

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

**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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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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### 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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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:  
$$[((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG})) / 2]$$
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

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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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**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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### 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

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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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**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-020882

## **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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10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
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www.sdapcd.org

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

**PERMIT ID**  
APCD2009-PTO-920710



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**

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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PERMIT ID  
APCD2009-PTO-920710

**PERMIT TO OPERATE**

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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.)

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

## PERMIT TO OPERATE

**EXPIRES: June 30, 2016**

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### 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  
APCD2008-PTO-975790

**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-975790

## 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**

**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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10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
(858) 586-2600 FAX (858) 586-2601  
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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**  
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### 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

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.  
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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.  
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## PERMIT TO OPERATE

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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.  
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[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.  
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[Rule(s): NSR, 21, 53, 62]
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[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  
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-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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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 #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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**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-975792

## 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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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:** APCD2000-APP-975793

**PERMIT ID**  
APCD2008-PTO-975793



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## PERMIT TO OPERATE

**EXPIRES: June 30, 2016**

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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**

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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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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10124 OLD GROVE ROAD, SAN DIEGO, CA 92131  
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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



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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). (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 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-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.  
[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-976905

## **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**  
APCD2008-PTO-976913



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). (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]
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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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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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.

[Rule(s): NSR, 21]

9. 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:  $[(1.16)(DF)+(0.47)(NG)]$ , 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 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:  $[(S)(DF)+(0.03)(NG)]$ . 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 NO<sub>x</sub> 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 PM<sub>10</sub> 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 SO<sub>x</sub> 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  
APCD2008-PTO-976913

## **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.  
**1582**  
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

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.

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, 67.3 AND 67.11.

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]

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

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]

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

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

## 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.

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.  
50303  
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

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 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 RULE(S) 67.3 AND 67.17.

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(S): 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]

## PERMIT TO OPERATE

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 APPLICATION STATION 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 VOLATILE ORGANIC COMPOUNDS AND MADE READILY AVAILABLE TO THE DISTRICT UPON REQUEST.  
[RULE(S): 67.3, NSR]
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.  
[RULE(S): 1421]
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.  
[RULE(S): 1421]

## PERMIT TO OPERATE

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(S): 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(S): 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(S): 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(S): 1421]

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

20. 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(S): 1200]
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.).  
[AIR TOXICS HOT SPOTS]
22. THIS AIR POLLUTION CONTROL DISTRICT PERMIT DOES NOT RELIEVE THE HOLDER FROM OBTAINING PERMITS OR AUTHORIZATION REQUIRED BY OTHER GOVERNMENTAL AGENCIES.

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 85376  
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]

**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.  
**978792**  
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

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 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 RULE(S) 67.3 AND 67.17.

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 COMPLY WITH ALL APPLICABLE REQUIREMENTS OF RULE 67.3.  
[RULE(S): 1421]
2. PERMITTEE SHALL OPERATE THE COATING APPLICATION STATION DESCRIBED ABOVE IN COMPLIANCE WITH ALL APPLICABLE STANDARDS OF RULE67.3 SECTION (D), INCLUDING APPLICATION METHODS, SURFACE PREPARATION AND CLEANUP REQUIREMENTS, COATING VOC LIMITS AND APPLICATION EQUIPMENT CLEANUP REQUIREMENTS.  
[RULE(S): 67.3]
3. PERMITTEE SHALL MAINTAIN RECORDS FOR THE APPLICATION STATION DESCRIBED ABOVE IN ACCORDANCE WITH ALL APPLICABLE REQUIREMENTS OF RULE 67.3 SECT. (F).  
[RULE(S): 67.3]
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.  
[RULE(S): 67.3]

**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**

10124 OLD GROVE RD, SAN DIEGO, CA 92131

(858) 586-2600 FAX (858) 586-2601

CONTROL NO.

**Draft**

PERMIT NO.

**978792**

EXPIRES

**JUNE 27, 2016**

**PERMIT TO OPERATE**

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).  
[RULE(S): 67.3]
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.  
[RULE(S): NSR, 21]
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.  
[RULE(S): NSR, 21]
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.  
[RULE(S): NSR, 21]
9. PERMITTEE SHALL NOT APPLY COATINGS IN THE APPLICATION STATION DESCRIBED ABOVE UNLESS EXHAUST FANS AND EXHAUST FILTERS ARE INSTALLED AND OPERATING PROPERLY.  
[RULE(S): NSR, 21]
10. PERMITTEE SHALL ENSURE THAT ALL MATERIALS CONTAINING ORGANIC COMPOUNDS ARE STORED IN CLOSED CONTAINERS IN ACCORDANCE WITH RULE 67.17 REQUIREMENTS.  
[RULE(S): 67.17]
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.  
[RULE(S): 67.3]
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.  
[RULE(S): 67.3]
13. 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(S): 1421]
14. 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.

COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT

10124 OLD GROVE RD, SAN DIEGO, CA 92131

CONTROL NO.

Draft

(858) 586-2600 FAX (858) 586-2601

PERMIT NO.

978792

EXPIRES

JUNE 27, 2016

PERMIT TO OPERATE

[RULE(S): 1421]

15. 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.  
[RULE(S): 1421]
16. 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.  
[RULE(S): 1421]
17. 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(S): 1421]
18. 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(S): 1421]
19. 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(S): 1421]
20. 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(S): 1421]

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

21. 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.

**COUNTY OF SAN DIEGO, AIR POLLUTION CONTROL DISTRICT**

10124 OLD GROVE RD, SAN DIEGO, CA 92131

(858) 586-2600 FAX (858) 586-2601

CONTROL NO.

**Draft**

PERMIT NO.

**978792**

EXPIRES

**JUNE 27, 2016**

**PERMIT TO OPERATE**

[RULE(S): 1200]

22. 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]
23. THIS AIR POLLUTION CONTROL DISTRICT PERMIT DOES NOT RELIEVE THE HOLDER FROM OBTAINING PERMITS OR AUTHORIZATION REQUIRED BY OTHER GOVERNMENTAL AGENCIES.

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.



*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)

December 21, 2011

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

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

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

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

This Authority to Construct is issued with the following conditions:

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

Application #: APCD2011-APP-001769

- initial compliance test unless otherwise directed in writing by the District.
- 10 The emissions of carbon monoxide (CO) from the exhaust of this equipment shall not exceed 400 parts per million volume on a dry basis (ppmvd) corrected to 3% oxygen. Compliance with this limit shall be demonstrated at the initial compliance test unless otherwise directed in writing by the District.
  - 11 Within 60 days after the initial startup, an initial source test shall be conducted by an independent, ARB approved tester or the District, at the applicant's expense, to determine initial compliance with the emission standards of this Authority to Construct. A source test protocol shall be submitted to the District for approval at least 30 days prior to the initial source test. The source test protocol shall comply with the following requirements:
    - a. Measurements of outlet oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO), and stack gas oxygen content (O<sub>2</sub>%) shall be conducted in accordance with the District Source Test Method 100, or the Air Resources Board (ARB) Test Method 100 as approved by the U.S. Environmental Protection Agency (EPA).
    - b. Source testing shall be performed at no less than 80% of the burner rated load.
  - 12 Within 30 days after completion of the initial source tests, a final test report shall be submitted to the District for review and approval. The testing contractor shall include, as part of the test report, a certification that to the best of his knowledge the report is a true and accurate representation of the test conducted and the results.
  - 13 In the event the initial source test results do not demonstrate compliance with District Rules and Regulations and emissions standards specified herein, to the satisfaction of the District, the applicant shall take corrective action to meet these standards. Any proposed corrective action that would result in a modification to the equipment shall require an application for a District Authority to Construct for such modification.
  - 14 Based on source testing, additional monitoring parameters may be established through modification of a Startup Authorization or Permit to Operate to ensure compliance. Operating characteristics monitored by continuous parametric monitors may also be restricted to specified ranges or limits, as determined by the District, based upon manufacturer's recommended operating procedures and initial compliance source test results.
  - 15 The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal oxidizers are together hereinafter referred to as "test cells." (Rules(s):21)
  - 16 From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NO<sub>x</sub> emission index (DFI) and natural gas NO<sub>x</sub> emission index (NGI) values, expressed in pounds of NO<sub>x</sub> per 1000 pounds of fuel, shall be used to calculate the cumulative NO<sub>x</sub> emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NO<sub>x</sub> emissions do not exceed the annual emission limit specified in this permit.
  - 17 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 NO<sub>x</sub> emission factors and test procedures based on the types and number of engine

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

- 18 The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:  $\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}$ , 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.
- 19 No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation:  $\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}$ . 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.
- 20 When required to determine compliance with a PM10 emissions limit stated in this permit, permittee shall calculate and record daily PM10 emissions using the following equation:  $[(1.16) \cdot (\text{DF}) + (0.47) \cdot (\text{NG})]$ , where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.
- 21 When required to determine compliance with a SOx emission limit stated in this permit, permittee shall calculate and record daily SOx emissions using the following equation:  $[(\text{S}) \cdot (\text{DF}) + (0.03) \cdot (\text{NG})]$ . Where (DF) and (NG) are the respective fuel usages in 1000

Application #: APCD2011-APP-001769

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

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

Application #: APCD2011-APP-001769

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

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

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

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

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

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

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

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



Arthur Carbonell  
Associate Engineer

CC: Compliance Division



*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)

April 26, 2012

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

After examination of your Application APCD2012-APP-001938 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 #20: 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.

Application #: APCD2012-APP-001938

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.

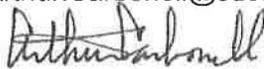
This Air Pollution Control District Authority to Construct does not relieve the holder from obtaining permits or authorizations, which may be required by other governmental agencies. This Authority to Construct is not authority to exceed any applicable emission standard established by this District or 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 04/26/2013 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 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 Permittée 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-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**  
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[www.sdapcd.org](http://www.sdapcd.org)

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-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, 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-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*  
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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
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- 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