

SECTION V. APPENDICES

APPENDIX A: DISTRICT PERMITS (Attached)

Authority to Construct Numbers	Permit Numbers	Source Category
	1582	Industrial Coatings
	3886	Test Cell/Pad (08)
	3977	Metal Parts Coating
	4015	Test Cell/Pad (07)
	4252	Test Cell/Pad (01)
	4253	Test Cell/Pad (02)
	4254	Test Cell/Pad (03)
	4255	Test Cell/Pad (04)
	4256	Test Cell/Pad (05)
	4257	Test Cell/Pad (06)
	4258	Test Cell/Pad (09)
	4495	Test Cell/Pad (10)
	4496	Test Cell/Pad (11)
	4733	Test Cell/Pad (12)
	7750	Abrasive Blasting
	20875	Test Cell/Pad (19)
	20876	Test Cell/Pad (30)
	20877	Test Cell/Pad (18)
	20878	Test Cell/Pad (17)
	20879	Test Cell/Pad (16)
	20880	Test Cell/Pad (15)
	20881	Test Cell/Pad (13)
	20882	Test Cell/Pad (14)
	50303	Metal Parts Coating
	920710	Duct Burner Test Pad
	930697	Metal Inspection Tanks
	975790	Test Cell/Pad (16-4)
	975791	Test Cell/Pad (21)
	975792	Test Cell/Pad (22)
	975793	Test Cell/Pad (23)
	976905	Thermal Oxidizer
	976913	Thermal Oxidizer
	978792	Metal Parts Coating
APCD2011-APP-001769		Thermal Oxidizer
APCD2012-APP-001938		Test Cell/Pad (20)
APCD2012-APP-001939		Test Cell/Pad (24)
APCD2012-APP-001941		Test Cell/Pad (26)
APCD2012-APP-001942		Test Cell/Pad (25)

02-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: APCD1997-APP-970217

PERMIT ID

APCD2008-PTO-003886



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

Revised Date:

Page 1 of 4

Print Date: November 2, 2012

02-NOV-12

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

PERMIT ID
APCD2008-PTO-003886

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

02-NOV-12

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

PERMIT ID
APCD2008-PTO-003886

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]

02-NOV-12

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

PERMIT ID
APCD2008-PTO-003886

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.)

07-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: APCD2012-APP-001963

PERMIT ID
APCD2008-PTO-004015



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

Revised Date:

Page 1 of 4

Print Date: November 7, 2012

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004015

PERMIT TO OPERATE

EXPIRES: June 30, 2016

thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal oxidizers are together hereinafter referred to as "test cells."

[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.

[Rule(s): NSR, 21]

6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.

[Rule(s): NSR, 21]

7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.

[Rule(s): NSR, 21]

8. No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation: $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$. Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004015

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]

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004015

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.)

07-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: APCD1996-APP-950739

PERMIT ID
APCD2008-PTO-004252



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

BEC: .10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004252

PERMIT TO OPERATE

EXPIRES: June 30, 2016

oxidizers are together hereinafter referred to as "test cells."

[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.
[Rule(s): NSR, 21]

6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.
[Rule(s): NSR, 21]

7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
$$[((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG})) / 2]$$
, where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.
[Rule(s): NSR, 21]

8. No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation: $[(\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG})] / 2$. Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves a change in a submitted fuel index values for a calendar year, the permittee shall recalculate and record the

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004252

PERMIT TO OPERATE

EXPIRES: June 30, 2016

NOx emissions for that calendar year using the changed fuel index value(s) within 60 days of the date the District approves such a change. For the purposes of determining compliance with the NOx limits specified in this permit, the calculation methodology specified in this condition shall take precedence over any other calculation methodology specified in this permit. The records required by this condition shall be maintained for a minimum of five years and made available to the District upon request.

[Rule(s): NSR, 21]

9. When required to determine compliance with a PM10 emissions limit stated in this permit, permittee shall calculate and record daily PM10 emissions using the following equation: $[(1.16)(DF)+(0.47)(NG)]$, where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.
[Rule(s): NSR, 21]
10. When required to determine compliance with a SOx emission limit stated in this permit, permittee shall calculate and record daily SOx emissions using the following equation: $[(S)(DF)+(0.03)(NG)]$. Where (DF) and (NG) are the respective fuel usages in 1000 pounds per day and (S) is the weighted average sulfur content of the distillate fuel in pounds of fuel.
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.
[Rule(s): NSR, 21]
12. When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate or 13.5 million pounds of gaseous fuel, on any day thereafter, daily fuel usage shall not cause PM10 emissions from all test cells to exceed 493.8 pounds per day.
[Rule(s): NSR, 21]
13. When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate, on any day thereafter that a fuel with sulfur content greater than 0.10% by weight is used, daily fuel usage shall not cause SOx emissions from all test cells to exceed 543.8 pounds per day.
[Rule(s): NSR, 21]
14. Permittee shall maintain supplier records of the sulfur content of the distillate fuel. Permittee shall keep daily records of fuel usage for any fuel with sulfur content greater than 0.10% by weight. If supplier records are not available, sulfur content shall be determined in accordance with a protocol approved in advance by the District.
[Rule(s): NSR, 21, 53, 62]
15. Permittee shall maintain records of daily and monthly cumulative calendar usage of each type of fuel used in the test cells. All usage records shall be corrected to standard conditions.
[Rule(s): NSR, 21]
16. A non-resettable totalizing gaseous fuel meter shall be maintained on-site to measure fuel usage. The meter

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004252

PERMIT TO OPERATE

EXPIRES: June 30, 2016

shall either be self-correcting to standard conditions (68 deg F and 14.7 PSIA) or shall display meter gas pressure and temperature data.

[Rule(s): NSR, 21]

17. At the request of the District, permittee shall provide a test cell testing schedule covering a two week period. The schedule shall be submitted within 10 calendar days of the District's request and the two week period shall begin on the date the test schedule is submitted. The schedule shall specify the type of turbines to be tested and the type of test to be performed. Any specific measurements or additional data requested by the District shall be handled at the time of the test and may include, if possible, additional emissions readings (e.g., NOx, CO, HC) taken during a given test.

[Rule(s): 21]

18. Permittee shall maintain records of all tests performed in the test cells. The records shall include:

- the type of equipment tested
- operating conditions of the test
- actual emissions if measured or the emission factor used to calculate emissions

[Rule(s): 21]

B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

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

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

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

07-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-004253



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004253

PERMIT TO OPERATE

EXPIRES: June 30, 2016

oxidizers are together hereinafter referred to as "test cells."

[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.
[Rule(s): NSR, 21]
6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.
[Rule(s): NSR, 21]
7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.
[Rule(s): NSR, 21]
8. No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation: $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$. Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves a change in a submitted fuel index values for a calendar year, the permittee shall recalculate and record the

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004253

PERMIT TO OPERATE

EXPIRES: June 30, 2016

NOx emissions for that calendar year using the changed fuel index value(s) within 60 days of the date the District approves such a change. For the purposes of determining compliance with the NOx limits specified in this permit, the calculation methodology specified in this condition shall take precedence over any other calculation methodology specified in this permit. The records required by this condition shall be maintained for a minimum of five years and made available to the District upon request.

[Rule(s): NSR, 21]

9. When required to determine compliance with a PM10 emissions limit stated in this permit, permittee shall calculate and record daily PM10 emissions using the following equation: $[(1.16)(DF)+(0.47)(NG)]$, where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.
[Rule(s): NSR, 21]
10. When required to determine compliance with a SOx emission limit stated in this permit, permittee shall calculate and record daily SOx emissions using the following equation: $[(S)(DF)+(0.03)(NG)]$. Where (DF) and (NG) are the respective fuel usages in 1000 pounds per day and (S) is the weighted average sulfur content of the distillate fuel in pounds of fuel.
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.
[Rule(s): NSR, 21]
12. When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate or 13.5 million pounds of gaseous fuel, on any day thereafter, daily fuel usage shall not cause PM10 emissions from all test cells to exceed 493.8 pounds per day.
[Rule(s): NSR, 21]
13. When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate, on any day thereafter that a fuel with sulfur content greater than 0.10% by weight is used, daily fuel usage shall not cause SOx emissions from all test cells to exceed 543.8 pounds per day.
[Rule(s): NSR, 21]
14. Permittee shall maintain supplier records of the sulfur content of the distillate fuel. Permittee shall keep daily records of fuel usage for any fuel with sulfur content greater than 0.10% by weight. If supplier records are not available, sulfur content shall be determined in accordance with a protocol approved in advance by the District.
[Rule(s): NSR, 21, 53, 62]
15. Permittee shall maintain records of daily and monthly cumulative calendar usage of each type of fuel used in the test cells. All usage records shall be corrected to standard conditions.
[Rule(s): NSR, 21]
16. A non-resettable totalizing gaseous fuel meter shall be maintained on-site to measure fuel usage. The meter

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004253

PERMIT TO OPERATE

EXPIRES: June 30, 2016

shall either be self-correcting to standard conditions (68 deg F and 14.7 PSIA) or shall display meter gas pressure and temperature data.

[Rule(s): NSR, 21]

17. At the request of the District, permittee shall provide a test cell testing schedule covering a two week period. The schedule shall be submitted within 10 calendar days of the District's request and the two week period shall begin on the date the test schedule is submitted. The schedule shall specify the type of turbines to be tested and the type of test to be performed. Any specific measurements or additional data requested by the District shall be handled at the time of the test and may include, if possible, additional emissions readings (e.g., NOx, CO, HC) taken during a given test.

[Rule(s): 21]

18. Permittee shall maintain records of all tests performed in the test cells. The records shall include:

- the type of equipment tested
- operating conditions of the test
- actual emissions if measured or the emission factor used to calculate emissions

[Rule(s): 21]

B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

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

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

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

07-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-004254



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal

Revised Date:

Page 1 of 4

Print Date: November 7, 2012

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004254

PERMIT TO OPERATE

EXPIRES: June 30, 2016

oxidizers are together hereinafter referred to as "test cells."

[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.
[Rule(s): NSR, 21]

6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.
[Rule(s): NSR, 21]

7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.
[Rule(s): NSR, 21]

8. No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation: $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$. Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves a change in a submitted fuel index values for a calendar year, the permittee shall recalculate and record the

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004254

PERMIT TO OPERATE

EXPIRES: June 30, 2016

NOx emissions for that calendar year using the changed fuel index value(s) within 60 days of the date the District approves such a change. For the purposes of determining compliance with the NOx limits specified in this permit, the calculation methodology specified in this condition shall take precedence over any other calculation methodology specified in this permit. The records required by this condition shall be maintained for a minimum of five years and made available to the District upon request.

[Rule(s): NSR, 21]

9. When required to determine compliance with a PM10 emissions limit stated in this permit, permittee shall calculate and record daily PM10 emissions using the following equation: $[(1.16)(DF)+(0.47)(NG)]$, where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.
[Rule(s): NSR, 21]
10. When required to determine compliance with a SOx emission limit stated in this permit, permittee shall calculate and record daily SOx emissions using the following equation: $[(S)(DF)+(0.03)(NG)]$. Where (DF) and (NG) are the respective fuel usages in 1000 pounds per day and (S) is the weighted average sulfur content of the distillate fuel in pounds of fuel.
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.
[Rule(s): NSR, 21]
12. When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate or 13.5 million pounds of gaseous fuel, on any day thereafter, daily fuel usage shall not cause PM10 emissions from all test cells to exceed 493.8 pounds per day.
[Rule(s): NSR, 21]
13. When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate, on any day thereafter that a fuel with sulfur content greater than 0.10% by weight is used, daily fuel usage shall not cause SOx emissions from all test cells to exceed 543.8 pounds per day.
[Rule(s): NSR, 21]
14. Permittee shall maintain supplier records of the sulfur content of the distillate fuel. Permittee shall keep daily records of fuel usage for any fuel with sulfur content greater than 0.10% by weight. If supplier records are not available, sulfur content shall be determined in accordance with a protocol approved in advance by the District.
[Rule(s): NSR, 21, 53, 62]
15. Permittee shall maintain records of daily and monthly cumulative calendar usage of each type of fuel used in the test cells. All usage records shall be corrected to standard conditions.
[Rule(s): NSR, 21]
16. A non-resettable totalizing gaseous fuel meter shall be maintained on-site to measure fuel usage. The meter

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004254

PERMIT TO OPERATE

EXPIRES: June 30, 2016

shall either be self-correcting to standard conditions (68 deg F and 14.7 PSIA) or shall display meter gas pressure and temperature data.

[Rule(s): NSR, 21]

17. At the request of the District, permittee shall provide a test cell testing schedule covering a two week period. The schedule shall be submitted within 10 calendar days of the District's request and the two week period shall begin on the date the test schedule is submitted. The schedule shall specify the type of turbines to be tested and the type of test to be performed. Any specific measurements or additional data requested by the District shall be handled at the time of the test and may include, if possible, additional emissions readings (e.g., NO_x, 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.)

07-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-004255



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal

Revised Date:

Page 1 of 4

Print Date: November 7, 2012

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004255

PERMIT TO OPERATE

EXPIRES: June 30, 2016

oxidizers are together hereinafter referred to as "test cells."

[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.
[Rule(s): NSR, 21]

6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.
[Rule(s): NSR, 21]

7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
$$[(((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))/2)]$$
where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.
[Rule(s): NSR, 21]

8. No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation: $[((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))/2]$. Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves a change in a submitted fuel index values for a calendar year, the permittee shall recalculate and record the

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004255

PERMIT TO OPERATE

EXPIRES: June 30, 2016

NOx emissions for that calendar year using the changed fuel index value(s) within 60 days of the date the District approves such a change. For the purposes of determining compliance with the NOx limits specified in this permit, the calculation methodology specified in this condition shall take precedence over any other calculation methodology specified in this permit. The records required by this condition shall be maintained for a minimum of five years and made available to the District upon request.

[Rule(s): NSR, 21]

9. When required to determine compliance with a PM10 emissions limit stated in this permit, permittee shall calculate and record daily PM10 emissions using the following equation: $[(1.16)(DF)+(0.47)(NG)]$, where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.
[Rule(s): NSR, 21]
10. When required to determine compliance with a SOx emission limit stated in this permit, permittee shall calculate and record daily SOx emissions using the following equation: $[(S)(DF)+(0.03)(NG)]$. Where (DF) and (NG) are the respective fuel usages in 1000 pounds per day and (S) is the weighted average sulfur content of the distillate fuel in pounds of fuel.
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.
[Rule(s): NSR, 21]
12. When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate or 13.5 million pounds of gaseous fuel, on any day thereafter, daily fuel usage shall not cause PM10 emissions from all test cells to exceed 493.8 pounds per day.
[Rule(s): NSR, 21]
13. When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate, on any day thereafter that a fuel with sulfur content greater than 0.10% by weight is used, daily fuel usage shall not cause SOx emissions from all test cells to exceed 543.8 pounds per day.
[Rule(s): NSR, 21]
14. Permittee shall maintain supplier records of the sulfur content of the distillate fuel. Permittee shall keep daily records of fuel usage for any fuel with sulfur content greater than 0.10% by weight. If supplier records are not available, sulfur content shall be determined in accordance with a protocol approved in advance by the District.
[Rule(s): NSR, 21, 53, 62]
15. Permittee shall maintain records of daily and monthly cumulative calendar usage of each type of fuel used in the test cells. All usage records shall be corrected to standard conditions.
[Rule(s): NSR, 21]
16. A non-resettable totalizing gaseous fuel meter shall be maintained on-site to measure fuel usage. The meter

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004255

PERMIT TO OPERATE

EXPIRES: June 30, 2016

shall either be self-correcting to standard conditions (68 deg F and 14.7 PSIA) or shall display meter gas pressure and temperature data.

[Rule(s): NSR, 21]

17. At the request of the District, permittee shall provide a test cell testing schedule covering a two week period. The schedule shall be submitted within 10 calendar days of the District's request and the two week period shall begin on the date the test schedule is submitted. The schedule shall specify the type of turbines to be tested and the type of test to be performed. Any specific measurements or additional data requested by the District shall be handled at the time of the test and may include, if possible, additional emissions readings (e.g., NOx, CO, HC) taken during a given test.

[Rule(s): 21]

18. Permittee shall maintain records of all tests performed in the test cells. The records shall include:

- the type of equipment tested
- operating conditions of the test
- actual emissions if measured or the emission factor used to calculate emissions

[Rule(s): 21]

B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

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

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

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

07-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-004256



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004256

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

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004256

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]

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004256

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.)

07-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-004257



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

Revised Date:

Page 1 of 4

Print Date: November 7, 2012

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004257

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

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004257

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]

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004257

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.)

07-NOV-12

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

PERMIT ID

APCD2008-PTO-004258

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



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

Revised Date:

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004258

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

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004258

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]

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004258

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.)

07-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-004495



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004495

PERMIT TO OPERATE

EXPIRES: June 30, 2016

thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal oxidizers are together hereinafter referred to as "test cells."

[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.
[Rule(s): NSR, 21]
6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.
[Rule(s): NSR, 21]
7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.
[Rule(s): NSR, 21]
8. No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation: $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$. Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004495

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]

07-NOV-12

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

PERMIT ID
APCD2008-PTO-004495

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.)

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-004496



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

08-NOV-12

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

PERMIT ID
APCD2008-PTO-004496

PERMIT TO OPERATE

EXPIRES: June 30, 2016

thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal oxidizers are together hereinafter referred to as "test cells."

[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.
[Rule(s): NSR, 21]
6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.
[Rule(s): NSR, 21]
7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.
[Rule(s): NSR, 21]
8. No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation: $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$. Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves

08-NOV-12

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

PERMIT ID
APCD2008-PTO-004496

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]

08-NOV-12

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

PERMIT ID
APCD2008-PTO-004496

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.)

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-001130
App ID: APCD1990-APP-900338

PERMIT ID
APCD2008-PTO-004733



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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]

08-NOV-12

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

PERMIT ID
APCD2008-PTO-004733

PERMIT TO OPERATE

EXPIRES: June 30, 2016

4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal oxidizers are together hereinafter referred to as "test cells."
[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.
[Rule(s): NSR, 21]

6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.
[Rule(s): NSR, 21]

7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
$$\frac{[(\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG})]}{2}$$
where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.
[Rule(s): NSR, 21]

8. No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation: $\frac{[(\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG})]}{2}$. Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar

08-NOV-12

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

PERMIT ID
APCD2008-PTO-004733

PERMIT TO OPERATE

EXPIRES: June 30, 2016

year as submitted to the District, expressed in pounds of NO_x 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_x 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_x 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 SO_x emission limit stated in this permit, permittee shall calculate and record daily SO_x 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_x 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 SO_x 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]

08-NOV-12

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

PERMIT ID
APCD2008-PTO-004733

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.)

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: N/A

PERMIT ID
APCD2008-PTO-020875



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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit 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

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020875

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

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020875

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]

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020875

PERMIT TO OPERATE

EXPIRES: June 30, 2016

16. A non-resettable totalizing gaseous fuel meter shall be maintained on-site to measure fuel usage. The meter shall either be self-correcting to standard conditions (68 deg F and 14.7 PSIA) or shall display meter gas pressure and temperature data.
[Rule(s): NSR, 21]
17. At the request of the District, permittee shall provide a test cell testing schedule covering a two week period. The schedule shall be submitted within 10 calendar days of the District's request and the two week period shall begin on the date the test schedule is submitted. The schedule shall specify the type of turbines to be tested and the type of test to be performed. Any specific measurements or additional data requested by the District shall be handled at the time of the test and may include, if possible, additional emissions readings (e.g., NOx, CO, HC) taken during a given test.
[Rule(s): 21]
18. Permittee shall maintain records of all tests performed in the test cells. The records shall include:
-the type of equipment tested
-operating conditions of the test
-actual emissions if measured or the emission factor used to calculate emissions
[Rule(s): 21]

B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

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

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: APCD1997-APP-961377

PERMIT ID
APCD2008-PTO-020876



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

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

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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

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

EQUIPMENT DESCRIPTION

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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020876

PERMIT TO OPERATE

EXPIRES: June 30, 2016

[Rule(s): NSR, 21]

4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal oxidizers are together hereinafter referred to as "test cells."

[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.

[Rule(s): NSR, 21]

6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.

[Rule(s): NSR, 21]

7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
[[$(\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG})$]/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].

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020876

PERMIT TO OPERATE

EXPIRES: June 30, 2016

Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves a change in a submitted fuel index values for a calendar year, the permittee shall recalculate and record the NOx emissions for that calendar year using the changed fuel index value(s) within 60 days of the date the District approves such a change. For the purposes of determining compliance with the NOx limits specified in this permit, the calculation methodology specified in this condition shall take precedence over any other calculation methodology specified in this permit. The records required by this condition shall be maintained for a minimum of five years and made available to the District upon request.

[Rule(s): NSR, 21]

9. When required to determine compliance with a PM10 emissions limit stated in this permit, permittee shall calculate and record daily PM10 emissions using the following equation: $[(1.16)*(DF)+(0.47)*(NG)]$, where (DF) and (NG) are the respective fuel usages in 1000 pounds per day.
[Rule(s): NSR, 21]
10. When required to determine compliance with a SOx emission limit stated in this permit, permittee shall calculate and record daily SOx emissions using the following equation: $[(S)(DF)+(0.03)(NG)]$. Where (DF) and (NG) are the respective fuel usages in 1000 pounds per day and (S) is the weighted average sulfur content of the distillate fuel in pounds of fuel.
[Rule(s): NSR, 21]
11. Calendar year usage of all fuels shall not cause cumulative NOx emissions from all test cells to exceed 183.2 tons per calendar year.
[Rule(s): NSR, 21]
12. When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate or 13.5 million pounds of gaseous fuel, on any day thereafter, daily fuel usage shall not cause PM10 emissions from all test cells to exceed 493.8 pounds per day.
[Rule(s): NSR, 21]
13. When the cumulative calendar year fuel usage exceeds 1.5 million pounds of distillate, on any day thereafter that a fuel with sulfur content greater than 0.10% by weight is used, daily fuel usage shall not cause SOx emissions from all test cells to exceed 543.8 pounds per day.
[Rule(s): NSR, 21]
14. Permittee shall maintain supplier records of the sulfur content of the distillate fuel. Permittee shall keep daily records of fuel usage for any fuel with sulfur content greater than 0.10% by weight. If supplier records are not available, sulfur content shall be determined in accordance with a protocol approved in advance by the District.
[Rule(s): NSR, 21, 53, 62]
15. Permittee shall maintain records of daily and monthly cumulative calendar usage of each type of fuel used in the test cells. All usage records shall be corrected to standard conditions.

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020876

PERMIT TO OPERATE

EXPIRES: June 30, 2016

[Rule(s): NSR, 21]

16. A non-resettable totalizing gaseous fuel meter shall be maintained on-site to measure fuel usage. The meter shall either be self-correcting to standard conditions (68 deg F and 14.7 PSIA) or shall display meter gas pressure and temperature data.

[Rule(s): NSR, 21]

17. At the request of the District, permittee shall provide a test cell testing schedule covering a two week period. The schedule shall be submitted within 10 calendar days of the District's request and the two week period shall begin on the date the test schedule is submitted. The schedule shall specify the type of turbines to be tested and the type of test to be performed. Any specific measurements or additional data requested by the District shall be handled at the time of the test and may include, if possible, additional emissions readings (e.g., NOx, CO, HC) taken during a given test.

[Rule(s): 21]

18. Permittee shall maintain records of all tests performed in the test cells. The records shall include:

- the type of equipment tested
- operating conditions of the test
- actual emissions if measured or the emission factor used to calculate emissions

[Rule(s): 21]

B. DISTRICT-ONLY ENFORCEABLE CONDITIONS

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

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

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

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-020877



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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020877

PERMIT TO OPERATE

EXPIRES: June 30, 2016

thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal oxidizers are together hereinafter referred to as "test cells."

[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.
[Rule(s): NSR, 21]

6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.
[Rule(s): NSR, 21]

7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.
[Rule(s): NSR, 21]

8. No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation: $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$. Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020877

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]

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020877

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.)

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-020878



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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

Revised Date:

Page 1 of 4

Print Date: November 8, 2012

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020878

PERMIT TO OPERATE

EXPIRES: June 30, 2016

thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal oxidizers are together hereinafter referred to as "test cells."
[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.
[Rule(s): NSR, 21]

6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.
[Rule(s): NSR, 21]

7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
$$[\frac{((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG}))}{2}]$$
, where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.
[Rule(s): NSR, 21]

8. No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation: $[\frac{((\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG}))}{2}]$. Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020878

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]

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020878

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.)

08-NOV-12

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

PERMIT ID

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

APCD2008-PTO-020879



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

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

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

BEC: 10939

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

A. FEDERALLY-ENFORCEABLE AND DISTRICT-ENFORCEABLE CONDITIONS

1. Permittee shall comply with all applicable requirements of Rules 53 and 62.
[Rule(s): 53, 62]
2. A permit shield is granted from enforcement action for the following requirements: Rule(s) 52, 54, 68 and 69.3 based on the District's determination that these rules are not applicable to the above equipment.
[Rule(s): 1410]
3. This equipment shall only be fired with Public Utility Commission (PUC) quality natural gas, propane, butane, or the following distillate fuels: Diesel Nos. 1 and 2, Fuel Oil Nos. 1 and 2, kerosene, Jet A, JP-4 and JP-5 fuels, or a mixture of these fuels. The use of any other fuel shall require prior written approval by the District.
[Rule(s): NSR, 21]
4. The permit conditions listed below shall apply to the turbine engine test cells/pads, duct burner test pad, and

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020879

PERMIT TO OPERATE

EXPIRES: June 30, 2016

thermal oxidizers at this facility. The turbine test cells/pads, duct burner test pad, and the associated thermal oxidizers are together hereinafter referred to as "test cells."

[Rule(s): 21]

5. From the five most recent annual submittals of index values, with approved District changes, the highest distillate fuel NOx emission index (DFI) and natural gas NOx emission index (NGI) values, expressed in pounds of NOx per 1000 pounds of fuel, shall be used to calculate the cumulative NOx emissions for each calendar year and determine the maximum allowable combination of fuel usage, such that NOx emissions do not exceed the annual emission limit specified in this permit.
[Rule(s): NSR, 21]
6. No later than June 1 of each year, the permittee shall submit to the District's emissions inventory section emission index values and supporting fuel usage data for the previous calendar year. The index values in the annual submittal shall account for any changes in NOx emission factors and test procedures based on the types and number of engine families that were tested during the previous calendar year. The District shall review the annual submittal, make any changes necessary to the index values, and approve the index values not less than thirty days after notifying the permittee of any changes. The permittee shall maintain records of index values including approved District changes, if any, onsite for a period of five years from the date of the last use of the index values for any calculation pursuant to this permit and make the records available to the District upon request.
[Rule(s): NSR, 21]
7. The permittee shall calculate and record the cumulative NOx emissions from the beginning of the calendar year to the end of each month within 30 calendar days of the end of that month. The cumulative NOx emissions shall be expressed in tons per year and calculated using the following equation:
$$[((\text{MaxDFI}) \cdot (\text{DF}) + (\text{MaxNGI}) \cdot (\text{NG})) / 2]$$
where (DF) and (NG) are the respective cumulative fuel usages to the end of the calendar month, expressed in million pounds per calendar year, and (MaxDFI) and (MaxNGI) are the respective highest index values from the five most recent annual submittals to the District, expressed in pounds of NOx per 1000 pounds of fuel, including any District changes that were approved before the end of the calendar month. If the cumulative NOx emissions calculated pursuant to this methodology are greater than the annual NOx emissions limit specified in the permit, the District's Compliance Division shall be notified within 24 hours, in writing, and year-to-date cumulative annual NOx emissions shall be calculated from the beginning of the current calendar year to the end of each month within 30 calendar days of the end of that month using current year emissions factors and fuel usages in accordance with a protocol approved in advance by the District. These emission factors and fuel usages shall be maintained on-site and made available to District personnel upon request. For the purposes of determining compliance with the NOx emission limits specified in this permit, the District-approved emission factor/fuel usage methodology shall take precedence over any emission index methodology.
[Rule(s): NSR, 21]
8. No later than March 1 of each year, the permittee shall calculate and record the NOx emissions for the previous calendar year, expressed in tons per year, using the following equation: $[(\text{DFI}) \cdot (\text{DF}) + (\text{NGI}) \cdot (\text{NG})] / 2$. Where (DF) and (NG) are the respective fuel usages for the previous calendar year, expressed in million pounds per calendar year, and (DFI) and (NGI) are the respective fuel index values for the previous calendar year as submitted to the District, expressed in pounds of NOx per 1000 pounds of fuel. If the District approves

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020879

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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]

08-NOV-12

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

PERMIT ID
APCD2008-PTO-020879

PERMIT TO OPERATE

EXPIRES: June 30, 2016

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.)