXCEED 22 TONS IN ANY CONSECUTIVE 12-MONTH PERIOD.  
[NSR]
7. PERMITTEE SHALL MAINTAIN MONTHLY USAGE RECORDS OF ALL COATINGS APPLIED IN THE OPERATIONS DESCRIBED IN PERMITS TO OPERATE NOS. 978792 AND 050303 AND THE APPLICATION EQUIPMENT CLEANING EQUIPMENT SHARED WITH PERMIT TO OPERATE NO. 3977 AND RECORD THE NUMBER OF COATING DAYS PER CALENDAR MONTH.  
[NSR]
8. PERMITTEE SHALL NOT APPLY COATINGS IN THE PAINT SPRAY BOOTH DESCRIBED ABOVE UNLESS EXHAUST FANS AND EXHAUST FILTERS ARE INSTALLED AND OPERATING PROPERLY. [RULES 21, 50]
9. PERMITTEE SHALL ENSURE THAT ALL MATERIALS CONTAINING ORGANIC COMPOUNDS ARE STORED IN CLOSED CONTAINERS IN ACCORDANCE WITH RULE 67.17 REQUIREMENTS. [RULE 67.17]
10. CURRENT MATERIAL SAFETY DATA SHEETS (MSDS) OR MANUFACTURER'S SPECIFICATIONS WHICH IDENTIFY THE VOC CONTENT, VAPOR PRESSURE OR INITIAL BOILING POINT, AS APPLICABLE, SHALL BE MAINTAINED ON-SITE FOR ALL MATERIALS USED CONTAINING ORGANIC COMPOUNDS AND MADE READILY AVAILABLE TO THE DISTRICT UPON REQUEST. [RULE 67.3]
11. PERMITTEE SHALL MAINTAIN ON-SITE PRESSURE GAUGES IN PROPER OPERATING CONDITION TO MEASURE THE AIR CAP PRESSURE OF HVLP COATING APPLICATION EQUIPMENT. THE PERMITTEE SHALL MAINTAIN A PERMANENT AIR PRESSURE AT THE AIR CAP IN THE RANGE OF 0.1 TO 10 PSIG WHEN APPLYING COATINGS. [RULE 67.3]
12. OPERATIONS UNDER PERMITS TO OPERATE NOS. 3977, 978792, AND 050303 SHALL NOT BE CONSIDERED A MAJOR STATIONARY SOURCE OF HAZARDOUS AIR POLLUTANTS (HAPS) PROVIDED THAT THE PERMITTEE COMPLIES WITH ALL CONDITIONS IDENTIFIED BELOW AS SYNTHETIC MINOR SOURCE CONDITIONS. HAZARDOUS AIR POLLUTANT MEANS ANY POLLUTANT LISTED IN, OR PURSUANT TO, SECTION 112 (B) OF THE FEDERAL CLEAN AIR ACT.  
[RULE 1421]
13. FOR PURPOSES OF DETERMINING COMPLIANCE WITH ANY CONDITION BELOW, AIR CONTAMINANT EMISSIONS FOR ANY TIME PERIOD SHALL BE DETERMINED BY USING THE EMISSION FACTORS AND EMISSION CALCULATION PROCEDURE SPECIFIED IN "SYNTHETIC MINOR SOURCE EMISSION FACTORS AND EMISSION CALCULATION PROCEDURE FOR SOLAR TURBINES INCORPORATED UNDER PERMITS TO OPERATE NOS. 3977, 978792 AND 050303" DATED FEBRUARY 27, 2004, AS APPROVED BY THE DISTRICT, WHICH IS HEREBY INCORPORATED BY REFERENCE. THE PERMITTEE SHALL MAINTAIN A COPY OF THE APPROVED CALCULATION PROCEDURE ON-SITE AND PROVIDE IT TO THE DISTRICT UPON REQUEST.  
[RULE 1421]
14. SYNTHETIC MINOR SOURCE CONDITION. FOR THE TWELVE-CONSECUTIVE-CALENDAR- MONTH (12-MONTH) PERIOD BEGINNING ON JULY 1, 2003, AND EACH SUBSEQUENT 12-MONTH PERIOD THEREAFTER, EMISSIONS FROM EQUIPMENT GROUP(S) CO1 AND CO2 SHALL BE SUCH THAT AGGREGATE EMISSIONS OF EACH INDIVIDUAL HAP SHALL NOT EXCEED 9.8 TONS AND AGGREGATE EMISSIONS OF ALL HAPS COMBINED SHALL NOT EXCEED 24.8 TONS.  
[NSR]
15. THE PERMITTEE SHALL CALCULATE TOTAL EMISSIONS OF EACH INDIVIDUAL HAP FROM EQUIPMENT GROUP(S) CO1 AND CO2 AND AGGREGATE EMISSIONS OF EACH INDIVIDUAL HAP AND AGGREGATE EMISSIONS OF ALL HAPS COMBINED DURING EACH CALENDAR MONTH BEGINNING ON OR AFTER JULY 1, 2003, AND EACH 12-MONTH PERIOD BEGINNING ON OR AFTER JULY 1, 2003, WITHIN 30 CALENDAR DAYS OF THE END OF EACH 12-MONTH PERIOD. IN ADDITION, FOR THE PERIOD BEGINNING ON JULY 1, 2003, AND ENDING MAY 31, 2004, THE PERMITTEE SHALL CALCULATE TOTAL EMISSIONS OF EACH INDIVIDUAL HAP FROM EQUIPMENT GROUP(S) CO1 AND CO2 AND AGGREGATE EMISSIONS OF EACH INDIVIDUAL HAP AND AGGREGATE EMISSIONS OF ALL HAPS COMBINED DURING EACH CONSECUTIVE-CALENDAR-MONTH

COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT  
10124 OLD GROVE RD, SAN DIEGO, CA 92131  
(858) 586-2600 FAX (858) 586-2601

PERMIT NO.  
3977  
EXPIRES  
JUNE 27, 2016

**PERMIT TO OPERATE**

PERIOD BEGINNING ON JULY 1, 2003, WITHIN 30 CALENDAR DAYS OF THE END OF EACH CONSECUTIVE-CALENDAR-MONTH PERIOD.  
[RULE 1421]

16. FOR EACH CALENDAR MONTH BEGINNING ON OR AFTER JULY 1, 2003, THE PERMITTEE SHALL MAINTAIN RECORDS OF THE TOTAL QUANTITY OF EACH HAP-CONTAINING MATERIAL USED BY EQUIPMENT GROUP(S) CO1 AND CO2 AND THE TOTAL QUANTITY OF COATING AND SOLVENT WASTE COLLECTED FOR REMOVAL FROM EQUIPMENT GROUP(S) CO1. FOR PURPOSES OF THIS CONDITION, USE OF RECLAIMED SOLVENT IS NOT CONSIDERED MATERIAL USED BY EQUIPMENT GROUP(S) CO1 AND CO2 AND MATERIAL COLLECTED FOR SOLVENT RECLAMATION ON-SITE IS NOT CONSIDERED WASTE.  
[RULE 1421]
17. THE PERMITTEE SHALL MAINTAIN RECORDS THAT INCLUDE THE IDENTITY, INDIVIDUAL HAP COMPOSITION, AND DENSITY OF EACH HAP-CONTAINING MATERIAL USED BY EQUIPMENT GROUP(S) CO1 AND CO2 SINCE JULY 1, 2003, NOT INCLUDING RECLAIMED SOLVENT. THE RECORDS OF EACH MATERIAL SHALL BE RETAINED ON SITE FOR AT LEAST FIVE CALENDAR YEARS FROM THE DATE OF LAST USE OF THE MATERIAL AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.  
[RULE 1421]
18. FOR PURPOSES OF CALCULATING HAP EMISSIONS, THE HAP CONTENT OF ANY MATERIAL SHALL BE DETERMINED BY THE AVERAGE VALUE INDICATED BY MANUFACTURER INFORMATION, INCLUDING, BUT NOT LIMITED TO, MATERIAL SAFETY DATA SHEETS, EXCEPT THAT, WHEN DEEMED NECESSARY BY THE DISTRICT, THE ORGANIC HAP CONTENT OF ANY LIQUID MATERIAL SHALL BE MEASURED IN ACCORDANCE WITH EPA METHOD 311, THE DENSITY OF LIQUID ORGANIC MATERIALS SHALL BE MEASURED IN ACCORDANCE WITH ASTM METHOD 1475, AND THE INORGANIC HAP CONTENT OF MATERIALS SHALL BE MEASURED IN ACCORDANCE WITH AN APPLICABLE METHOD IN THE LATEST REVISION TO "TEST METHOD FOR EVALUATING SOLID WASTE PHYSICAL/CHEMICAL METHODS", SW846 (PB89-148076). ALTERNATIVE METHODS MAY BE USED WITH THE ADVANCED WRITTEN APPROVAL OF THE DISTRICT.  
[RULE 1421]
19. UNLESS OTHERWISE SPECIFIED ABOVE, THE PERMITTEE SHALL RETAIN ALL RECORDS AND EMISSION CALCULATIONS REQUIRED BY THE CONDITIONS ABOVE ON-SITE FOR AT LEAST FIVE YEARS AND MAKE THEM AVAILABLE TO THE DISTRICT UPON REQUEST.  
[RULE 1421]

**B. DISTRICT-ONLY--ENFORCEABLE CONDITIONS**

20. THE PERMITTEE, SHALL UPON DETERMINATION OF APPLICABILITY AND WRITTEN NOTIFICATION BY THE DISTRICT, COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE AIR TOXICS 'HOT SPOTS' INFORMATION AND ASSESSMENT ACT (CALIFORNIA HEALTH AND SAFETY CODE SECTION 44300 ET. SEQ.).  
[AIR TOXICS HOT SPOTS]
21. THIS AIR POLLUTION CONTROL DISTRICT PERMIT DOES NOT RELIEVE THE HOLDER FROM OBTAINING PERMITS OR AUTHORIZATION REQUIRED BY OTHER GOVERNMENTAL AGENCIES.

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD2012-APP-001963

PERMIT ID  
APCD2008-PTO-004015



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zone T2  
San Diego CA 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
1200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST CELL #07 : GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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.  
[Rule(s): NSR, 21]
8. 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

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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  
[Rule(s): 21]

### B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1996-APP-950739

PERMIT ID  
APCD2008-PTO-004252



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mall Zone T2  
San Diego CA 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: .10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### **A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
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

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oxidizers are together hereinafter referred to as "test cells."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, 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.  
[Rule(s): NSR, 21]
8. 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

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]
16. A non-resettable totalizing gaseous fuel meter shall be maintained on-site to measure fuel usage. The meter

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shall either be self-correcting to standard conditions (68 deg F and 14.7 PSIA) or shall display meter gas pressure and temperature data.  
[Rule(s): NSR, 21]

17. 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.  
[Rule(s): 21]

18. 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  
[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
(858) 586-2600 FAX (858) 586-2601  
www.sdapcd.org

**Sectors:** 04, J  
**Site ID:** APCD1976-SITE-01130  
**App ID:** APCD1990-APP-900338

**PERMIT ID**  
APCD2008-PTO-004253



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zone T2  
San Diego CA 92186

**EQUIPMENT ADDRESS**  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

**EXPIRES: June 30, 2016**

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### **A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
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

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oxidizers are together hereinafter referred to as "test cells."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$\frac{[(\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG})]}{2}$$
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.  
[Rule(s): NSR, 21]
8. 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:  $\frac{[(\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG})]}{2}$ . 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

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EXPIRES: June 30, 2016

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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]
16. A non-resettable totalizing gaseous fuel meter shall be maintained on-site to measure fuel usage. The meter

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**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

shall either be self-correcting to standard conditions (68 deg F and 14.7 PSIA) or shall display meter gas pressure and temperature data.  
[Rule(s): NSR, 21]

17. 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.  
[Rule(s): 21]

18. 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  
[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

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[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
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oxidizers are together hereinafter referred to as "test cells."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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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.  
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[Rule(s): NSR, 21]
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[Rule(s): NSR, 21]
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[Rule(s): NSR, 21]

17. 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.  
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**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

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[Rule(s): NSR, 21]
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PERMIT ID  
APCD2008-PTO-004255

**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

oxidizers are together hereinafter referred to as "test cells."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$\frac{[(\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG})]}{2}$$
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.  
[Rule(s): NSR, 21]
8. 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:  $\frac{[(\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG})]}{2}$ . 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

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PERMIT ID  
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## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
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12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]
16. A non-resettable totalizing gaseous fuel meter shall be maintained on-site to measure fuel usage. The meter

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www.sdapcd.org

PERMIT ID  
APCD2008-PTO-004255

**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

shall either be self-correcting to standard conditions (68 deg F and 14.7 PSIA) or shall display meter gas pressure and temperature data.  
[Rule(s): NSR, 21]

17. 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.  
[Rule(s): 21]

18. 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  
[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1990-APP-900338

PERMIT ID  
APCD2008-PTO-004256



Solar Turbines Inc  
Craig Anderson  
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EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST CELL #05 : GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
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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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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.  
[Rule(s): NSR, 21]
8. 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

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PERMIT ID  
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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

### B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1990-APP-900338

PERMIT ID  
APCD2008-PTO-004257



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## PERMIT TO OPERATE

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This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST CELL #06: GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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PERMIT ID  
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## PERMIT TO OPERATE

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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."

[Rule(s): 21]

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.

[Rule(s): NSR, 21]

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.

[Rule(s): NSR, 21]

7. 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.

[Rule(s): NSR, 21]

8. 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

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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**PERMIT TO OPERATE**

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16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
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App ID: APCD1990-APP-900338

PERMIT ID  
APCD2008-PTO-004258



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## PERMIT TO OPERATE

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This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST CELL #09 : GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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PERMIT ID  
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## PERMIT TO OPERATE

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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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, 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.  
[Rule(s): NSR, 21]
8. 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

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**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
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www.sdapcd.org

PERMIT ID  
APCD2008-PTO-004258

## PERMIT TO OPERATE

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1990-APP-900338

PERMIT ID  
APCD2008-PTO-004495



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zone T2  
San Diego CA 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST CELL #10 : GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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Print Date: November 7, 2012

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COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT  
10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
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PERMIT ID  
APCD2008-PTO-004495

## PERMIT TO OPERATE

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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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, 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.  
[Rule(s): NSR, 21]
8. 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:  $[\frac{(\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG})}{2}]$ . 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

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PERMIT ID  
APCD2008-PTO-004495

## PERMIT TO OPERATE

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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## PERMIT TO OPERATE

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16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

### B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1990-APP-900338

PERMIT ID  
APCD2008-PTO-004496



Solar Turbines Inc  
Craig Anderson  
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San Diego CA 92186

EQUIPMENT ADDRESS  
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4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST CELL #11: GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739 (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### **A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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PERMIT ID  
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## PERMIT TO OPERATE

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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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
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.  
[Rule(s): NSR, 21]
8. 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:  $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$ . 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

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## PERMIT TO OPERATE

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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  
[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-001130  
App ID: APCD1990-APP-900338

PERMIT ID  
APCD2008-PTO-004733



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## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST PAD 12: GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. DESCR CHG. 4/96-DAS 950739 (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### **A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]

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COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT  
10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
(858) 586-2600 FAX (858) 586-2601  
www.sdapcd.org

PERMIT ID  
APCD2008-PTO-004733

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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."  
[Rule(s): 21]
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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$\frac{[(\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG})]}{2}$$
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.  
[Rule(s): NSR, 21]
8. 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:  $\frac{[(\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG})]}{2}$ . 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

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PERMIT ID  
APCD2008-PTO-004733

## PERMIT TO OPERATE

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
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PERMIT ID  
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**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
10124 OLD GROVE RD, SAN DIEGO, CA 92131  
(858) 586-2600 FAX (858) 586-2601

PERMIT NO.  
**7750**  
EXPIRES  
**JUNE 27, 2016**

**PERMIT TO OPERATE**

THE FOLLOWING IS HEREBY GRANTED A PERMIT TO OPERATE THE ARTICLE, MACHINE, EQUIPMENT OR CONTRIVANCE DESCRIBED BELOW. THIS PERMIT IS NOT TRANSFERABLE TO A NEW OWNER NOR IS IT VALID FOR OPERATION OF THE EQUIPMENT AT ANOTHER LOCATION, EXCEPT FOR PORTABLE EQUIPMENT. RULE 10C REQUIRES THIS PERMIT TO OPERATE OR COPY BE POSTED ON OR WITHIN 25 FEET OF THE EQUIPMENT, OR MAINTAINED READILY AVAILABLE AT ALL TIMES ON THE OPERATING PREMISES.

PERMITTEE  
SOLAR TURBINES INC.  
ENVIRONMENTAL ENGR MZ-T2  
PO BOX 85376  
SAN DIEGO, CA 92186-5376

EQUIPMENT ADDRESS

4200 RUFFIN ROAD  
SAN DIEGO, CA 92123

**EQUIPMENT DESCRIPTION**

ABRASIVE BLASTING ROOM: 45' X 20' X 20'H, EQUIPPED WITH TWO NOZZLES. VENTED TO ONE TORIT MODEL HDFT 3-36W, S/N IG627488-001 CARTRIDGE FILTER SYSTEM WITH 9199 SQ. FT AND 20,500 CFM.

EVERY PERSON WHO OWNS OR OPERATES THIS EQUIPMENT IS REQUIRED TO COMPLY WITH THE CONDITIONS LISTED BELOW AND ALL APPLICABLE REQUIREMENTS AND DISTRICT RULES, INCLUDING BUT NOT LIMITED TO RULE(S) 50, 52.

FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR AND IS SUBJECT TO CIVIL AND CRIMINAL PENALTIES.

**A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. PERMITTEE SHALL MAINTAIN AND OPERATE THE EQUIPMENT DESCRIBED ABOVE AND THE ASSOCIATED VENTILATION SYSTEM IN SUCH A MANNER AS TO PREVENT LEAKAGE OF PARTICULATE MATTER TO THE ATMOSPHERE PRIOR TO ENTERING THE AIR POLLUTION CONTROL DEVICE.  
[RULE 21]
2. THE AIR POLLUTION CONTROL DEVICE SHALL BE MAINTAINED IN GOOD OPERATING CONDITION AND SHALL BE IN OPERATION WHENEVER THE EQUIPMENT DESCRIBED ABOVE IS IN OPERATION.  
[RULES 21, 50, 52]
3. PERMITTEE SHALL PERFORM THE FOLLOWING MONITORING AT LEAST ANNUALLY AND MAINTAIN RECORDS OF THE RESULTS: 1) VISUALLY INSPECT THE BAGHOUSE FILTER SYSTEM TO VERIFY IT IS IN GOOD WORKING ORDER. 2) OBSERVE THE BAGHOUSE EXHAUST TO DETECT ANY VISIBLE EMISSIONS. IF ANY VISIBLE EMISSIONS ARE OBSERVED, PERMITTEE SHALL TAKE IMMEDIATE CORRECTIVE ACTIONS.  
[RULES 21, 50, 52]

**B. DISTRICT-ONLY--ENFORCEABLE CONDITIONS**

4. THE PERMITTEE, SHALL UPON DETERMINATION OF APPLICABILITY AND WRITTEN NOTIFICATION BY THE DISTRICT, COMPLY WITH ALL APPLICABLE REQUIREMENTS OF THE AIR TOXICS 'HOT SPOTS' INFORMATION AND ASSESSMENT ACT (CALIFORNIA HEALTH AND SAFETY CODE SECTION 44300 ET. SEQ.).  
[AIR TOXICS HOT SPOTS]
5. THIS AIR POLLUTION CONTROL DISTRICT PERMIT DOES NOT RELIEVE THE HOLDER FROM OBTAINING PERMITS OR AUTHORIZATION REQUIRED BY OTHER GOVERNMENTAL AGENCIES.

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**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: N/A

PERMIT ID  
APCD2008-PTO-020875



Solar Turbines Inc  
Craig Anderson  
PO Box 86376 Mail Zone T2  
San Diego CA 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST PAD #19: GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. A permit shall be 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

Revised Date:

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**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
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PERMIT ID  
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## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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.  
[Rule(s): NSR, 21]
8. 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

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APCD2008-PTO-020875

## PERMIT TO OPERATE

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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PERMIT ID  
APCD2008-PTO-020875

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

### B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1997-APP-961377

PERMIT ID  
APCD2008-PTO-020876



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zone T2  
San Diego CA 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

GAS TURBINE ENGINE TESTING USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED; BLDG.16, TEST CELLS NOS. 1,2 & 3, KNOWN COLLECTIVELY AS TEST CELL NO. 30, WITH ASSOCIATED INSTRUMENTATION. 961377-AFS-12NOV1997 (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20F] Non- Aircraft Turbine Engine  
1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.

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10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
(858) 586-2600 FAX (858) 586-2601  
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PERMIT ID  
APCD2008-PTO-020876

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

[Rule(s): NSR, 21]

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."

[Rule(s): 21]

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.

[Rule(s): NSR, 21]

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.

[Rule(s): NSR, 21]

7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, 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.

[Rule(s): NSR, 21]

8. 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:  $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$ .

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www.sdapcd.org

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.

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[Rule(s): NSR, 21]

16. 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.

[Rule(s): NSR, 21]

17. 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.

[Rule(s): 21]

18. 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

[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.

20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.

21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1990-APP-900338

PERMIT ID  
APCD2008-PTO-020877



Solar Turbines Inc  
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EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST PAD #18: GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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PERMIT ID  
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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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, 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.  
[Rule(s): NSR, 21]
8. 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:  $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$ . 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

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1990-APP-900338

PERMIT ID  
APCD2008-PTO-020878



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EQUIPMENT ADDRESS  
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4200 Ruffin Rd  
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## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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### EQUIPMENT DESCRIPTION

TEST PAD #17: GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, 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.  
[Rule(s): NSR, 21]
8. 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

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

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20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: N/A

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### EQUIPMENT DESCRIPTION

TEST PAD #16: GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

Revised Date:

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Print Date: November 8, 2012

08-NOV-12

**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
(858) 586-2600 FAX (858) 586-2601  
www.sdapcd.org

PERMIT ID  
APCD2008-PTO-020879

**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

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."

[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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.  
[Rule(s): NSR, 21]
8. 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

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## PERMIT TO OPERATE

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1990-APP-900338

PERMIT ID  
APCD2008-PTO-020880



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zone T2  
San Diego CA 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST PAD #15: GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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Print Date: November 8, 2012

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**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
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(858) 586-2600 FAX (858) 586-2601  
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PERMIT ID  
APCD2008-PTO-020880

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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."

[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
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.  
[Rule(s): NSR, 21]
8. 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:  $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$ . 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

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PERMIT ID  
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## PERMIT TO OPERATE

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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PERMIT ID  
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## PERMIT TO OPERATE

EXPIRES: June 30, 2016

16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

### B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1996-APP-950739

PERMIT ID  
APCD2008-PTO-020881



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zono T2  
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EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST PAD #13: GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS DESCR CHG 4/96 DAS. (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### **A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]

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## PERMIT TO OPERATE

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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."  
[Rule(s): 21]
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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$\frac{[(\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG})]}{2}$$
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.  
[Rule(s): NSR, 21]
8. 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:  $\frac{[(\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG})]}{2}$ . 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

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PERMIT ID  
APCD2008-PTO-020881

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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.

[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
(858) 586-2600 FAX (858) 586-2601  
www.sdapcd.org

PERMIT ID  
APCD2008-PTO-020881

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

### B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1996-APP-950739

PERMIT ID  
APCD2008-PTO-020882



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zone T2  
San Diego CA 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TEST PAD #14: GAS TURBINE ENGINE USING GASEOUS OR DISTILLATE FUEL; INTERNAL COMBUSTION ENGINE UNDER 500 BHP TO START GAS TURBINE BEING TESTED. 950739-18MAR96-AFS (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

Revised Date:

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Print Date: November 8, 2012

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PERMIT ID  
APCD2008-PTO-020882

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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.  
[Rule(s): NSR, 21]
8. 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

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PERMIT ID  
APCD2008-PTO-020882

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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  
[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1992-APP-920710

PERMIT ID  
APCD2009-PTO-920710



Solar Turbines Inc  
Craig Anderson  
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San Diego CA 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

DUCT BURNER TEST PAD: NATURAL GAS-FIRED TEST PAD FOR TESTING DUCT BURNERS EQUIPPED WITH LOW NOX BURNERS, WITH A RATED CAPACITY NOT TO EXCEED 117 MILLION BTU PER HOUR.  
(9\#920710\ADL) TNO 987794 10942 91A/94E 2/19/09

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [49A] Non-Operational Status Equipment

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### **A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. This equipment shall not be operated at any time except where limited use of this equipment is allowed without a permit to operate under a Rule 11 exemption. This limited usage shall be subject to all other applicable prohibitory rules. All records and data necessary to substantiate this Rule 11 exemption shall be maintained on site for a minimum of three calendar years and made available to the District upon request.
2. If the previously applicable permit to operate (prior to inactivation) required source testing, the equipment shall be source tested within 60 calendar days of permit reactivation. This source testing is required to demonstrate compliance with emission standards contained in the previously applicable permit to operate. It is the responsibility of the permittee to schedule the source test with the District. The source test shall be performed or witnessed by the District.
3. The permittee shall submit an application and obtain written approval from the District prior to operating the

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(858) 586-2600 FAX (858) 586-2601  
www.sdapcd.org

PERMIT ID  
APCD2009-PTO-920710

## **PERMIT TO OPERATE**

**EXPIRES: June 30, 2016**

equipment under inactive status. In the event new or additional requirements are applicable to this equipment upon reactivation, the permittee shall submit an application and additional information with corresponding fees to demonstrate how the permittee will comply with the new or additional requirements and to add corresponding permit conditions.

### **B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

4. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
5. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
6. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT  
10124 OLD GROVE RD, SAN DIEGO, CA 92131  
(858) 586-2600 FAX (858) 586-2601

PERMIT NO.  
**930697**  
EXPIRES  
**JUNE 27, 2016**

**PERMIT TO OPERATE**

THE FOLLOWING IS HEREBY GRANTED A PERMIT TO OPERATE THE ARTICLE, MACHINE, EQUIPMENT OR CONTRIVANCE DESCRIBED BELOW. THIS PERMIT IS NOT TRANSFERABLE TO A NEW OWNER NOR IS IT VALID FOR OPERATION OF THE EQUIPMENT AT ANOTHER LOCATION, EXCEPT FOR PORTABLE EQUIPMENT. RULE 10C REQUIRES THIS PERMIT TO OPERATE OR COPY BE POSTED ON OR WITHIN 25 FEET OF THE EQUIPMENT, OR MAINTAINED READILY AVAILABLE AT ALL TIMES ON THE OPERATING PREMISES.

PERMITTEE  
SOLAR TURBINES INC.  
ENVIRONMENTAL ENGR MZ-T2  
PO BOX 86376  
SAN DIEGO, CA 92186-5376

EQUIPMENT ADDRESS

4200 RUFFIN ROAD  
SAN DIEGO, CA 92123

**EQUIPMENT DESCRIPTION**

METAL INSPECTION OPERATION: ONE MAGNAFLUX INSPECTION TANK, INTERNAL DIMENSIONS 119" X 30" X 12"H, MODEL H-8040R, S/N 861573. EQUIPPED WITH PUMP CIRCULATION AND SPRAY-TYPE FLOW. USING A SUSPENSION OF 14A MAGNAGLO POWDER (FLUORESCENT DYE PARTICLES) IN ISOPAR M SOLVENT.

EVERY PERSON WHO OWNS OR OPERATES THIS EQUIPMENT IS REQUIRED TO COMPLY WITH THE CONDITIONS LISTED BELOW AND ALL APPLICABLE REQUIREMENTS AND DISTRICT RULES, INCLUDING BUT NOT LIMITED TO RULE(S) 66.

FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR AND IS SUBJECT TO CIVIL AND CRIMINAL PENALTIES.

**A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. THIS EQUIPMENT SHALL NOT BE OPERATED AT ANY TIME EXCEPT WHERE LIMITED USE OF THIS EQUIPMENT IS ALLOWED WITHOUT A PERMIT TO OPERATE UNDER A RULE 11 EXEMPTION. THIS LIMITED USAGE SHALL BE SUBJECT TO ALL OTHER APPLICABLE PROHIBITORY RULES. ALL RECORDS AND DATA NECESSARY TO SUBSTANTIATE THIS RULE 11 EXEMPTION SHALL BE MAINTAINED ON SITE FOR A MINIMUM OF THREE CALENDAR YEARS AND MADE AVAILABLE TO THE DISTRICT UPON REQUEST.  
[RULE(S): 21]
2. IF THE PREVIOUSLY APPLICABLE PERMIT TO OPERATE (PRIOR TO INACTIVATION) REQUIRED SOURCE TESTING, THE EQUIPMENT SHALL BE SOURCE TESTED WITHIN 60 CALENDAR DAYS OF PERMIT REACTIVATION. THIS SOURCE TESTING IS REQUIRED TO DEMONSTRATE COMPLIANCE WITH EMISSION STANDARDS CONTAINED IN THE PREVIOUSLY APPLICABLE PERMIT TO OPERATE, IT IS THE RESPONSIBILITY OF THE PERMITTEE TO SCHEDULE THE SOURCE TEST WITH THE DISTRICT. THE SOURCE TEST SHALL BE PERFORMED OR WITNESSED BY THE DISTRICT.  
[RULE(S): 21]
3. THE PERMITTEE SHALL SUBMIT AN APPLICATION AND OBTAIN WRITTEN APPROVAL FROM THE DISTRICT PRIOR TO OPERATING THE EQUIPMENT UNDER INACTIVE STATUS. IN THE EVENT NEW OR ADDITIONAL REQUIREMENTS ARE APPLICABLE TO THIS EQUIPMENT UPON REACTIVATION, THE PERMITTEE SHALL SUBMIT AN APPLICATION AND ADDITIONAL INFORMATION WITH CORRESPONDING FEES TO DEMONSTRATE HOW THE PERMITTEE WILL COMPLY WITH THE NEW OR ADDITIONAL REQUIREMENTS AND TO ADD CORRESPONDING PERMIT CONDITIONS.  
[RULE(S): 21]

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(858) 586-2600 FAX (858) 586-2601  
www.sdapcd.org

Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD2000-APP-975790

PERMIT ID  
APCD2008-PTO-975790



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zone T2  
San Diego CA 92186

EQUIPMENT ADDRESS  
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4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TURBINE TEST CELL/PAD, DESIGNATED #16-4, NATURAL GAS OR DISTILLATE FUEL; FIRED WITH AN INTERNAL COMBUSTION ENGINE LESS THAN 500 BHP TO START THE GAS TURBINE BEING TESTED. (975790 ALC 03/02)(980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### **A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]

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PERMIT ID  
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## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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."  
[Rule(s): 21]
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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}$$
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.  
[Rule(s): NSR, 21]
8. 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:  $\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}$ . 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

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PERMIT ID  
APCD2008-PTO-975790

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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APCD2008-PTO-975790

**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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  
[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD2000-APP-975791

PERMIT ID  
APCD2008-PTO-975791



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zone T2  
San Diego CA 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

TURBINE TEST CELL/PAD, DESIGNATED #21, NATURAL GAS OR DISTILLATE FUEL; FIRED WITH AN INTERNAL COMBUSTION ENGINE LESS THAN 500 BHP TO START THE GAS TURBINE BEING TESTED. (975791 ALC 10/02) (980776-CCN-6/04)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### **A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]

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## PERMIT TO OPERATE

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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."  
[Rule(s): 21]
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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, 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.  
[Rule(s): NSR, 21]
8. 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:  $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$ . 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

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PERMIT ID  
APCD2008-PTO-975791

## PERMIT TO OPERATE

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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## **PERMIT TO OPERATE**

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16. 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.  
[Rule(s): NSR, 21]
  
17. 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.  
[Rule(s): 21]
  
18. 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[Rule(s): 21]

### **B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
  
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
  
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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### EQUIPMENT DESCRIPTION

TURBINE TEST CELL/PAD, DESIGNATED #22, NATURAL GAS OR DISTILLATE FUEL; FIRED WITH AN INTERNAL COMBUSTION ENGINE LESS THAN 500 BHP TO START THE GAS TURBINE BEING TESTED.

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, 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.  
[Rule(s): NSR, 21]
8. 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:  $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$ . 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

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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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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**PERMIT TO OPERATE**

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16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

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### EQUIPMENT DESCRIPTION

TURBINE TEST CELL/PAD, DESIGNATED #23, NATURAL GAS OR DISTILLATE FUEL; FIRED WITH AN INTERNAL COMBUSTION ENGINE LESS THAN 500 BHP TO START THE GAS TURBINE BEING TESTED.

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand

BEC: 10939

### FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

#### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

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[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

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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."

[Rule(s): 21]

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.  
[Rule(s): NSR, 21]

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.  
[Rule(s): NSR, 21]

7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, 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.  
[Rule(s): NSR, 21]

8. 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:  $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$ . 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

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**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
(858) 586-2600 FAX (858) 586-2601  
www.sdapcd.org

PERMIT ID  
APCD2008-PTO-975793

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]

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**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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**Sectors:** 04, J  
**Site ID:** APCD1976-SITE-01130  
**App ID:** APCD2001-APP-976905

**PERMIT ID**  
APCD2008-PTO-976905



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zone T2  
San Diego CA 92186

**EQUIPMENT ADDRESS**  
Solar Turbines Inc  
4200 Ruffin Rd  
San Diego CA 92123

## PERMIT TO OPERATE

**EXPIRES: June 30, 2016**

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

### EQUIPMENT DESCRIPTION

THERMAL OXIDIZER, NATURAL GAS FIRED, WITH TWO LOW-NOX BURNERS, NORTH AMERICAN, MODEL 4796-20, 56.5 MM BTU/HR EACH (113 MM BTU/HR TOTAL). (976905 ALC 04/03)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [91A] Miscellaneous  
1 [94E] Air Quality Inspector II

BEC: 10939

FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

### **A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]

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PERMIT ID  
APCD2008-PTO-976905

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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."  
[Rule(s): 21]

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.  
[Rule(s): NSR, 21]

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.  
[Rule(s): NSR, 21]

7. 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:  
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, 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.  
[Rule(s): NSR, 21]

8. 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:  $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$ . 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

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PERMIT ID  
APCD2008-PTO-976905

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)*(DF)+(0.47)*(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
10. 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:  $[(S)(DF)+(0.03)(NG)]$ . 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.  
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
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**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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Sectors: 04, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD2001-APP-976913

PERMIT ID  
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Solar Turbines Inc  
Craig Anderson  
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EQUIPMENT ADDRESS  
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## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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### EQUIPMENT DESCRIPTION

THERMAL OXIDIZER, NATURAL GAS FIRED, WITH TWO LOW-NOX BURNERS, NORTH AMERICAN, MODEL 4796-20, 56.5 MM BTU/HR EACH (113 MM BTU/HR TOTAL). (976913 ALC 04/03)

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [91A] Miscellaneous  
1 [94E] Air Quality Inspector II

BEC: 10939

FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

### A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
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[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]

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PERMIT ID  
APCD2008-PTO-976913

## PERMIT TO OPERATE

EXPIRES: June 30, 2016

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."  
[Rule(s): 21]
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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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:  
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, 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.  
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08-NOV-12.

**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
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PERMIT ID  
APCD2008-PTO-976913

**PERMIT TO OPERATE**

EXPIRES: June 30, 2016

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.  
[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.  
[Rule(s): NSR, 21]
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[Rule(s): NSR, 21]
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12. 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.  
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15. 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.  
[Rule(s): NSR, 21]

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PERMIT ID  
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**PERMIT TO OPERATE**

**EXPIRES: June 30, 2016**

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  - the type of equipment tested
  - operating conditions of the test
  - actual emissions if measured or the emission factor used to calculate emissions[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
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21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)



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Sectors: 4, J  
 Site ID: APCD1976-SITE-01130  
 App ID: APCD2002-APP-978792

**PERMIT ID**  
 APCD2006-PTO-978792



Solar Turbines Inc  
 Craig Anderson  
 PO Box 85376 Mail Zone T2  
 San Diego CA, 92186

**EQUIPMENT ADDRESS**

Solar Turbines Inc  
 Nadine Spertus  
 4200 Ruffin Rd  
 San Diego CA 92123

**PERMIT TO OPERATE**  
 EXPIRES: June 27, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

**EQUIPMENT DESCRIPTION**

TWO (2) METAL COATING APPLICATION STATIONS (REFERRED TO AS ZONES), CONSISTING OF: ONE JBL PAINT SPRAY BOOTH, MODEL #OWDDT-92-XWPDT-S, 27 FEET WIDE X 30 FEET HIGH X 96 FEET LONG, PARTITIONED IN THE CENTER TO FORM TWO (2) 48 FOOT LONG BOOTHS (ZONES). EACH ZONE IS EQUIPPED WITH FOUR (4) 13,750 CFM EXHAUST FANS WITH DRY FILTERS AND ONE (1) NATURAL GAS FIRED WEATHER-RITE DRYING OVEN, MODEL NO.TOT-230-VT, RATED AT 3.267 MILLION BTU/HR AND OPERATED AT LESS THAN 194 DEGREES FAHRENHEIT USING COATING APPLICATION METHODS SPECIFIED IN RULE 67.3; AND A RULE 67.3 COMPLIANT APPLICATION EQUIPMENT CLEANING STATION SHARED WITH PERMITS TO OPERATE NOS. 3977, 978792 AND 050303 AND USING EQUIPMENT INCLUDING BUT NOT LIMITED TO AN ENCLOSED GUN WASHER AND A CLEANING TANK. FOR PURPOSES OF COMPLYING WITH THE CONDITIONS BELOW. THE FOLLOWING EQUIPMENT GROUPS ARE DEFINED: EQUIPMENT GROUP CO1: COATING AND ADHESIVE OPERATIONS INCLUDING, BUT NOT LIMITED TO, COATING APPLICATION, ADHESIVE APPLICATION, AND SURFACE PREPARATION, BUT EXCLUDING APPLICATION EQUIPMENT CLEANUP AND SOLVENT RECLAMATION UNDER PERMITS TO OPERATE NOS. 3977, 978792, AND 050303. EQUIPMENT GROUP CO2: EQUIPMENT CLEANUP AND SOLVENT RECLAMATION UNDER PERMITS TO OPERATE NOS. 3977, 978792, AND 050303 AND AN UNPERMITTED FIVE GALLON SOLVENT STILL.

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 2 [27K] Surface Coating Application Station  
 BEC: 11965

**FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES**

**A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rule 67.3.
2. Permittee shall operate the coating application station described above in compliance with all applicable standards of Rule 67.3 Section (d) including application methods, surface preparation and cleanup requirements, coating VOC limits and application equipment cleanup requirements.
3. Permittee shall maintain records for the application station described above in accordance with all applicable requirements of Rule 67.3 Section (f).



**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
PHONE (858) 586-2600 FAX (858) 586-2601  
www.sdapcd.org

Sectors: 4, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD2002-APP-978792

PERMIT ID  
APCD2006-PTO-978792



4. Usage data for coatings, surface preparation and cleanup for the operations described in Permits to Operate Nos. 978792 and 050303 and the application equipment cleaning equipment shared with Permit to Operate No. 3977 shall be recorded in a common logbook shared between the operations.
5. If requested by the District or EPA, the applicable test methods listed in Rule 67.3 Section (g) shall be used to determine compliance with the applicable standards of Rule 67.3 Section (d).
6. The average quantity of VOC emissions from the coating operations described in Permits to Operate Nos. 978792 and 050303 and the application equipment cleaning equipment shared with Permit to Operate No. 3977 shall not exceed 470 pounds per operating day per calendar month.
7. The maximum quantity of VOC emissions from the coating operations described in Permits to Operate Nos. 978792 and 050303 and the application equipment cleaning equipment shared with Permit to Operate No. 3977 shall not exceed 22 tons in any consecutive 12-month period.
8. Permittee shall maintain monthly usage records of all coatings applied in the operations described in Permits to Operate Nos. 978792 and 050303 and the application equipment cleaning equipment shared with Permit to Operate No. 3977 and record the number of coating days per calendar month.
9. Permittee shall not apply coatings in the application station described above unless exhaust fans and exhaust filters are installed and operating properly.
10. Permittee shall ensure that all materials containing organic compounds are stored in closed containers in accordance with Rule 67.17 requirements.
11. Current Material Safety Data Sheets (MSDS) or manufacturer's specifications which identify the VOC content, vapor pressure or initial boiling point, as applicable shall be maintained on-site for all materials used containing Volatile Organic Compounds and made readily available to the District upon request.
12. Permittee shall maintain on-site pressure gauges in proper operating condition to measure the air cap pressure of HVLP coating application equipment. The permittee shall maintain a permanent air pressure at the air cap in the range of 0.1 to 10 PSIG when applying coatings.
13. The permittee shall submit to the District and to the Federal EPA a Compliance Certification for the modified equipment, in a manner or form approved in writing by the District, within one year of the modification, that includes the identification of each applicable term or condition of the final permit for which the compliance status is being certified, the current compliance status and whether the modified equipment was in continuous or intermittent compliance during the certification period, identification of the applicable permitted method used to determine compliance during the certification period, and any other information required by the District to determine the compliance status.
14. Operations under Permits to Operate Nos. 3977, 978792, and 050303 shall not be considered a major stationary source of Hazardous Air Pollutants (HAP) provided that the permittee complies with all conditions identified below as Synthetic Minor Source Conditions. Hazardous Air Pollutant means any pollutant listed in, or pursuant to, Section 112 (B) of the Federal Clean Air Act.
15. For purposes of determining compliance with any condition below, air contaminant emissions for any time period shall be determined by using the emission factors and emission calculation procedure specified in "Synthetic Minor Source Emission Factors and Emission Calculation Procedure for Solar Turbines Incorporated under Permits to Operate Nos. 3977, 978792 and 050303" dated February 27, 2004, as approved by the District, which is hereby incorporated by reference. The permittee shall maintain a copy of the approved calculation procedure on-site and provide it to the District upon request.
16. Synthetic Minor Source Condition. For the twelve-consecutive-calendar-month (12-month) period beginning on July 1, 2003, and each subsequent 12-month period thereafter, emissions from equipment group(s) CO1 and CO2 shall be such that aggregate emissions of each individual HAP shall not exceed 9.8 tons and aggregate emissions of all HAPs combined shall not exceed 24.8 tons.
17. Synthetic Minor Source Condition. For the period beginning on July 1, 2003, and ending May 31, 2004, emissions from equipment group(s) CO1 and CO2 shall be such that aggregate emissions of each individual HAP shall not exceed 9.8 tons and aggregate emissions of all HAPs combined shall not exceed 24.8 tons.



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18. The permittee shall calculate total emissions of each individual HAP from equipment group(s) CO1 and CO2 and aggregate emissions of each individual HAP and aggregate emissions of all HAPs combined during each calendar month beginning on or after July 1, 2003, and each 12-month period beginning on or after July 1, 2003, within 30 calendar days of the end of each 12-month period. In addition, for the period beginning on July 1, 2003, and ending May 31, 2004, the permittee shall calculate total emissions of each individual HAP from equipment group(s) CO1 and CO2 and aggregate emissions of each individual HAP and aggregate emissions of all HAPs combined during each consecutive-calendar-month period beginning on July 1, 2003, within 30 calendar days of the end of each consecutive-calendar-month period.
19. For each calendar month beginning on or after July 1, 2003, the permittee shall maintain records of the total quantity of each HAP-containing material used by equipment group(s) CO1 and CO2 and the total quantity of coating and solvent waste collected for removal from equipment group(s) CO1. For purposes of this condition, use of reclaimed solvent is not considered material used by equipment group(s) CO1 and CO2 and material collected for solvent reclamation on-site is not considered waste.
20. The permittee shall maintain records that include the identity, individual HAP composition, and density of each HAP-containing material used by equipment group(s) CO1 and CO2 since July 1, 2003, not including reclaimed solvent. The records of each material shall be retained on-site for at least five calendar years from the date of last use of the material and made available to the District upon request.
21. For purposes of calculating HAP emissions, the HAP content of any material shall be determined by the average value indicated by manufacturer information, including, but not limited to, Material Safety Data Sheets, except that, when deemed necessary by the District, the organic HAP content of any liquid material shall be measured in accordance with EPA Method 311, the density of liquid organic materials shall be measured in accordance with ASTM Method 1475, and the inorganic HAP content of materials shall be measured in accordance with an applicable method in the latest revision to "Test Method for Evaluating Solid Waste Physical/Chemical Methods", SW846(PB89-148076). Alternative methods may be used with the advanced written approval of the District.
22. Unless otherwise specified above, the permittee shall retain all records and emission calculations required by the conditions above on-site for at least five years and make them available to the District upon request.
23. Permittee shall not use coating materials that contain hexavalent chromium, nickel, cadmium, lead, copper, beryllium or manganese in the above operation. Prior to the use of any coating containing any element(s) or compound(s) of any element(s) listed in this condition, permittee shall submit an application to modify this permit to operate to the District and receive written approval from the District for such use.
24. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District. [Rule 19]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

25. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
26. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)



*County of San Diego*  
**AIR POLLUTION CONTROL DISTRICT**  
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(858) 586-2800  
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Smoking Vehicle Hotline  
1-800-28-SMOKE  
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September 14, 2012

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

After examination of your Application APCD2012-APP-001939 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:

Test Cell/Pad #24: Gas Turbine using gaseous or distillate fuel; with an internal combustion engine less than 500 BHP to start the gas turbine being tested.

This Authority to Construct is issued with the following conditions:

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
2. 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.
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
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)
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.
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.

- 7 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:  $\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}$ , 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.
- 8 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:  $\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}$ . 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.
- 9 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.
- 10 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:

- $[(S)(DF)+(0.03)(NG)]$ . 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 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 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 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 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 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 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 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 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 Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
  - 20 This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
  - 21 The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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.

Solar Turbines

September 14, 2012

Application #: APCD2012-APP-001939

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 09/14/2013 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



*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](http://www.sdapcd.org)

September 14, 2012

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

After examination of your Application APCD2012-APP-001941 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:

Test Cell/Pad #26: Gas Turbine using gaseous or distillate fuel; with an internal combustion engine less than 500 BHP to start the gas turbine being tested.

This Authority to Construct is issued with the following conditions:

- 1 Permittee shall comply with all applicable requirements of Rules 53 and 62.
- 2 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.
- 3 This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
- 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)
- 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.
- 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, on-site 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.

- 7 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:  $(((\text{MaxDFI}) * (\text{DF}) + (\text{MaxNGI}) * (\text{NG}))/2)$ , 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.
- 8 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:  $(((\text{DFI}) * (\text{DF}) + (\text{NGI}) * (\text{NG}))/2)$ . 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.
- 9 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:  $[(1.16) * (\text{DF}) + (0.47) * (\text{NG})]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.
- 10 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:

$[(S)(DF)+(0.03)(NG)]$ . 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 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 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 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 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 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 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 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 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 Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
- 20 This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
- 21 The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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.

Solar Turbines

September 14, 2012

Application #: APCD2012-APP-001941

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 09/14/2013 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



*County of San Diego*  
**AIR POLLUTION CONTROL DISTRICT**  
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Smoking Vehicle Hotline  
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September 14, 2012

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

After examination of your Application APCD2012-APP-001942 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:

Test Cell/Pad #25: Gas Turbine using gaseous or distillate fuel; with an internal combustion engine less than 500 BHP to start the gas turbine being tested.

This Authority to Construct is issued with the following conditions:

- 1 Permittee shall comply with all applicable requirements of Rules 53 and 62.
- 2 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.
- 3 This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
- 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)
- 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.
- 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.

- 7 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.
- 8 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.
- 9 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.
- 10 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:

$[(S)(DF)+(0.03)(NG)]$ . 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 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 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 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 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 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 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 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 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 Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
- 20 This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
- 21 The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

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.

Solar Turbines

September 14, 2012

Application #: APCD2012-APP-001942

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 09/14/2013 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



Sectors: 4, J
Site ID: APCD1976-SITE-01130
App ID: APCD2001-CER-976907

PERMIT ID
APCD2006-PTO-976907



Solar Turbines Inc
Craig Anderson
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San Diego CA, 92186

EQUIPMENT ADDRESS
Solar Turbines Inc
Nadine Spertus
4200 Ruffin Rd
San Diego CA 92123

PERMIT TO OPERATE
EXPIRES: June 27, 2016

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

EQUIPMENT DESCRIPTION

EMERGENCY STANDBY ENGINE: CATERPILLAR MODEL 3306, S/N 8JJ00351, 362 HP, DIESEL FIRED, TURBOCHARGED AND AFTERCOOLED. 976907-AFS-20AUG2001 17CCR93115SJE01/06

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [34W] Registered Engine (Rule 12)
BEC: APCD2010-CON-000111

FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

- 1. Engine operation for maintenance and testing purposes shall not exceed 20 hours per calendar year. (17 CCR 93115) (ATCM reportable)
2. This engine shall only use CARB diesel fuel. (Rule 12, 17 CCR 93115)
3. Visible emissions including crank case smoke shall comply with Air Pollution Control District Rule 50. (Rule 50)
4. The equipment described above shall not cause or contribute to a public nuisance. (Rule 51)
7. A non-resettable engine hour meter shall be installed on this engine, maintained in good working order, and used for recording engine operating hours. If a meter is replaced, the Air Pollution Control District's Compliance Division shall be notified in writing within 10 calendar days. The written notification shall include the following information:
(a) Old meter's hour reading
(b) Replacement meter's manufacturer name, model and serial number if available and current hour reading on replacement meter, and
(c) Copy of receipt of new meter or of installation work order.
A copy of the meter replacement notification shall be maintained on site and made available to the Air Pollution Control District upon request. (Rule 12, 17 CCR 93115)



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**PERMIT ID**  
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8. The owner or operator of this engine shall conduct periodic maintenance of the engine and add-on control equipment, if any, as recommended by the engine and control equipment manufacturers or as specified by the engine servicing company's maintenance procedures. The periodic maintenance shall be conducted at least once each calendar year. (Rule 12)
9. The owner or operator of the engine shall maintain the following records on-site for at least the same period of time as the engine to which the records apply is located at the site:
  - (a) CARB diesel fuel certification;
  - (b) Manual of recommended maintenance provided by the manufacturer, or maintenance procedures specified by the engine servicing company; and
  - (c) Records of annual engine maintenance, including date the maintenance was performed.These records shall be made available to the Air Pollution Control District upon request. (Rule 12)
10. The owner or operator of this engine shall maintain a monthly operating log containing, at a minimum, the following:
  - (a) Dates and times of engine operation, whether the operation was for maintenance and testing purposes or emergency use; and the nature of the emergency, if known;
  - (b) Hours of operation for all uses other than those specified above and identification of the nature of that use. (Rule 12, 17 CCR #93115)
11. The owner or operator shall document fuel use through the retention of fuel purchase records that account for all fuel used in the engine and all fuel purchased for use in the engine, and, at a minimum, contain the following information:
  - (a) Amount of fuel purchased
  - (b) Date when the fuel was purchased
  - (c) Signature of owner or operator or representative of owner or operator who received the fuel.
  - (d) Signature of fuel provider indicating fuel was delivered; and
  - (e) Amount of fuel added to the engine tank. (17 CCR 93115)
12. All operational and maintenance logs and fuel use and type and purchase records required by this permit shall be kept for a minimum of 36 months from their date of creation unless otherwise indicated by the conditions of this permit. The records shall be maintained on-site for a minimum of 24 months from their date of creation. Records for the last 24 months of operation shall be made available to the Air Pollution Control District upon request. Records for operation for the last 25 to 36 months shall be made available to the Air Pollution Control District within 5 working days of request. (Rule 12, 17 CCR #93115)
14. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District. [Rule 19]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

5. This engine shall not operate for non-emergency use during the following periods, as applicable:
  - (a) Whenever there is any school sponsored activity, if engine is located on school grounds or
  - (b) Between 7:30am and 3:30pm on days when school is in session, if the engine is located within 500 feet of, but not on, school grounds.This condition shall not apply to an engine located at or near any school grounds that also serve as the students' place of residence. (17 CCR 93115) (ATCM reportable)
6. Engine operation in response to notification of an impending rotating outage, shall be subject to all the following restrictions:
  - (a) The utility distribution company has ordered rotating outages in the control area where the engine is located.
  - (b) The engine is operated no more than 30 minutes prior to the time when the utility distribution company officially forecasts a rotating outage in the cited control area, and
  - (c) The engine operation is terminated immediately after the utility distribution company advises that a rotating outage is no longer in effect.This condition shall not apply to engines operating pursuant to the rolling blackout reduction program as defined in 17 CCR 93115 and operating in accordance with 17 CCR 93115 (e)(2)(f). (17CCR93115) (ATCM reportable)



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**Sectors:** 4, J  
**Site ID:** APCD1976-SITE-01130  
**App ID:** APCD2001-CER-976907

**PERMIT ID**  
APCD2006-PTO-976907



13. The permittee shall notify the Air Pollution Control District Compliance Division immediately upon detection of any violation of a condition identified as "ATCM reportable". Such violations shall be subject to Air Pollution Control District Compliance action. (17 CCR 93115)
15. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
16. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)



Sectors: 4, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1996-CER-960542

PERMIT ID  
APCD2006-PTO-960542



Solar Turbines Inc  
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San Diego CA, 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
Nadine Spertus  
4200 Ruffin Rd  
San Diego CA 92123

**PERMIT TO OPERATE**  
**EXPIRES: June 27, 2016**

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

**EQUIPMENT DESCRIPTION**

EMERGENCY ENGINE FIRE PUMP: CATERPILLAR DIESEL ENGINE, MODEL 3208, S/N 3Z11276, 255 BHP. (960542-CCN-1/98) 17CCR93115SJE01/06

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [34W] Registered Engine (Rule 12)  
BEC: 12904

**FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES**

**A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Engine operation for maintenance & testing purposes conducted prior to January 1, 2006 shall not exceed 52 hours per calendar year.  
(Rule 12)
2. Engine operation for maintenance & testing purposes conducted on and after January 1, 2006, shall not exceed 35 hours per calendar year unless otherwise required by national fire protection association (NFPA) 25.  
(17 CCR 93115) (ATCM reportable)
3. This engine shall only use CARB diesel fuel.  
(Rule 12, 17 CCR 93115)
4. Visible emissions including crank case smoke shall comply with Air Pollution Control District Rule 50.  
(Rule 50)
5. The equipment described above shall not cause or contribute to a public nuisance.  
(Rule 51)



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**PERMIT ID**  
APCD2006-PTO-960542



7. Engine operation in response to notification of an impending rotating outage, shall be subject to all the following restrictions:
  - (a) The utility distribution company has ordered rotating outages in the control area where the engine is located.
  - (b) The engine is operated no more than 30 minutes prior to the time when the utility distribution company officially forecasts a rotating outage in the cited control area, and
  - (c) The engine operation is terminated immediately after the utility distribution company advises that a rotating outage is no longer in effect.This condition shall not apply to engines operating pursuant to the rolling blackout reduction program as defined in 17 CCR 93115 and operating in accordance with 17 CCR 93115 (e)(2)(f). (17CCR93115)
8. A non-resettable engine hour meter shall be installed on this engine, maintained in good working order and used for recording engine operating hours. If a meter is replaced, the Air Pollution Control District's Compliance Division shall be notified in writing within 10 calendar days. The written notification shall include the following information:
  - (a) Old meter's hour reading
  - (b) Replacement meter's manufacturer name, model and serial number if available and current hour reading on replacement meter
  - (c) Copy of receipt of new meter or of installation work orderA copy of the meter replacement notification shall be maintained on-site and made available to the Air Pollution Control District upon request.  
(Rule 12, 17 CCR 93115)
9. The owner or operator of this engine shall conduct periodic maintenance of the engine and add-on control equipment, if any, as recommended by the engine and control equipment manufacturers or as specified by the engine servicing company's maintenance procedures. The periodic maintenance shall be conducted at least once each calendar year.  
(Rule 12)
10. The owner or operator of the engine shall maintain the following records on-site for at least the same period of time as the engine to which the records apply is located at the site:
  - (a) CARB diesel fuel certification;
  - (b) manual of recommended maintenance provided by the manufacturer, or maintenance procedures specified by the engine servicing company; and
  - (c) Records of annual engine maintenance, including date the maintenance was performed.These records shall be made available to the Air Pollution Control District upon request.  
(Rule 12)
11. The owner or operator of this engine shall maintain a monthly operating Log containing, at a minimum, the following:
  - (a) Dates and times of engine operation, whether the operation was for compliance with the testing requirements of National Fire Protection Association (NFPA) 25 or emergency use, and the nature of the emergency if known;
  - (b) Hours of operation for all uses other than those specified above and identification of the nature of that use.(RULE 69.4.1, 17 CCR 93115)
12. The owner or operator shall document fuel use through the retention of fuel purchase records that account for all fuel used in the engine and all fuel purchased for use in the engine, and, at a minimum, contain the following information:
  - (a) Amount of fuel purchased.
  - (b) Date when the fuel was purchased.
  - (c) Signature of owner or operator or representative of owner or operator who received the fuel.
  - (d) Signature of fuel provider indicating fuel was delivered.
  - (e) Amount of fuel added to the engine tank.(17 CCR 93115)
13. All operational and maintenance logs and fuel use and type and purchase records required by this Permit shall be kept for a minimum of 36 months from their date of creation unless otherwise indicated by the conditions of this Permit. The records shall be maintained on-site for a minimum of 24 months from their date of creation. Records for the last 24 months of operation shall be made available to the Air Pollution Control District upon request. Records for operation for the last 25 to 36 months shall be made available to the Air Pollution Control District within 5 working days of request.  
(Rule 12, 17 CCR #93115)



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15. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District. [Rule 19]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

6. This engine shall not operate for non-emergency use during the following periods, as applicable:  
(a) Whenever there is any school sponsored activity, if engine is located on school grounds or  
(b) Between 7:30am and 3:30pm on days when school is in session, if the engine is located within 500 feet of, but not on, school grounds.  
This Condition shall not apply to an engine located at or near any school grounds that also serve as the students' place of residence.  
(17 CCR 93115)
14. The permittee shall notify the Air Pollution Control District Compliance Division immediately upon detection of any Violation of a Condition identified as "ATCM reportable". Such Violations shall be subject to Air Pollution Control District Compliance Action.  
(17 CCR 93115)
16. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
17. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)



Sectors: 4, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD1996-CER-961078

PERMIT ID  
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EQUIPMENT ADDRESS  
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Nadine Spertus  
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**PERMIT TO OPERATE**  
**EXPIRES: June 27, 2016**

This permit is not valid until required fees are received by the District.

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**EQUIPMENT DESCRIPTION**

EMERGENCY ENGINE-GENERATOR SET: CATERPILLAR DIESEL ENGINE, MODEL 3406, S/N 4ZR01855, 600 BHP, DRIVING A 400 KW GENERATOR. (961078-CCN-1/98) 17CCR93115-SJE-01/06

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [34W] Registered Engine (Rule 12)  
BEC: APCD2010-CON-000111

**FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES**

**A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Engine operation for maintenance and testing purposes shall not exceed 20 hours per calendar year. (17 CCR 93115) (ATCM reportable)
2. This engine shall only use CARB diesel fuel. (Rule 12, 17 CCR 93115)
3. Visible emissions including crank case smoke shall comply with Air Pollution Control District Rule 50. (Rule 50)
4. The equipment described above shall not cause or contribute to a public nuisance. (Rule 51)
7. A non-resettable engine hour meter shall be installed on this engine, maintained in good working order, and used for recording engine operating hours. If a meter is replaced, the Air Pollution Control District's Compliance Division shall be notified in writing within 10 calendar days. The written notification shall include the following information:
  - (a) Old meter's hour reading
  - (b) Replacement meter's manufacturer name, model and serial number if available and current hour reading on replacement meter, and
  - (c) Copy of receipt of new meter or of installation work order.
 A copy of the meter replacement notification shall be maintained on site and made available to the Air Pollution Control District upon request. (Rule 12, 17 CCR 93115)



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8. The owner or operator of this engine shall conduct periodic maintenance of the engine and add-on control equipment, if any, as recommended by the engine and control equipment manufacturers or as specified by the engine servicing company's maintenance procedures. The periodic maintenance shall be conducted at least once each calendar year. (Rule 12)
9. The owner or operator of the engine shall maintain the following records on-site for at least the same period of time as the engine to which the records apply is located at the site:
  - (a) CARB diesel fuel certification;
  - (b) Manual of recommended maintenance provided by the manufacturer, or maintenance procedures specified by the engine servicing company; and
  - (c) Records of annual engine maintenance, including date the maintenance was performed.These records shall be made available to the Air Pollution Control District upon request. (Rule 12)
10. The owner or operator of this engine shall maintain a monthly operating log containing, at a minimum, the following:
  - (a) Dates and times of engine operation, whether the operation was for maintenance and testing purposes or emergency use; and the nature of the emergency, if known;
  - (b) Hours of operation for all uses other than those specified above and identification of the nature of that use. (Rule 12, 17 CCR #93115)
11. The owner or operator shall document fuel use through the retention of fuel purchase records that account for all fuel used in the engine and all fuel purchased for use in the engine, and, at a minimum, contain the following information:
  - (a) Amount of fuel purchased
  - (b) Date when the fuel was purchased
  - (c) Signature of owner or operator or representative of owner or operator who received the fuel.
  - (d) Signature of fuel provider indicating fuel was delivered; and
  - (e) Amount of fuel added to the engine tank. (17 CCR 93115)
12. All operational and maintenance logs and fuel use and type and purchase records required by this permit shall be kept for a minimum of 36 months from their date of creation unless otherwise indicated by the conditions of this permit. The records shall be maintained on-site for a minimum of 24 months from their date of creation. Records for the last 24 months of operation shall be made available to the Air Pollution Control District upon request. Records for operation for the last 25 to 36 months shall be made available to the Air Pollution Control District within 5 working days of request. (Rule 12, 17 CCR #93115)
14. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District. [Rule 19]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

5. This engine shall not operate for non-emergency use during the following periods, as applicable:
  - (a) Whenever there is any school sponsored activity, if engine is located on school grounds or
  - (b) Between 7:30am and 3:30pm on days when school is in session, if the engine is located within 500 feet of, but not on, school grounds.This condition shall not apply to an engine located at or near any school grounds that also serve as the students' place of residence. (17 CCR 93115) (ATCM reportable)
6. Engine operation in response to notification of an impending rotating outage, shall be subject to all the following restrictions:
  - (a) The utility distribution company has ordered rotating outages in the control area where the engine is located.
  - (b) The engine is operated no more than 30 minutes prior to the time when the utility distribution company officially forecasts a rotating outage in the cited control area, and
  - (c) The engine operation is terminated immediately after the utility distribution company advises that a rotating outage is no longer in effect.This condition shall not apply to engines operating pursuant to the rolling blackout reduction program as defined in 17 CCR 93115 and operating in accordance with 17 CCR 93115 (e)(2)(f). (17CCR93115) (ATCM reportable)



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**App ID:** APCD1996-CER-961078

**PERMIT ID**  
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13. The permittee shall notify the Air Pollution Control District Compliance Division immediately upon detection of any violation of a condition identified as "ATCM reportable". Such violations shall be subject to Air Pollution Control District Compliance action. (17 CCR 93115)
15. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
16. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)



Sectors: 4, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD2009-ACT-987793

PERMIT ID  
APCD2009-PTO-001582



Solar Turbines Inc  
Craig Anderson  
PO Box 85376 Mail Zone T2  
San Diego CA, 92186

EQUIPMENT ADDRESS  
Solar Turbines Inc  
Nadine Spertus  
4200 Ruffin Rd  
San Diego CA 92123

**PERMIT TO OPERATE**  
**EXPIRES: June 27, 2016**

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

**EQUIPMENT DESCRIPTION**

INDUSTRIAL COATING APPLICATION STATION: ONE DEVILBISS PAINT SPRAY BOOTH, MODEL XDA-6027, 10' X 9' X 8'H, EQUIPPED WITH EXHAUST FAN AND FILTERS. (F/N 571134). APPLICATION EQUIPMENT IS CLEANED USING THE FOLLOWING DEVICES: ENCLOSED GUN CLEANER AND A FIVE-GALLON PAIL. A CLEANING SOLVENT THAT COMPLIES WITH RULE 67.3 IS USED. USING VARIOUS APPLICATION METHODS. (REVISION DATE 3/1/02) TNO 987793 11981 28J 2/09

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [49A] Non-Operational Status Equipment  
BEC: APCD2010-CON-000132

**FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES**

**A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. This equipment shall not be operated at any time except where limited use of this equipment is allowed without a permit to operate under a Rule11 exemption. This limited usage shall be subject to all other applicable prohibitory rules. All records and data necessary to substantiate this Rule 11 exemption shall be maintained on site for a minimum of three calendar years and made available to the District upon request.
2. If the previously applicable permit to operate (prior to inactivation) required source testing, the equipment shall be source tested within60 calendar days of permit reactivation. This source testing is required to demonstrate compliance with emission standards contained in the previously applicable permit to operate, it is the responsibility of the permittee to schedule the source test with the District. The source test shall be performed or witnessed by the District.
3. The permittee shall submit an application and obtain written approval from the District prior to operating the equipment under inactive status. In the event new or additional requirements are applicable to this equipment upon reactivation, the permittee shall submit an application and additional information with corresponding fees to demonstrate how the permittee will comply with the new or additional requirements and to add corresponding permit conditions.
4. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District. [Rule 19]



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**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

5. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
6. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)



Sectors: 4, J  
 Site ID: APCD1976-SITE-01130  
 App ID: APCD1985-APP-050303

**PERMIT ID**  
 APCD2006-PTO-050303



Solar Turbines Inc  
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**EQUIPMENT ADDRESS**  
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 Nadine Spertus  
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 San Diego CA 92123

**PERMIT TO OPERATE**  
**EXPIRES: June 27, 2013**

This permit is not valid until required fees are received by the District.

The above is hereby granted a Permit To Operate the article, machine, equipment or contrivance described below. This permit is not transferable to a new owner nor is it valid for operation of the equipment at another location except as specified. This Permit To Operate or copy must be posted on or within 25 feet of the equipment, or readily available on the operating premises.

**EQUIPMENT DESCRIPTION**

TWO (2) METAL COATING APPLICATION STATIONS (REFERRED TO AS ZONES), CONSISTING OF: ONE JBL PAINT SPRAY BOOTH, MODEL #OWDDT-92-XWPDT-S, 27 FEET WIDE X 30 FEET HIGH X 96 FEET LONG, PARTITIONED IN THE CENTER TO FORM TWO (2) 48 FOOT LONG BOOTHS (ZONES). EACH ZONE IS EQUIPPED WITH FOUR (4) 13,750 CFM EXHAUST FANS WITH DRY FILTERS AND ONE (1) NATURAL GAS FIRED WEATHER-RITE DRYING OVEN, MODEL NO. TOT-230-VT, RATED AT 3.267 MILLION BTU/HR AND OPERATED AT LESS THAN 194 DEGREES FAHRENHEIT USING COATING APPLICATION METHODS SPECIFIED IN RULE 67.3; AND A RULE 67.3 COMPLIANT APPLICATION EQUIPMENT CLEANING STATION SHARED WITH PERMITS TO OPERATE NOS. 3977, 978792 AND 050303 AND USING EQUIPMENT INCLUDING BUT NOT LIMITED TO AN ENCLOSED GUN WASHER AND A CLEANING TANK. FOR PURPOSES OF COMPLYING WITH THE CONDITIONS BELOW, THE FOLLOWING EQUIPMENT GROUPS ARE DEFINED: EQUIPMENT GROUP CO1: COATING AND ADHESIVE OPERATIONS INCLUDING, BUT NOT LIMITED TO, COATING APPLICATION, ADHESIVE APPLICATION, AND SURFACE PREPARATION, BUT EXCLUDING APPLICATION EQUIPMENT CLEANUP AND SOLVENT RECLAMATION UNDER PERMITS TO OPERATE NOS. 3977, 978792, AND 050303. EQUIPMENT GROUP CO2: EQUIPMENT CLEANUP AND SOLVENT RECLAMATION UNDER PERMITS TO OPERATE NOS. 3977, 978792, AND 050303 AND AN UNPERMITTED FIVE GALLON SOLVENT STILL.

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 2 [27K] Surface Coating Application Station  
 BEC: 11965

**FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES**

**A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rule 67.3.
2. Permittee shall operate the coating application station described above in compliance with all applicable standards of Rule 67.3 Section (d) including application methods, surface preparation and cleanup requirements, coating VOC limits and application equipment cleanup requirements.
3. Permittee shall maintain records for the application station described above in accordance with all applicable requirements of Rule 67.3 Section (f).



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4. Usage data for coatings, surface preparation and cleanup for the operations described in Permits to Operate Nos. 978792 and 050303 and the application equipment cleaning equipment shared with Permit to Operate No. 3977 shall be recorded in a common logbook shared between the operations.
5. If requested by the District or EPA, the applicable test methods listed in Rule 67.3 Section (g) shall be used to determine compliance with the applicable standards of Rule 67.3 Section (d).
6. The average quantity of VOC emissions from the coating operations described in Permits to Operate Nos. 978792 and 050303 and the application equipment cleaning equipment shared with Permit to Operate No. 3977 shall not exceed 470 pounds per operating day per calendar month.
7. The maximum quantity of VOC emissions from the coating operations described in Permits to Operate Nos. 978792 and 050303 and the application equipment cleaning equipment shared with Permit to Operate No. 3977 shall not exceed 22 tons in any consecutive 12-month period.
8. Permittee shall maintain monthly usage records of all coatings applied in the operations described in Permits to Operate Nos. 978792 and 050303 and the application equipment cleaning equipment shared with Permit to Operate No. 3977 and record the number of coating days per calendar month.
9. Permittee shall not apply coatings in the application station described above unless exhaust fans and exhaust filters are installed and operating properly.
10. Permittee shall ensure that all materials containing organic compounds are stored in closed containers in accordance with Rule 67.17 requirements.
11. Current Material Safety Data Sheets (MSDS) or manufacturer's specifications which identify the VOC content, vapor pressure or initial boiling point, as applicable shall be maintained on-site for all materials used containing Volatile Organic Compounds and made readily available to the District upon request.
12. Permittee shall maintain on-site pressure gauges in proper operating condition to measure the air cap pressure of HVLP coating application equipment. The permittee shall maintain a permanent air pressure at the air cap in the range of 0.1 to 10 PSIG when applying coatings.
13. The permittee shall submit to the District and to the Federal EPA a Compliance Certification for the modified equipment, in a manner or form approved in writing by the District, within one year of the modification, that includes the identification of each applicable term or condition of the final permit for which the compliance status is being certified, the current compliance status and whether the modified equipment was in continuous or intermittent compliance during the certification period, identification of the applicable permitted method used to determine compliance during the certification period, and any other information required by the District to determine the compliance status.
14. Operations under Permits to Operate Nos. 3977, 978792, and 050303 shall not be considered a major stationary source of Hazardous Air Pollutants (HAP) provided that the permittee complies with all conditions identified below as Synthetic Minor Source Conditions. Hazardous Air Pollutant means any pollutant listed in, or pursuant to, Section 112 (B) of the Federal Clean Air Act.
15. For purposes of determining compliance with any condition below, Air contaminant emissions for any time period shall be determined by using the emission factors and emission calculation procedure specified in "Synthetic Minor Source Emission Factors and Emission Calculation Procedure for Solar Turbines Incorporated under Permits to Operate Nos. 3977, 978792 and 050303" dated February 27, 2004, as approved by the District, which is hereby incorporated by reference. The permittee shall maintain a copy of the approved calculation procedure on-site and provide it to the District upon request.
16. Synthetic Minor Source Condition. For the twelve-consecutive-calendar-month (12-month) period beginning on July 1, 2003, and each subsequent 12-month period thereafter, emissions from equipment group(s) CO1 and CO2 shall be such that aggregate emissions of each individual HAP shall not exceed 9.8 tons and aggregate emissions of all HAPs combined shall not exceed 24.8 tons.
17. Synthetic Minor Source Condition. For the period beginning on July 1, 2003, and ending May 31, 2004, emissions from equipment group(s) CO1 and CO2 shall be such that aggregate emissions of each individual HAP shall not exceed 9.8 tons and aggregate emissions of all HAPs combined shall not exceed 24.8 tons.



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18. The permittee shall calculate total emissions of each individual HAP from equipment group(s) CO1 and CO2 and aggregate emissions of each individual HAP and aggregate emissions of all HAPs combined during each calendar month beginning on or after July 1, 2003, and each 12-month period beginning on or after July 1, 2003, within 30 calendar days of the end of each 12-month period. In addition, for the period beginning on July 1, 2003, and ending May 31, 2004, the permittee shall calculate total emissions of each individual HAP from equipment group(s) CO1 and CO2 and aggregate emissions of each individual HAP and aggregate emissions of all HAPs combined during each consecutive-calendar-month period beginning on July 1, 2003, within 30 calendar days of the end of each consecutive-calendar-month period.
19. For each calendar month beginning on or after July 1, 2003, the permittee shall maintain records of the total quantity of each HAP-containing material used by equipment group(s) CO1 and CO2 and the total quantity of coating and solvent waste collected for removal from equipment group(s) CO1. For purposes of this condition, use of reclaimed solvent is not considered material used by equipment group(s) CO1 and CO2 and material collected for solvent reclamation on-site is not considered waste.
20. The permittee shall maintain records that include the identity, individual HAP composition, and density of each HAP-containing material used by equipment group(s) CO1 and CO2 since July 1, 2003, not including reclaimed solvent. The records of each material shall be retained on-site for at least five calendar years from the date of last use of the material and made available to the District upon request.
21. For purposes of calculating HAP emissions, the HAP content of any material shall be determined by the average value indicated by manufacturer information, including, but not limited to, Material Safety Data Sheets, except that, when deemed necessary by the District, the organic HAP content of any liquid material shall be measured in accordance with EPA Method 311, the density of liquid organic materials shall be measured in accordance with ASTM Method 1475, and the inorganic HAP content of materials shall be measured in accordance with an applicable method in the latest revision to "Test Method for Evaluating Solid Waste Physical/Chemical Methods", SW846(PB89-148076). Alternative methods may be used with the advanced written approval of the District.
22. Unless otherwise specified above, the permittee shall retain all records and emission calculations required by the conditions above on-site for at least five years and make them available to the District upon request.
24. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District. [Rule 19]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

23. Permittee shall not use coating materials that contain hexavalent chromium, nickel, cadmium, lead, copper, beryllium or manganese in the above operation. Prior to the use of any coating containing any element(s) or compound(s) of any element(s) listed in this condition, permittee shall submit an application to modify this permit to operate to the District and receive written approval from the District for such use. [Rule 1200]
25. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
26. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)



Sectors: 4, J  
Site ID: APCD1976-SITE-01130  
App ID: APCD2012-APP-001938

PERMIT ID  
APCD2013-PTO-001529



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**PERMIT TO OPERATE**  
**EXPIRES: June 27, 2016**

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**EQUIPMENT DESCRIPTION**

Test Cell/Pad #20: Gas Turbine using gaseous or distillate fuel; with an internal combustion engine less than 500 BHP to start the gas turbine being tested.

Every person who owns or operates this equipment is required to comply with the conditions listed below and all applicable requirements and District rules, including but not limited to Rules 10, 20, 40, 50, 51.

Fee Schedules: 1 [20C] Non-Aircraft Engine Test Cell/Stand  
BEC: 10939

**FAILURE TO OPERATE IN COMPLIANCE IS A MISDEMEANOR SUBJECT TO CIVIL AND CRIMINAL PENALTIES**

**A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS**

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.  
[Rule(s): 53, 62]
2. 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.  
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.  
[Rule(s): NSR, 21]
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."  
[Rule(s): 21]



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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.  
[Rule(s): NSR, 21]
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.  
[Rule(s): NSR, 21]
7. 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.  
[Rule(s): NSR, 21]
8. 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.  
[Rule(s): NSR, 21]
9. 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.  
[Rule(s): NSR, 21]
10. 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:  $[(S) \cdot (\text{DF}) + (0.03) \cdot (\text{NG})]$ . 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.  
[Rule(s): NSR, 21]



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11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.  
[Rule(s): NSR, 21]
12. 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.  
[Rule(s): NSR, 21]
13. 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.  
[Rule(s): NSR, 21]
14. 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.  
[Rule(s): NSR, 21, 53, 62]
15. 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.  
[Rule(s): NSR, 21]
16. 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.  
[Rule(s): NSR, 21]
17. 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.  
[Rule(s): 21]
18. 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[Rule(s): 21]

**B. DISTRICT-ONLY ENFORCEABLE CONDITIONS**

19. Access, facilities, utilities and any necessary safety equipment for source testing and inspection shall be provided upon request of the Air Pollution Control District.
20. This Air Pollution Control District Permit does not relieve the holder from obtaining permits or authorizations required by other governmental agencies.
21. The permittee shall, upon determination of applicability and written notification by the District, comply with all applicable requirements of the Air Toxics "Hot Spots" Information and Assessment Act (California Health and Safety Code Section 44300 et seq.)

**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**  
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**EMISSION UNIT APCD2011-APP-001769**

**EQUIPMENT DESCRIPTION**

Thermal oxidizer, Turner Envirologic, natural gas fired, 120 MMBtu/hr; equipped with two low NOx burners, made by North American, Model 4796-20, 60 MMBtu/hr each

**A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE 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. [NSR]
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. [Rule 1410]
4. 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. [Rule 62]
5. 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." [Rule 21]
6. 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. [NSR; Rule 21]
7. 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. [NSR; Rule 21]

8. The permittee shall calculate and record the cumulative NO<sub>x</sub> 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 NO<sub>x</sub> emissions shall be expressed in tons per year and calculated using the following equation:  $[(\text{MaxDFI}) * (\text{DF}) + (\text{MaxNGI}) * (\text{NG})] / 2$ , 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 NO<sub>x</sub> per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NO<sub>x</sub> emissions calculated pursuant to this methodology are greater than the annual NO<sub>x</sub> 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 NO<sub>x</sub> 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 NO<sub>x</sub> emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology. [NSR; Rule 21]
9. No later than March 1 of each year, the permittee shall calculate and record the NO<sub>x</sub> emissions for the previous calendar year, expressed in tons per year, using the following equation:  $[(\text{DFI}) * (\text{DF}) + (\text{NGI}) * (\text{NG})] / 2$ . 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 NO<sub>x</sub> 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 NO<sub>x</sub> 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 NO<sub>x</sub> 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. [NSR; Rule 21]
10. When required to determine compliance with a PM<sub>10</sub> emissions limit stated in this permit, permittee shall calculate and record daily PM<sub>10</sub> emissions using the following equation:  $[(1.16) * (\text{DF}) + (0.47) * (\text{NG})]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day. [NSR; Rule 21]
11. When required to determine compliance with a SO<sub>x</sub> emission limit stated in this permit, permittee shall calculate and record daily SO<sub>x</sub> emissions using the following equation:  $[(S)(\text{DF}) + (0.03)(\text{NG})]$ . 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. [NSR; Rule 21]
12. Calendar year usage of all fuels shall not cause cumulative NO<sub>x</sub> emissions from all test cells to exceed 183.2 tons per calendar year. [NSR; Rule 21]

13. 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.  
[NSR; Rule 21]
14. 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. [NSR; Rule 21]
15. 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.  
[NSR; Rules 21, 53, 62]
16. 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. [NSR; Rule 21]
17. 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.  
[NSR; Rule 21]
18. 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.  
[NSR; Rule 21]
19. 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[NSR; Rule 21]
20. Access, facilities, utilities, and any necessary safety equipment for source testing and inspections shall be provided upon request of the Air Pollution Control District.  
[Rule 19]

## **B. DISTRICT-ONLY-ENFORCEABLE CONDITIONS**

21. The permittee 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.).

22. This Air Pollution Control District Authority to Construct does not relieve the holder from obtaining permit or authorizations required by other governmental agencies.

## APPENDIX B: RULE REFERENCE TABLE

Rule Citation <sup>1</sup>	RULE TITLE	A/R <sup>2</sup>	District Adoption Date <sup>3</sup>	SIP FR Approval Date
	<b>REGULATION I - GENERAL PROVISIONS</b>			
1	Title	F	04/30/80	09/28/81
2	Definitions	F	06/30/99	02/03/00 <sup>4</sup>
4	Review of Rules	F	01/01/70 <sup>†</sup>	09/22/72
5	Authority to Arrest	F	03/24/76 <sup>†</sup>	05/11/77
	<b>REGULATION II - PERMITS</b>			
10	Permits Required	F	04/27/00	03/11/98
10.1 <sup>††</sup>	NSPS & NESHAPS Requirements	D	11/8/76	N/A
11	Exemptions from Rule 10 Permit Requirements	D/F	05/09/12	Pending
12	Registration of Specified Equipment	D	11/15/00	N/A
12.1	Portable Equipment Registration	D	05/21/97	N/A
14	Applications	F	04/30/80	09/28/81
15	Permit Process - Public Notifications	D/F	09/18/90	Pending
17	Cancellation of Applications	F	11/25/81	03/11/98
18	Action on Applications	F	01/17/72	09/22/72
18	Action on Applications	D/F	09/18/90	Pending
19	Provision of Sampling and Testing Facilities	F	04/06/93	03/11/98
19.1 <sup>††</sup>	NSPS & NESHAPS Provision of Sampling and Testing Facilities Requirements	D	11/08/76	N/A
19.2	Continuous Emission Monitoring Requirements	F	01/12/79	09/28/81
19.3	Emission Information	F	5/15/96	03/09/00
20	Standards for Granting Permits	D/F	04/25/89	Pending
20.1	Definitions, Emission Calculations, Emission Offsets and Banking, Exemptions, and Other Requirements	F	12/17/98	04/14/81
20.1	NSR - General Provisions	D/F	12/17/98	Pending
20.2	Standards for Authority to Construct - Best Available Air Pollution Control Technology	F	12/17/98	04/14/81
20.2	NSR - Non-major Stationary Sources	D/F	12/17/98	Pending
20.3	Standards for Authority to Construct - Air Quality Analysis	F	12/17/98	04/14/81
20.3	NSR - Major Stationary Source and PSD Stationary Source	D/F	12/17/98	Pending
20.4	Standards for Authority to Construct - Major Stationary Sources	F	12/17/98	04/14/81
20.4	NSR - Portable Emission Units	D/F	12/17/98	Pending
20.5	Power Plants	F	07/05/79	04/14/81
20.6	Standards for Permit to Operate - Air Quality Analysis	F	07/05/79	04/14/81
20.6	Standards for Permit to Operate Air Quality Analysis	D/F	12/14/87	Pending
20.8	Special Offset Requirement Relating to Banking	D	2/16/83	N/A
21	Permit Conditions	F	11/29/94	03/11/98
22	Denial of Applications	F	01/01/69 <sup>†</sup>	09/22/72

23	Further Information	F	01/01/69†	09/22/72
24	Temporary Permit to Operate	F	03/20/96	10/24/08
25	Appeals	F	01/01/69†	09/22/72
25	Appeals	D/F	06/21/00	Pending
26.0	Banking of Emission Reduction Credits (ERCs) - General Requirements	D/F	10/22/97	Pending
26.1	Standards for Granting Emission Reduction Credits (ERCs)	D/F	10/22/97	Pending
26.2	Use of Emission Reduction Credits (ERCs)	D/F	10/22/97	Pending
26.3	Reclassification of Class B Emission Reduction Credits (ERCs)	D/F	10/22/97	Pending
26.4	Permanency of Banked Emission Reduction Credits (ERCs)	D/F	10/22/97	Pending
26.5	Transfer of Emission Reduction Credits (ERCs)	D/F	10/22/97	Pending
26.6	District Banking of Emission Reduction Credits (ERCs)	D/F	10/22/97	Pending
26.7	Shutdown and Related Emission Unit	D/F	10/22/97	Pending
26.8	Banking of Limited Emission Reductions	D/F	10/22/97	Pending
26.9	Emission Reduction Credit Certificates and The Emission Reduction Credit Register	D/F	10/22/97	Pending
26.10	Banking For BRAC Military Base Closure or Realignment Actions	D/F	10/22/97	Pending
27	Banking of Mobile Source Emission Reduction Credits	D/F	11/29/94	Pending
27.1	Federal Requirements for San Diego County APCD Alternative Mobile Source Emission Reduction Program Approved On 9/8/2000	F	08/06/08	06/03/09
	<b>REGULATIONS III - FEES</b>			
40	Permit Fees	D	01/01/12	N/A
42	Hearing Board Fees	D	07/01/00	N/A
44	Technical Reports, Charges for	D	12/7/83	N/A
	<b>REGULATIONS IV - PROHIBITIONS</b>			
50	Visible Emissions	F	08/13/97	12/7/98
50.1††	NSPS & NESHAPS Visible Emissions Requirements	D	11/08/76	N/A
51	Nuisance	F	01/01/69†	09/22/72
52	Particular Matter	F	01/22/97	12/9/98
52.1††	NSPS & NESHAPS Particular Matter Requirements	D	11/08/76	N/A
53	Specific Contaminants	F	01/22/97	12/9/98
53.1	Scavenger Plants	F	01/01/69†	09/22/72
53.2††	NSPS & NESHAPS Specific Contaminants Requirements	D	11/08/76	N/A
54	Dusts and Fumes	F	01/22/97	12/9/98
54.1	NSPS & NESHAP Dust and Fumes Requirement	D	11/08/76	N/A
58	Incinerator Burning	F	01/17/73†	05/11/77
59	Control of Waste Disposal - Site Emissions	D	11/03/87	Withdrawn
59.1	Municipal Solid Waste Landfills	D	06/17/98	N/A
60	Circumvention	F	05/17/94	03/09/00
60.2	Limiting Potential to Emit - Synthetic Minor Sources	D	04/04/12	N/A
61.0	Definitions Pertaining to the Storage & Handling of Organic Compounds	F	10/16/90	09/13/93

61.1	Receiving & Storing Volatile Organic Compounds at Bulk Plants & Bulk Terminals	F	01/10/95	08/08/95
61.2	Transfer of Volatile Organic Compounds into Mobile Transport Tanks	F	07/26/00	08/26/03
61.3	Transfer of Volatile Organic Compounds into Stationary Storage Tanks	F	10/16/90	06/30/93
61.3.1	Transfer of Gasoline into Stationary Underground Storage Tanks	D	03/01/06	N/A
61.4	Transfer of Volatile Organic Compounds into Vehicle Fuel Tanks	F	10/16/90	05/13/93
61.4	Transfer of Volatile Organic Compounds into Vehicle Fuel Tanks	D/F	03/26/08	Pending
61.4.1	Transfer of Gasoline from Stationary Underground Storage Tanks into Vehicles Fuel Tanks	D	03/01/06	N/A
61.5	Visible Emission Standards for Vapor Control Systems	F	09/20/78 <sup>†</sup>	04/14/81
61.6	NSPS Requirements for Storage of Volatile Organic Compounds	D	01/13/87	Withdrawn
61.7	Spillage and Leakage of Volatile Organic Compounds	F	01/13/87	03/11/98
61.8	Certification Requirements for Vapor Control Equipment	F	01/13/87	03/11/98
62	Sulfur Content of Fuels	F	10/21/81	07/06/82
62.1 <sup>††</sup>	NSPS Requirements for Sulfur Content of Fuels	D	11/08/76	N/A
64	Reduction of Animal Matter	F	08/21/81	07/06/82
66	Organic Solvents	F	07/25/95	08/11/98
66.1	Miscellaneous Surface Coating Operations and Other Processes Emitting VOCs	D/F	2/24/10	Pending
67.0	Architectural Coatings	F	04/09/03	03/27/97
67.0	Architectural Coatings	D/F	12/12/01	Pending
67.1	Alternative Emission Control Plans	F	05/15/96	03/27/97
67.2	Dry Cleaning Equipment Using Petroleum - Based Solvent	F	05/15/96	03/27/97
67.3	Metal Parts and Products Coating Operations	F	05/15/96	03/27/97
67.4	Metal Container, Metal Closure and Metal Coil Coating Operations	F	05/15/96	11/03/97
67.5	Paper, Film and Fabric Coating Operations	F	05/15/96	03/27/97
67.6.1	Cold Solvent Cleaning and Stripping Operations	F	5/23/07	10/13/09
67.6.2	Vapor Degreasing Operations	F	5/23/07	10/13/09
67.7	Cutback and Emulsified Asphalts	F	05/15/96	03/27/97
67.9	Aerospace Coating Operations	F	04/30/97	08/17/98
67.10	Kelp Processing and Bio-Polymer Manufacturing	F	06/25/97	06/22/98
67.11	Wood Parts and Products Coating Operations	D/F	09/25/02	Pending
67.11.1	Large Coating Operations for Wood Products	F	09/25/02	06/05/03
67.12	Polyester Resin Operations	F	05/15/96	03/27/97
67.15	Pharmaceutical and Cosmetic Manufacturing Operations	F	05/15/96	03/27/97
67.16	Graphic Arts Operations	F	05/09/12	03/27/97
67.17	Storage of Materials Containing Volatile Organic Compounds	F	05/15/96	03/27/97
67.18	Marine Coating Operations	F	05/15/96	03/27/97
67.19	Coating and Printing Inks Manufacturing Operations	F	05/15/96	01/19/00
67.20.1	Motor Vehicle and Mobile Equipment Coating Operations	D	06/30/10	N/A

67.21	Adhesive Material Application Operations	D	11/14/08	N/A
67.22	Expandable Polystyrene Foam Products Manufacturing Operations	D	05/15/96	N/A
67.24	Bakery Ovens	F	05/15/96	03/27/97
68	Fuel-Burning Equipment – Oxides of Nitrogen	F	09/20/94	04/09/96
68.1††	NSPS Requirements for Oxides of Nitrogen from Fuel-Burning Equipment	D	11/08/76	N/A
69	Electrical Generating Steam Boilers, Replacement Units & New Units	D	12/12/95	N/A
69.2	Industrial & Commercial Boilers, Process Heaters & Steam Generators	F	09/27/94	02/09/96
69.2.1	Small Boilers, Process Heaters and Steam Generators	D	03/25/10	N/A
69.3	Stationary Gas Turbine Engines	F	09/27/94	06/17/97
69.3	Stationary Gas Turbine Engines – RACT	D/F	12/16/98	Pending
69.3.1	Stationary Gas Turbine Engines – BARCT	D	02/24/10	N/A
69.4	Stationary Internal Combustion Engines	F	09/27/94	01/22/97
69.4	Stationary Internal Combustion Engines – RACT	D/F	07/30/03	2/25/04
69.4.1	Stationary Internal Combustion Engines - BARCT	D	11/15/00	N/A
69.5	Natural Gas-Fired Water Heaters	D	01/01/99	N/A
69.6	Natural Gas-Fired Fan-Type Central Furnaces	D	06/17/98	N/A
70	Orchard Heaters	F	01/17/72	09/22/72
71	Abrasive Blasting	F	03/30/77	08/31/78
	<b>REGULATION V - PROCEDURES BEFORE THE HEARING BOARD</b>			
75	Procedure Before the Hearing Board	D/F	09/17/85	Pending
75.1††	NSPS & NESHAPS Variance Procedures	D	09/17/85	7/30/79
97	Emergency Variance	D/F	07/25/95	Pending
98	Breakdown Conditions: Emergency Variance	D	07/25/95	Withdrawn
	<b>REGULATION VI - BURNING CONTROL</b>			
101	Burning Control	F	09/25/02	04/30/03
	<b>REGULATION VII - VALIDITY AND EFFECTIVE DATE</b>			
140	Validity	F	01/01/69†	09/22/72
141	Effective Date	F	01/01/69†	09/22/72
	<b>REGULATION VIII - SAN DIEGO AIR POLLUTION EMERGENCY PLAN</b>			
126	Applicability	F	05/25/77	08/31/78
127	Episode Criteria Levels	F	09/17/91	03/18/99
128	Episode Declaration	F	09/17/91	03/18/99
129	Episode Termination	F	05/25/77	08/31/78
130	Episode Actions	F	09/17/91	03/18/99
131	Stationary Source Curtailment Plan	F	04/01/81	06/21/82
132	Traffic Abatement Plan	F	04/01/81	06/21/82
132	Traffic Abatement Plan	D/F	12/17/97	Pending

133	Schools	F	05/25/77	08/31/78
134	Source Inspection	F	04/01/81	06/21/82
135	Air Monitoring Stations	F	05/25/77	08/31/78
136	Interdistrict and Interbasin Coordination	F	05/25/77	08/31/78
137	Emergency Action Committee	F	05/25/77	08/31/78
138	Procedures and Plans	F	05/25/77	08/31/78
	APPENDIX A - Persons to be Notified on Episode Declaration	F		
<b>REGULATION IX - PUBLIC RECORDS</b>				
175	General	F	05/22/74†	05/11/77
176	Information Supplied to District	F	05/22/74†	05/11/77
177	Inspection of Public Records	F	03/30/77	08/31/78
177	Inspection of Public Records	D/F	06/20/01	Pending
<b>REGULATION XII - TOXIC AIR CONTAMINANTS</b>				
1200	Toxic Air Contaminants - New Source Review	D	06/12/96	N/A
1202	Hexavalent Chromium - Cooling Towers	D	07/25/95	N/A
1203	Ethylene Oxide Sterilizers and Aerators	D	07/26/00	N/A
1205	Control of Dioxins Emissions from Medical Waste Incinerators	D	01/01/94	N/A
1210	Toxic Air Contaminant Public Health Risks - Public Notification and Risk Reduction	D	06/12/96	N/A

<b>REGULATION XIV - TITLE V OPERATING PERMITS</b>				
1401	General Provisions	F	02/27/04	02/27/04
1410	Permit Required	F	02/27/04	02/27/04
1411	Exemption from Permit to Operate for Insignificant Units	F	03/07/95	11/30/01
1412	Federal Acid Rain Program Requirements	F	01/18/94	11/30/01
1413	Early Reduction of Hazardous Air Pollutants	F	03/07/95	11/30/01
1414	Applications	F	03/07/95	11/30/01
1415	Permit Process-Public Notification	F	02/27/04	02/27/04
1417	Pendency & Cancellation of Applications	F	03/07/95	11/30/01
1418	Action on Applications	F	02/27/04	11/30/01
1419	Provisions of Sampling & Testing Facilities & Emission Information	F	03/07/95	11/30/01
1420	Standards for Granting Permits	F	03/07/95	11/30/01
1421	Permit Conditions	F	02/27/04	02/27/04
1422	Denial or Cancellation Of Applications	F	03/07/95	11/30/01
1423	Further Information	F	01/18/94	11/30/01
1424	Applications Deemed Denied	F	01/18/94	11/30/01
1425	Appeals & Judicial Review	F	02/27/04	02/27/04
	APPENDIX A - Insignificant Units	F	02/27/04	11/30/01
<b>REGULATION XV - FEDERAL CONFORMITY</b>				
1501	Conformity of General Federal Actions	F	06/22/99	04/23/99

The following NSPS and NESHAP have been adopted locally by the District. EPA has granted the District delegation for each of these rules. Therefore, these rules, as adopted by the District are the federally applicable requirements. For all other NSPS and NESHAP, the versions cited in the CFR are the federally applicable requirements.

Subpart & Citation	RULE TITLE	District Adoption Date	Federal Delegation Date
<b>Part 60 REGULATION X - STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES</b>			
A	General Provisions	Unknown 11/03/92	11/08/76
E	Standards of Performance for Incinerators	Unknown	03/30/77
I	Standards of Performance for Asphalt Concrete Plants	Unknown 01/13/87	11/08/76
L	Standards of Performance for Secondary Lead Smelters	Unknown	11/08/76
M	Standards of Performance for Secondary Brass and Bronze Ingot Production Plants	Unknown 09/17/85*	03/30/77
O	Standards of Performance for Sewage Treatment Plants	01/13/87	09/17/87
DD	Standards of Performance for Grain Elevators	Unknown	05/24/82
EE	Standards of Performance for Surface Coating Metal Furniture	03/04/86 11/03/92	03/19/87
QQ	Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing	08/24/83	12/22/83
RR	Standards of Performance for Pressure Sensitive Tape and Label Surface Coating Operations	09/17/86 11/03/92	03/19/87
SS	Standards of Performance for the Industrial Surface Coating Large Appliances	02/22/84 11/03/92*	04/24/84
TT	Standards of Performance for Metal Coil Surface Coating	02/22/84 11/03/92*	04/24/84
BBB	Standards of Performance for the Rubber Tire Manufacturing Industry	03/14/89	07/18/89
FFF	Standards of Performance for Flexible Vinyl and Urethane Coating and Printing	09/17/86	03/19/87
JJJ	Standards of Performance for Petroleum Dry Cleaners	12/15/87	07/18/89
<b>Part 61 REGULATION XI- NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS)</b>			
A	General Provisions	01/13/87	05/24/82
C	National Emission Standard for Beryllium	Unknown	11/08/76
D	National Emission Standard for Beryllium Rocket Motor Firing	Unknown	11/08/76
E	National Emission Standard for Mercury	03/27/90	05/17/91
F	National Emission Standard for Vinyl Chloride	08/17/77 06/16/78	11/21/77
M	National Emission Standard for Asbestos	06/04/85 02/01/95	07/18/89

The following ATCM and NESHAP have not been adopted by the District, but are being implemented and enforced by the District as ATCM's.

<b>Subpart &amp; Citation</b>	<b>RULE TITLE</b>	<b>A/R</b>	<b>Most Recent Adoption Date</b>
<b>DISTRICT RULES AND REGULATIONS APPENDIX A - CALIFORNIA AIRBORNE TOXIC CONTROL MEASURES (ATCM)</b>			
17 CCR § 93102	Hexavalent Chromium ATCM for Chrome Plating & Chromic Acid Anodizing Operations	D/F	12/7/06
17 CCR § 93109	ATCM For Emissions of Perchloroethylene From Dry Cleaning Operations	F	01/25/07
17 CCR § 93101.5	ATCM to Reduce Emissions of Hexavalent Chromium and Nickel from Thermal Spraying	D	09/30/05
17 CCR § 93105	ATCM for Construction, Grading, Quarrying, and Surface Mining Operations	D	07/26/01
17 CCR § 93106	Asbestos ATCM for Surface Applications	D	07/20/00
17 CCR § 93107	ATCM For Emissions of Toxic Metals From Non-Ferrous Metal Melting	D	01/14/93
17 CCR § 93111	ATCM for Emissions of Chlorinated Toxic Air Contaminants from Automotive Maintenance & Repair Activities	D	04/27/00
17 CCR § 93112	ATCM for Emissions of Hexavalent Chromium and Cadmium from Motor Vehicle and Motor Equipment Coatings	D	09/20/01
17 CCR § 93113	ATCM to Reduce Emissions of Toxic Air Contaminants from Outdoor Residential Waste Burning	D	02/03/03
17 CCR § 93115	ATCM for Stationary Compression Ignition Engines	D	05/19/11
17 CCR § 93116	ATCM for Portable Diesel-Fueled Engines	D	02/19/11
<b>DISTRICT RULES AND REGULATIONS APPENDIX B - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP) FOR SOURCE CATEGORIES</b>			
<b>Part 63</b>			
A	General Provisions	F	05/16/07
N	Hard and Decorative Chromium Electroplating and Chromium Anodizing Tanks	F	04/20/06
O	Ethylene Oxide Sterilization Facilities	F	12/28/07
R	Gasoline Distribution	F	01/24/11
T	Halogenated Solvent Cleaning	F	09/08/00
DD	Off-site Waste & Recovery Operations	F	07/20/99
GG	Aerospace Manufacturing and Rework Facilities	F	12/08/00
II	Shipbuilding and Ship Repair (Surface Coating)	F	12/15/95
JJ	Wood Furniture Manufacturing Operations	F	12/28/98
VVV	Publicly Owned Treatment Works	F	10/21/02
AAAA	Municipal Solid Waste Landfills	F	01/16/03
EEEE	Organic Liquids Distribution (non-gasoline)	F	07/17/08
MMMM	Surface Coating of Miscellaneous Metal Parts and Products	F	04/26/04
PPPP	Plastic Parts (surface coating)	F	04/24/07
SSSS	Surface Coating of Metal Coil	F	03/17/03
VVVV	Boat Manufacturing	F	08/22/01
WWWW	Reinforced Plastic Composites Production	F	8/25/05

YYYY	Stationary Combustion Turbines	F	08/18/04
ZZZZ	Stationary Reciprocating Internal Combustion Engines	F	03/09/11
DDDDD	Industrial, Commercial, and Institutional Boilers and Process Heaters	F	05/18/11
GGGGG	Site Remediation	F	11/29/06
HHHHH	Miscellaneous Coating Manufacturing	F	10/04/06
PPPPP	Engine Test Cells/Stands	F	08/28/03
WWWWW	Hospital Ethylene Oxide Sterilizers Area Sources	F	12/28/07
BBBBBB	Gasoline Distribution Bulk Terminals, Bulk Plants, and Pipeline Facilities	F	01/24/11
CCCCCC	Gasoline Dispensing Facilities	F	01/24/11
HHHHHH	Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources	F	01/09/08
JJJJJ	Area Sources: Industrial, Commercial, and Institutional Boilers	F	3/21/11
QQQQQ	Wood Preserving Area Sources	F	07/16/07
VVVVV	Chemical Manufacturing Area Sources	F	11/29/09
WWWWW	Plating and Polishing Operations Area Sources	F	07/01/08
XXXXXX	Metal Fabrication and Finishing Area Sources	F	7/23/08
AAAAAAA	Asphalt Processing and Asphalt Roofing Manufacturing Area Sources	F	12/02/09
CCCCCC	Paint and Allied Products Manufacture Area Sources	F	12/03/09

The following NSPS have been adopted by the District by reference. The rules listed below are the CFR versions of these rules which are federally applicable requirements.

<b>Subpart &amp; Citation</b>	<b>RULE TITLE</b>	<b>Latest EPA Promulgation Date</b>	<b>District Adoption Date</b>	<b>Delegation Date</b>
<b>Part 60</b>	<b>DISTRICT RULES AND REGULATIONS APPENDIX C - STANDARDS OF PERFORMANCE FOR NEW STATIONARY SOURCES (NSPS)</b>			
D	Standards of Performance for Fossil-Fuel-Fired Steam Generators for Which Construction is Commenced After August 17, 1971	10/17/00 01/28/09	10/17/01 06/24/09	01/03/08 Pending
Da	Standards of Performance for Electric Utility Steam Generating Units for Which Construction is Commenced After September 18, 1978	06/11/01 01/28/09	10/17/01 06/24/09	01/03/08 Pending
Db	Standards of Performance for Industrial-Commercial - Institutional Steam Generating Units	10/01/01 01/28/09	04/25/01 06/24/09	01/03/08 Pending
Dc	Standards of Performance for Small Industrial-Commercial -Institutional Steam Generating Units	05/08/96 01/28/09	08/13/97 06/24/09	06/24/98 Pending
GG	Standards of Performance for Stationary Gas Turbines	06/27/89 02/24/06	10/17/01 02/25/09	01/03/08 Pending
K	Standards of Performance for Storage Vessels for Petroleum Liquids Construct After June 11, 1973 and Prior to May 19, 1978	10/17/00	06/20/07	01/03/08
Ka	Standards of Performance for Storage Vessels for Petroleum Liquids Construction after May 18, 1978	12/14/00	06/20/07	01/03/08
Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984	10/15/03	06/20/07	01/03/08
AAA	Standards of Performance for New Residential Wood Heaters	06/12/99 10/17/00	04/12/00 N/A	01/03/08 N/A
OOO	Standards of Performance for Nonmetallic Mineral Processing Plants	06/09/97 10/17/00	04/28/99 N/A	05/28/02 N/A
UUU	Standards of Performance for Calciners and Dryers in Mineral Industries	07/29/93 10/17/00	11/17/99 N/A	05/28/02 N/A
VVV	Standards for Polymeric Coating of Supporting Substrates Facilities	09/11/89	05/23/07	01/03/08
WWW	Standards of Performance for Municipal Solid Waste Landfills	04/10/00	08/13/97	06/24/98
AAAA	Standards of Performance for Small Municipal Waste Combustion Units	12/06/00	06/20/07	01/03/08
CCCC	Standards of Performance for Commercial and Industrial Solid Waste Incineration Units	12/01/00	06/20/07	01/03/08
EEEE	Standards of Performance for Other Solid Waste Incineration Units	12/16/05	06/20/07	01/03/08
KKKK	Standards of Performance for Stationary Combustion Turbines	07/06/06	02/25/09	06/01/09

The following NSPS have not been adopted by the District and are not delegated to the District. However, the District has the authority to enforce the NSPS through the Title V program. The rules listed below are the CFR versions of these rules, which are federally applicable requirements.

<b>Subpart &amp; Citation</b>	<b>RULE TITLE</b>	<b>Latest EPA Promulgation Date</b>	<b>District Adoption Date</b>	<b>Delegation Date</b>
<b>Part 60</b>				
III	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	07/11/06	N/A	N/A
JJJ	Standards of Performance for Stationary Spark Ignition Internal Combustion Engines	01/18/08	N/A	N/A

1. Rule Citations marked with an “††” contain no substantive requirements and are listed for informational purposes only.
2. ‘A/R’ Denotes enforceability of the listed applicable requirement as follows:
  - ‘F’ Denotes a Federal applicable requirement that is federally enforceable and District enforceable.
  - ‘D/F’ Denotes a District applicable requirement which is pending SIP approval. When such a rule receives SIP approval, it supersedes the existing SIP rule and becomes the Federal applicable requirement.
  - ‘D’ Denotes a District only applicable requirement. This may include some state requirements that are enforceable by the District.
3. District adoption dates marked with an “†” are the effective date of the rule, the actual adoption date is uncertain.
4. On September 17, 2010, EPA approved the District’s November, 4, 2009, revision to the table of exempt compounds in Rule 2, which can be administratively amended without Board action to amend the rule.

## APPENDIX C: ABBREVIATIONS THAT MAY APPEAR IN THIS PERMIT

APCO	Air Pollution Control Officer
ASTM	American Society for Testing and Methods
BACT	Best Available Control Technology
CAA	federal Clean Air Act
CFR	Code of Federal Regulations
CO	Carbon Monoxide
CO <sub>2</sub>	Carbon Dioxide
District	San Diego County Air Pollution Control District
EF	Emission Factor
EPA	US Environmental Protection Agency
HAP	Hazardous Air Pollutant
I&M	Inspection and Maintenance
NESHAP	National Emission Standard for Hazardous Air Pollutants
NSPS	New Source Performance Standards
NSR	New Source Review
[NSR]	New Source Review based condition
NO <sub>x</sub>	Oxides of nitrogen
O <sub>2</sub>	Oxygen
OES	Office of Environmental Services
O&M	Operation and maintenance
Pb	Lead
PM	Total Particulate Matter
PM <sub>10</sub>	Particulate matter with aerodynamic equivalent diameter of $\leq 10$ microns
PSD	Prevention of Significant Deterioration
RMP	Risk Management Plan
SDAPCD	San Diego County Air Pollution Control District
SIP	State Implementation Plan
SO <sub>x</sub>	Oxides of sulfur
Title IV	Title IV of the federal Clean Air Act
Title V	Title V of the federal Clean Air Act
VOC	Volatile organic compound

### Units of Measure:

dscf	=	Dry standard cubic foot
g	=	grams
gal	=	gallon
gr/dscf	=	Grains per dry standard cubic foot
hr	=	hour
lb	=	pound
in	=	inches
max	=	maximum
min	=	minute
MM Btu	=	Million British thermal units
psia	=	pounds per square inch, absolute
scf	=	Standard cubic foot
scfm	=	standard cubic feet per minute
yr	=	year

## **Appendix D1: DEFINITIONS—40 CFR PART 63 SUBPART MMMM**

Terms used in this permit and associated calculation procedures for purposes of addressing 40 CFR Part 63 Subpart MMMM (Subpart MMMM) requirements are defined below, in the federal Clean Air Act, in 40 CFR §63.2, and in Subpart MMMM. If any term defined below, conflicts with a term in the federal Clean Air Act, in 40 CFR §63.2, or in Subpart MMMM as it is defined for use in Subpart MMMM, the definition of the term federal Clean Air Act, in 40 CFR §63.2, or in Subpart MMMM shall take precedence.

*Additive* means a material that is added to a coating after purchase from a supplier. Examples of additives are catalysts, activators, and accelerators.

*Adhesive or adhesive coating* means any chemical substance that is applied for the purpose of bonding two surfaces together. Products used on humans and animals, adhesive tape, contact paper, or any other product with an adhesive incorporated onto or in an inert substrate shall not be considered adhesives.

*Affected coating operation* means, except for surface coating operations that occur at research or laboratory facilities or are part of janitorial, building, and facility maintenance operations or coating operations affected by other NESHAPs, all surface coating operations of miscellaneous metal parts and products at this facility including, but not limited to, coating operations under Permits to Operate Nos. 3977, 978792, and 050303 and portable coating operations with or without a valid District permit to operate including, but not limited to, contracted operations. The affected coating operation includes the collection of all of the following items that are used for surface coating of miscellaneous metal parts and products at this facility, as applicable: all storage containers and mixing vessels in which coatings, thinners and/or other additives, and cleaning materials are stored or mixed; all manual and automated equipment and containers used for conveying coatings, thinners and/or other additives, and cleaning materials; and all storage containers and all manual and automated equipment and containers used for conveying waste materials generated by a coating operation.

*Affected by other NESHAPs* means surface coating operations where plastic is extruded onto metal wire or cable or metal parts or products to form a coating, surface coating of metal parts intended for use in an aerospace vehicle or component using specialty coatings as defined in Appendix A to 40 CFR Part 63 Subpart GG; and surface coating of metal parts, metal product components, or metal products that meet the applicability criteria of 40 CFR Part 63 Subparts JJ, NNNN, RRRR, QQQQ, GG, II, JJJJ, SSSS, VVVV, PPPP, and IIII.

*Cleaning material* means a solvent used to remove contaminants and other materials, such as dirt, grease, oil, and dried or wet coating (*e.g.*, depainting or paint stripping), from a substrate before or after coating application or from equipment associated with a coating operation, such as spray booths, spray guns, racks, tanks, and hangers. Thus, it includes any cleaning material used on substrates or equipment or both.

*Coating* means a material applied to a substrate for decorative, protective, or functional purposes. Such materials include, but are not limited to, paints, sealants, liquid plastic coatings, caulks, inks, adhesives, and maskants. Decorative, protective, or functional materials that consist only of protective oils for metal, acids, bases, or any combination of these substances, or paper film or plastic film which may be pre-coated with an adhesive by the film manufacturer, are not considered coatings. A liquid plastic coating means a coating made from fine particle-size polyvinyl chloride (PVC) in solution (also referred to as a plastisol).

*Coating operation* means equipment used to apply cleaning materials to a substrate to prepare it for coating application (surface preparation) or to remove dried coating; to apply coating to a substrate (coating application) and to dry or cure the coating after application; or to clean coating operation equipment (equipment cleaning). A single coating operation may include any combination of these types of equipment, but always includes at least the point at which a given quantity of coating or cleaning material is applied to a given part and all subsequent points in the facility where organic HAP are emitted from the specific quantity of coating or cleaning material on the specific part. There may be multiple coating operations at the facility. Coating application with handheld, non-refillable aerosol containers, touch-up markers, or marking pens is not a coating operation.

*Coatings solids* means the nonvolatile portion of the coating that makes up the dry film.

*Coating waste material* means waste materials that are generated by coating operations during a compliance period for which the Emission Rate Option of the Subpart M MMM Calculation Procedures is used to demonstrate compliance and that will be treated or disposed of by a facility that is regulated as a hazardous waste treatment, storage and disposal facilities (TSDF) under 40 CFR Part 262, 264, 265, or 266. The TSDF may be either off-site or on-site. Organic HAP contained in wastewater or any waste material from coatings that are excluded from a compliance demonstration are not included in coating waste materials.

*Initial compliance period* means the period that begins on September 6, 2008 and ends on September 30, 2009.

*Compliance period* means successive 12-consecutive-calendar-month periods except for the initial compliance period which may contain 13 complete or partial consecutive calendar months. Each calendar month that ends after the initial compliance period is the end of a compliance period consisting of that month and the preceding 11 calendar months.

*Extreme performance fluoropolymer coating* means coatings that are formulated systems based on fluoropolymer resins which often contain bonding matrix polymers dissolved in non-aqueous solvents as well as other ingredients. Extreme performance fluoropolymer coatings are typically used when one or more critical performance criteria are required including, but not limited to a nonstick low-energy surface, dry film lubrication, high resistance to chemical attack, extremely wide operating temperature, high electrical insulating properties, or that the surface comply with government ( *e.g.*, USDA, FDA) or third party specifications for health, safety, reliability, or performance. Once applied to a substrate, extreme performance fluoropolymer coatings undergo

a curing process that typically requires high temperatures, a chemical reaction, or other specialized technology.

*General use coating* means any material that meets the definition of coating but does not meet the definition of high performance coating, rubber-to-metal coating, magnet wire coating, or extreme performance fluoropolymer coating.

*High temperature coating* means any coating applied to a substrate which during normal use must withstand temperatures of at least 538 degrees Celsius (1000 degrees Fahrenheit).

*Manufacturer's formulation data* means data on a material (such as a coating) that are supplied by the material manufacturer based on knowledge of the ingredients used to manufacture that material, rather than based on testing of the material with the test methods specified in 40 CFR §63.3941. Manufacturer's formulation data may include, but are not limited to, information on density, organic HAP content, volatile organic matter content, and coating solids content.

*Mass fraction of organic HAP* means the ratio of the mass of organic HAP to the mass of a material in which it is contained, expressed as kilograms of organic HAP per kg of material or pounds of organic HAP per pound of material.

*Miscellaneous metal parts and products* means any metal part or item except metal parts or products where plastic is extruded onto metal wire or cable or metal parts or products to form a coating; metal parts intended for use in an aerospace vehicle or component that are coated using specialty coatings as defined in Appendix A to 40 CFR Part 63 Subpart GG; and metal parts, product components, or products that meet the applicability criteria of 40 CFR Part 63 Subparts JJ, NNNN, RRRR, QQQQ, GG, II, JJJ, SSSS, VVVV, PPPP, and IIII. Miscellaneous metal parts and products include, but are not limited to, metal components of gas turbine engines and gas turbine engines themselves and any auxiliary equipment and their component parts that are for use with gas turbine engines.

*Non-HAP material* means a coating that contains no more than 0.1 percent by mass of any individual organic HAP that is an OSHA-defined carcinogen as specified in 29 CFR §1910.1200(d)(4) and no more than 1.0 percent by mass for any other individual HAP

*Organic HAP content* means the mass of organic HAP emitted per volume of coating solids used for a coating calculated using the Subpart MMMM Calculation Procedures. For purposes of this permit, the organic HAP content is determined for the coating in the condition it is in when received from its manufacturer or supplier and does not account for any alteration after receipt except as specified for two-component coatings.

*Organic HAP* means, except for compounds deleted as HAPs by EPA, any compound, or any compound in a family of compounds, listed in Table D1-1 that contains at least one carbon atom and any VOC as defined as a VOC in 40 §CFR 51.100 (s) or identified in 40 §CFR 51.100 (s) as having negligible photochemical reactivity if that compound is also identified as a HAP. Notwithstanding this definition, any compound that the EPA Administrator has determined is an organic HAP is an organic HAP for purposes of this permit.

*Protective oil* means an organic material that is applied to metal for the purpose of providing lubrication or protection from corrosion without forming a solid film. This definition of protective oil includes, but is not limited to, lubricating oils, evaporative oils (including those that evaporate completely), and extrusion oils. Protective oils used on miscellaneous metal parts and products include magnet wire lubricants and soft temporary protective coatings that are removed prior to installation or further assembly of a part or component.

*Research or laboratory facility* means a facility whose primary purpose is for research and development of new processes and products, that is conducted under the close supervision of technically trained personnel, and is not engaged in the manufacture of final or intermediate products for commercial purposes, except in a *de minimis* manner.

*Rubber-to-metal coatings* are coatings that contain heat-activated polymer systems in either solvent or water that, when applied to metal substrates, dry to a non-tacky surface and react chemically with the rubber and metal during a vulcanization process.

*Surface coating* is the application of coating to a substrate including any associated activities, such as surface preparation, cleaning, mixing, and storage provided that these activities are directly related to the application of the coating.

*Surface preparation* means use of a cleaning material on a portion of or all of a substrate. This includes use of a cleaning material to remove dried coating, which is sometimes called depainting or paint stripping.

*Volatile organic compound (VOC)* means any compound defined as a VOC in 40 CFR 51.100(s).

*Volume fraction of coating solids* means the ratio of the volume of coating solids (also known as the volume of nonvolatiles) to the volume of a coating in which it is contained; in gallons (liters) of coating solids per gallon (liter) of coating.

**Table D1-1. Organic HAPs**

<b>Chemical Name</b>	<b>CAS No.</b>
Acetaldehyde	75070
Acetamide	60355
Acetonitrile	75058
Acetophenone	98862
2-Acetylaminofluorine	53963
Acrolein	107028
Acrylamide	79061
Acrylic acid	79107
Acrylonitrile	107131
Allyl chloride	107051

4-Aminobiphenyl	92671
Aniline	62533
o-Anisidine	90040
Benzene	71432
Benzidine	92875
Benzotrichloride	98077
Benzyl chloride	100447
Biphenyl	92524
Bis (2-ethylhexyl) phthalate (DEHP)	117817
Bis (chloromethyl) ether	542881
Bromoform	75252
1,3-Butadiene	106990
Carbon disulfide	75150
Carbon tetrachloride	56235
Carbonyl sulfide	463581
Catechol	120809
Chloroacetic acid	79118
2-Chloroacetophenone	532274
Chlorobenzene	108907
Chloroform	67663
Chloromethyl methyl ether	107302
Chloroprene	126998
Cresols (isomers and mixture)	1319773
o-Cresol	95487
m-Cresol	108394
p-Cresol	106445
Cumene	98828
2,4-D (2,4-Dichlorophenoxyacetic acid, including salts and esters)	94757
DDE (1,1-Dichloro-2,2-bis(p-chlorophenyl)ethylene)	72559
Diazomethane	334883
Dibenzofuran	132649
1,2-Dibromo-3-chloropropane	96128
Dibutylphthalate	84742
1,4-Dichlorobenzene	106467
3,3'-Dichlorobenzidine	91941
Dichloroethyl ether (Bis(2-chloroethyl)ether)	111444
1,3-Dichloropropene	542756
Diethanolamine	111422
N,N-Dimethylaniline	121697
Diethyl sulfate	64675

3,3'-Dimethoxybenzidine	119904
4-Dimethylaminoazobenzene	60117
3,3'-Dimethylbenzidine	119937
Dimethylcarbamoyl chloride	79447
N,N-Dimethylformamide	68122
1,1-Dimethylhydrazine	57147
Dimethyl phthalate	131113
Dimethyl sulfate	77781
4,6-Dinitro-o-cresol, and salts	534521
2,4-Dinitrophenol	51285
2,4-Dinitrotoluene	121142
1,4-Dioxane (1,4-Diethyleneoxide)	123911
1,2-Diphenylhydrazine	122667
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	106898
1,2-Epoxybutane	106887
Ethyl acrylate	140885
Ethylbenzene	100414
Ethyl carbamate (Urethane)	51796
Ethyl chloride (Chloroethane)	75003
Ethylene dibromide (Dibromoethane)	106934
Ethylene dichloride (1,2-Dichloroethane)	107062
Ethylene glycol	107211
Ethylene oxide	75218
Ethylenethiourea	96457
Ethylidene dichloride (1,1-Dichloroethane)	75343
Formaldehyde	50000
Glycoethers <sup>a</sup> except for ethylene glycol monobutyl ether (EGBE or 2-Butoxyethanol)—CAS Number 111-76-2	
Hexachlorobenzene	118741
Hexachloro-1,3-butadiene	87683
Hexachloroethane	67721
Hexamethylene-1,6-diisocyanate	822060
Hexamethylphosphoramide	680319
Hexane	110543
Hydroquinone	123319
Isophorone	78591
Maleic anhydride	108316
Methanol	67561
Methyl bromide (Bromomethane)	74839
Methyl chloride (Chloromethane)	74873

Methyl chloroform (1,1,1-Trichloroethane)	71556
Methylhydrazine	60344
Methyl iodide (Iodomethane)	74884
Methyl isobutyl ketone (Hexone)	108101
Methyl isocyanate	624839
Methyl methacrylate	80626
Methyl tert-butyl ether	1634044
4,4'-Methylenebis (2-chloroaniline)	101144
Methylene chloride (Dichloromethane)	75092
4,4'-Methylenediphenyl diisocyanate (MDI)	101688
4,4'-Methylenedianiline	101779
Naphthalene	91203
Nitrobenzene	98953
4-Nitrobiphenyl	92933
4-Nitrophenol	100027
2-Nitropropane	79469
N-Nitroso-N-methylurea	684935
N-Nitrosodimethylamine	62759
N-Nitrosomorpholine	59892
Phenol	108952
p-Phenylenediamine	106503
Phosgene	75445
Phthalic anhydride	85449
Polychlorinated biphenyls (Aroclors)	1336363
Polycyclic Organic Matter <sup>b</sup>	
1,3-Propane sultone	1120714
beta-Propiolactone	57578
Propionaldehyde	123386
Propoxur (Baygon)	114261
Propylene dichloride (1,2-Dichloropropane)	78875
Propylene oxide	75569
1,2-Propylenimine (2-Methyl aziridine)	75558
Quinone	106514
Styrene	100425
Styrene oxide	96093
2,3,7,8-Tetrachlorodibenzo-p-dioxin	1746016
1,1,2,2-Tetrachloroethane	79345
Tetrachloroethylene (Perchloroethylene)	127184
Toluene	108883
2,4-Toluenediamine	95807

Toluene-2,4-diisocyanate	584849
o-Toluidine	95534
1,2,4-Trichlorobenzene	120821
1,1,2-Trichloroethane	79005
Trichloroethylene	79016
2,4,5-Trichlorophenol	95954
2,4,6-Trichlorophenol	88062
Triethylamine	121448
Trifluralin	1582098
2,2,4-Trimethylpentane	540841
Vinyl acetate	108054
Vinyl bromide	593602
Vinyl chloride	75014
Vinylidene chloride (1,1-Dichloroethylene)	75354
Xylenes (isomers and mixture)	1330207
o-Xylene	95476
m-Xylene	108383
p-Xylene	106423

Glycol ethers include mono- and di-ethers of ethylene glycol, diethylene glycol, and triethylene glycol  $R-(OCH_2CH_2)_n-OR'$ .

Where:

$n = 1, 2, \text{ or } 3$ ;

$R = \text{alkyl } C_7 \text{ or less; or}$

$R = \text{phenyl or alkyl substituted phenyl;}$

$R' = H \text{ or alkyl } C_7 \text{ or less; or } OR' \text{ consisting of carboxylic acid ester, sulfate, phosphate, nitrate, or sulfonate.}$

<sup>b</sup>Includes organic compounds with more than one benzene ring, and which have a boiling point greater than or equal to 100°C.