APCD 116 (Rev. 04/07)

SAN DIEGO AIR POLLUTION CONTROL DISTRICT
10124 OLD GROVE ROAD, SAN DIEGO CA 92131-1649
PHONE (858) 586-2600 • FAX (858) 586-2601

PERMIT / REGISTRATION APPLICATION

SUBMITTAL OF THIS APPLICATION DOES NOT GRANT PERMISSION TO CONSTRUCT OR TO OPERATE EQUIPMENT EXCEPT AS SPECIFIED IN RULE 24(d)

IMPORTANT REMINDERS: Read instructions on the reverse side of this form prior to completing this application. Please ensure that all of the following are included before you submit the application:
☐ Appropriate Permit Fee ☐ Completed Supplemental Form(s) ☐ Signature on Application

REASON FOR SUBMITTAL OF APPLICATION: (check the appropriate item and enter Application (AP) or Permit to Operate (PO) number if required)

1. ☐ New Installation 2. ☐ Existing Unpermitted Equipment or Rule 11 Change 3. ☐ Modification of Existing Permitted Equipment
4. ☐ Amendment to Existing Authority to Construct or AP 5. ☐ Change of Equipment Location 6. ☐ Change of Equipment Ownership
7. ☐ Change of Permit Conditions 8. ☐ Change Permit to Operate Status to Inactive 9. ☐ Banking Emissions
10. ☐ Registration of Portable Equipment 11. ☐ Other (Specify) _____
12. List affected AP/PO#(s): _____

APPLICANT INFORMATION

13. Name of Business (DBA) Solar Turbine
14. Nature of Business _____
15. Does this organization own or operate any other APCD permitted equipment at this or any other adjacent locations in San Diego County? ☐Yes ☐No
If yes, list assigned location ID's listed on your PO's _____
16. Type of Ownership ☐ Corporation ☐ Partnership ☐ Individual Owner ☐ Government Agency ☐ Other _____
17. Name of Legal Owner (if different from DBA) _____

	A. Equipment Owner	B. Authority to Construct (if different from A)
18. Name	Solar Turbine	
19. Mailing Address		
20. City		
21. State / Zip	/ Zip	/ Zip
22. Phone / FAX	( ) FAX ( )	( ) FAX ( )

	C. Permit to Operate (if different from A)	D. Billing Information (if different from A)
23. Name		
24. Mailing Address		
25. City		
26. State / Zip	/ Zip	/ Zip
27. Phone / FAX	( ) FAX ( )	( ) FAX ( )

EQUIPMENT/PROCESS INFORMATION: Type of Equipment: ☐ Stationary ☐ Portable.
If portable, will operation exceed 12 consecutive months at the same location ☐ Yes ☐ No

28. Equipment Location Address _____ City _____ Parcel No. _____
29. State _____ Zip _____ Phone ( ) _____ FAX ( ) _____
30. Site Contact _____ Title _____ Phone ( ) _____
31. General Description of Equipment/Process Significant Permit modification To PO 960991
32. Application Submitted by ☐ Owner ☐ Operator ☐ Contractor ☐ Consultant Affiliation _____

EXPEDITED APPLICATION PROCESSING: ☐ **I hereby request Expedited Application Processing and understand that:**

33. a) Expedited processing will incur additional fees and permits will not be issued until the additional fees are paid in full (see Rule 40(d)(8)(iv) for details).
b) Expedited processing is contingent on the availability of qualified staff. c) Once engineering review has begun this request cannot be cancelled.
d) Expedited processing does not guarantee action by any specific date nor does it guarantee permit approval.

I hereby certify that all information provided on this application is true and correct.

34. SIGNATURE _____ Date _____
35. Print Name _____ Title _____
36. Company _____ Phone ( ) _____ E-mail Address _____

APCD USE ONLY

AP # 2012-APP-001937 Cust. No. 1976-01130 Sector: J UTM's X _____ Y _____ SIC 221193
Receipt # CK 139330 Date 1-10-12 Amt Rec'd $ 10,320.- Fee Cod TIV-AMD
Engineering Contact Meah Fee Code _____ AP Fee $ 2064.- T&M Renewal Fee $ _____
Refund Claim # _____ Date _____ Amt $ _____
Application Generated By NV# _____ NC# _____ Other _____ Date _____ Inspector _____

4.07 – TW/flm

TIV $1956 -1- NDF $95 ITA $13

$1956

TM

San Diego County Air Pollution Control District
10124 Old Grove Road San Diego CA 92131-1649
(858) 586-2600 FAX (858) 586-2601

TITLE V APPLICATION
Stationary Source Summary (FORM 1401-A1)

Company Name	District Use Only
Solar Turbines Incorporated - Kearny Mesa Facility	NEDS # _____ SITE ID # 1976-01130

I. FACILITY IDENTIFICATION

1. Facility Name (if different than company name): Kearny Mesa Facility
2. Four digit SIC Code: 3511
3. Parent Company (if different than Company Name): Caterpillar Incorporated
4. Mailing Address: PO Box 85376, MZ T-2
   City San Diego State CA Zip 92186-5378
5. Street Address or Source Location: 4200 Ruffin Road
   City San Deigo State CA Zip 92123
6. UTM Coordinates:
7. Source Located within 50 miles of a state line: ☒ Yes ☐ No (All sources **are** within 50 miles)
8. Source Located within 1000 feet of a school: ☐ Yes ☒ No
9. Type of Organization: ☒ Corporation ☐ Sole Ownership ☐ Government ☐ Partnership ☐ Utility Company
10. Legal Owner's Name: Solar Turbines Incorporated
11. Owner's Agent name (if any):
12. Responsible Official: Ken Nolen, Vice President Oil and Gas
13. Plant Site Manager/Contact: Craig Anderson Phone #: (619) 544-5126 FAX #: (619) 544-2565
14. Application Contact: Lori Haase (619)544-5237 lhaase@solarturbines.com
15. Type of Facility: Manufacturing
16. General description of processes/products: Miscellaneous operations associated with the manufacturing and testing of gas turbine engines and components including: testing turbine engines and components, coating/painting, abrasive blasting, welding, misc. solvent and combustion processes and other insignificant sources
17. Is a Federal Risk Management Plan (RMP) pursuant to Section 112(r) required? ☐ Yes ☒ No
    (If application is submitted after RMP due date, attach verification that plan is registered with the appropriate agency.)

II. TYPE OF PERMIT ACTION (check)	CURRENT PERMIT (permit number)	EXPIRATION (date)
☐ **Initial Title V Application**	N/A	N/A
☐ **Permit Renewal**		
☒ **Significant Permit Modification**	960991	6/27/16
☐ **Minor Permit Modification**		
☐ **Administrative Amendment**		

III. DESCRIPTION OF PERMIT ACTION

1. Does the permit action requested involve:
   ☐ Temporary Source ☐ Voluntary Emissions Caps
   ☐ Acid Rain Source ☐ Alternative Operating Scenarios ☐ Abatement Devices
   ☐ CEMs ☐ Permit Shield
   ☐ Outdated SIP Requirement Streamlining ☐ Multiple Applicable Requirement Streamlining
   ☐ Source Subject to MACT Requirements [Section 112]
   ☐ Source Subject to Enhanced Monitoring (40CFR64) [Compliance Assurance Monitoring]
2. Is source operating under a Compliance Schedule? ☐ Yes ☒ No ☐ Proposed
3. Is source operating under a Variance ☐ Yes ☒ No (If Yes, please attach variance information)
4. For permit modification, provide a general description of the proposed permit modification:
   To increase the annual NOx emissions from the test cells158.3 to 183.2 tons per year (24.9 tons per year increase) and to add 4 new test cells/pads and one new thermal Oxidizer

IV. SUPPLEMENTAL ATTACHMENTS*: 1401 A1, A2, H1, H2, I, Updated Responsible Officals List and more

* Means all attachments to the complete application.

San Diego County Air Pollution Control District
10124 Old Grove Road San Diego CA 92131-1649
(858) 586-2600 FAX (858) 586-2601

TITLE V APPLICATION
Stationary Source Summary (FORM 1401-A2)

Company Name	District Use Only
Solar Turbines Incorporated	NEDS # _____ SITE ID # _____

I. MAJOR SOURCE APPLICABILITY

Check appropriate pollutant(s) for which you are a Major Source under Title V. Applicability is based on potential to emit. **If more space is necessary, use additional forms. Please type or print legibly.**

POLLUTANT	MAJOR SOURCE THRESHOLD TOTAL EMISSIONS, TPY	(check if appropriate)
VOC	100	☐
PM_{10}	100	☐
SO_2	100	☐
NOx	100	☒
CO	100	☒
ODC	100	☐
LEAD COMPOUNDS	10	☐
HAZARDOUS AIR POLLUTANTS		
SINGLE HAP	10	☒
		☐
		☐
COMBINATION HAP	25	☒
		☐
		☐
		☐

Attach all necessary calculations to this form as applicable. NOTE: Calculations are only needed if no Emission Inventory is on file with the District

Reference Emission Inventory Inventory Year 2010

Signature of Responsible Official

1/9/12
Date

Ken Nolen
Print Name of Responsible Official

(858) 694-6694
Telephone No. of Responsible Official

Vice President, Oil and Gas
Title of Responsible Official

II. EMISSIONS CALCULATIONS ATTACHED (as needed) ☐ Yes ☒ No

DISTRICT USE ONLY

Date Application Received: 1-10-12 **Application #** 2012-APP-001937

Application Filing Fee: 2064.- **District Received Stamp:** _____

Receipt #: R-451600 **Fee Code:** TIV

San Diego County Air Pollution Control District
10124 Old Grove Road San Diego CA 92131-1649
(858) 586-2600 FAX (858) 586-2601

TITLE V APPLICATION
Certification Statement (FORM 1401-I)

Company Name	District Use Only
Solar Turbines Incorporated - Kearny Mesa	NEDS #_____
Facility Address: 4200 Ruffin Road, San Diego, CA 92123	SITE ID #_____

Under penalty of perjury, identify the following: (Read each statement carefully and check each box for confirmation.)

Applicable	Not Applicable	
☒	☐	*Based on information and belief formed after reasonable inquiry, the source(s) identified in this application will continue to comply with the applicable requirement with which the source is in compliance. The applicable requirement(s) with which the source(s) is/are not in compliance is/are identified in Form 1401-L, Schedule of Compliance.*
☒	☐	*Based on information and belief formed after reasonable inquiry, the source(s) identified in this application will comply with the future-effective applicable requirement(s) on a timely basis.*
☐	☒	*Based on information and belief formed after reasonable inquiry, the source(s) identified in the Schedule of Compliance application form that is/are not in compliance with the applicable requirement(s), will comply in accordance with the attached compliance plan schedule.*
☒	☐	*Based on information and belief formed after reasonable inquiry, information on application forms, referenced documents, all accompanying reports, and other required certifications are true, accurate, and complete.*
☒	☐	*All fees required by Regulation III, Rule 40 have been paid.*

Ken Nolen
Signature of Responsible Official

1/9/12
Date

Ken Nolen
Print Name of Responsible Official

(858) 694-6694
Telepone No. of Responsible Official

Vice President, Oil and Gas
Title of Responsible Official

San Diego County Air Pollution Control District
10124 Old Grove Road San Diego CA 92131-1649
(858) 586-2600 FAX (858) 586-2601

Title V Application
Applicable Requirements Summary Checklist (Form 1401-H1)

Company Name	District Use Only
Solar Turbines Incorporated - Kearny Mesa Fac	NEDS # _____ SITE ID # _____

APPLICABLE REQUIREMENTS: Applicable requirements which apply to an entire facility are listed first. The applicant should check appropriate boxes on the form and attach emission unit specific permit number lists where necessary. Where streamlining is employed, note on this form. If information does not fit in the space allotted, attach documentation and reference it on this form. **Type or print legibly.**

RULE	RULE DESCRIPTION	Test Method or Rule Section	Monitoring, Records, Reports, Rule Section	Facility														Future Effective Date
	Facility Applicable Requirement Description																	
10(a)	Permits Required – (a) Authority to Contruct			X														
10(b)	Permits Required – (b) Permit to Operate			X														
19	Provision of Sampling & Testing Facilities			X														
19.2	Continuous Emission Monitoring Requirements																	
19.3	Emission Information			X														
NSR	New Source Review			X														
PSD	Prevention of Significant Deterioration																	
21	Permit Conditions			X														
50	Visible Emissions			X														
51	Nuisance			X														
60	Circumvention			X														
67.0	Architectural Coatings	(g)		X														
67.17	Storage of Materials Containing VOC	(e)		X														
71	Abrasive Blasting			X														
98	Breakdown Conditions: Emergency Variance			X														
101	Burning Control			X														
131	Stationary Source Curtailment Plan			X														
132	Traffic Abatement Plan			X														

TITLE V APPLICATION
Applicable Requirements Summary Checklist (FORM 1401-H1) - continued

RULE	RULE DESCRIPTION	Test Method or Rule Section	Monitoring, Records, Reports, Rule Section	Facility	Abrasive Blast	Metal Inspect	Paint Spray 1	Paint Spray 2	Solvent Still	Test Cells/Pad	Duct Burner	Thermal Ox	IC Engines	Contractors				Future Effective Date
	Equipment Specific Applicable Requirement Description																	
50	Visible Emissions			X	X	X	X	X	X	X	X	X	X	X				
51	Nuisance			X	X	X	X	X	X	X	X	X	X	X				
52	Particulate Matter	Method 5			X									X				
53	Specific Contaminants	Method 5								X	X	X	X	X				
53.1	Scavenger Plants																	
54	Dust and Fumes	Method 5			X													
58	Incinerator Burning																	
59	Control of Waste Disposal – Site Emissions	(e)	(e) & (f)															
60	Circumvention																	
61.1	Receiving & Storing VOCs at Bulk Plants & Terminals	(d)	(c)(7)															
61.2	Transfer of VOCs into Mobil Transport Tanks	(c)(10)																
61.3	Transfer of VOCs into Stationary Storage Tanks		(c)(2)(iii)															
61.4	Transfer of VOCs into Vehicle Fuel Tanks																	
61.5	Visible Emissions Standards for Vapor Control Equip.		VE															
61.7	Spillage & Leakage of VOCs																	
61.8	Certification Requirements for Vapor Control Equip.																	
62	Sulfur Content of Fuels									X	X	X	X	X				
64	Reduction of Animal Matter																	
66	Organic Solvents	(p)	(o)	X		X								X				Rule 66.1
67.1	Alternative Emission Control Plans (AECP)	(c)	(d)															
67.2	Dry Cleaning - Petroleum Solvent	(f)	(e)															
67.3	Metal Parts Coating	(g)	(f)				X	X										
67.4	Can & Coil Coating	(g)	(f)															
67.5	Paper, Film and Fabric Coating	(f)	(e)															
67.6	Solvent Cleaning Operation	(f)																
67.7	Cutback & Emulsified Asphalt	(f)	(e)															
67.9	Aerospace Coating Operations	(g)	(f)															
67.10	Kelp Processing and Bio-Polymer Mfg.	(f)	(e)															
67.11	Wood Products Coating Operations (not in SIP)						X											

RULE	RULE DESCRIPTION	Test Method or Rule Section	Monitoring, Records, Reports, Rule Section	Facility	Abrasive Blast	Metal Inspect	Paint Spray 1	Paint Spray 2	Solvent Still	Test Cells/Pad	Duct Burner	Thermal Ox	IC Engines	Contractors				Future Effective Date
67.12	Polyester Resin Operations	(g)	(f)															
67.15	Pharmaceutical & Cosmetic Manufacturing	(e)																
67.16	Graphic Arts Operations	(g)	(f)															
67.17	Open VOC Containers	(e)		X		X	X	X	X	X	X	X	X	X				
67.18	Marine Coating Operations	(g)	(f)															
67.19	Coating and Printing Inks Mfg. Operations	(g)	(f)															
67.20	Motor Vehicle & Mobile Equipment Refinishing Operations																	
67.21	Adhesive Material Application Operations			X										X				
67.22	Expandable Polystyrene Foam Products Manufacturing Operations (not in SIP)																	
67.24	Bakery Ovens	(f)	(e)															
68	Fuel Burning Equipment - NOx										X	X						
69.2	Boilers	(f)	(e) & (g)															
69.3	Stationary Gas Turbine Engines - RACT	(f)	(e) & (g)															
69.3.1	Stationary Gas Turbine Engines – BARCT (not in SIP)	(f)	(e) & (g)															
69.4	Stationary Internal Combustion Engines - RACT	(f)	(e)										X					
69.4.1	Stationary Internal Combustion Engines – BARCT (not in SIP)	(f)	(e)										X					
70	Orchard Heaters																	
71	Abrasive Blasting			X										X				
20.1	Applicability, Definitions, Emission Calculations, Emission Offsets and Banking, Exemptions, and Other Requirements (SIP Version 7/5/79)						X	X	X	X	X							
20.1	NSR - General Provisions (Version 11/4/98) (not in SIP)							X		X	X	X						
20.2	Standards for Authority to Construct Best Available Control Technology (SIP Version 7/5/79)							X	X	X	X							
20.2	NSR – Non-major Stationary Sources (Version 11/4/98) (not in SIP)							X										
20.3	Standards for Authority to Construct - Air Quality Analysis (SIP Version 7/5/79)																	

TITLE V APPLICATION
Applicable Requirements Summary Checklist (FORM 1401-H1) - continued

RULE	RULE DESCRIPTION	Test Method or Rule Section	Monitoring, Records, Reports, Rule Section	Facility	Abrasive Blast	Metal Inspect	Paint Spray 1	Paint Spray 2	Solvent Still	Test Cells/Pad	Duct Burner	Thermal Ox	IC Engines	Contractors				Future Effective Date
20.3	NSR – Major Stationary Source and PSD Stationary Source (Version 11/4/98) (not in SIP)									X	X	X						
20.4	Standards for Authority to Construct - Major Sources (SIP Version 7/5/79)																	
20.4	NSR – Portable Emission Units (Version 11/4/98) (not in SIP)													X				
20.5	Power Plants (SIP Version 7/5/79)																	
20.6	Standards for Permit to Operate Air Quality Analysis (SIP Version 7/5/79)																	
SUBPART	**Regulation X - Standards of Performance for New Stationary Sources (NSPS)**	**Rule #**	**Rule #**															
A	General Provisions		260.7 260.13															
D	Standards of Performance for Fossil-Fuel Fired Steam Generators	260.46	260.45															
Da	Standards of Performance for Electric Utility Steam Generating Units Constructed After September 18, 1978		260.47a 260.48a 260.49a															
Db	Standards of Performance for Industrial-Commercial-Institutional Steam Generating	260.45b 260.46b	260.47b 260.48b 260.49b															
E	Standards of Performance for Incinerators	260.54	260.53															
I	Standards of Performance for Asphalt Concrete Plants	260.93																
K	Standards of Performance for Storage Vessels for Petroleum Liquids Constructed after June 11, 1973 and Prior to May 19, 1978		260.113															
Ka	Standards of Performance for Storage Vessels for Petroleum Liquids Constructed after May 18, 1978	260.113a	260.115a															
Kb	Standards of Performance for Volatile Organic Liquid Storage Vessels (Including Petroleum Liquid Storage Vessels) for which Construction, Reconstruction, or Modification Commenced after July 23, 1984	260.113b	260.115b 260.116b															

TITLE V APPLICATION
Applicable Requirements Summary Checklist (FORM 1401-H1) - continued

RULE	RULE DESCRIPTION	Test Method or Rule Section	Monitoring, Records, Reports, Rule Section	Facility	Abrasive Blast	Metal Inspect	Paint Spray 1	Paint Spray 2	Solvent Still	Test Cells/Pad	Duct Burner	Thermal Ox	IC Engines	Contractors				Future Effective Date
Subpart																		
L	Standards of Performance for Secondary Lead Smelters	260.123																
M	Standards of Performance for Secondary Brass and Bronze Ingot Production Plants	260.133																
O	Standards of Performance for Sewage Treatment Plants	260.154	260.153															
DD	Standards of Performance for Grain Elevators	260.303																
EE	Standards of Performance for Surface Coating Metal Furniture	260.313 260.316	260.314 260.315															
GG	Standards of Performance for Stationary Gas Turbines	260.335	260.334															
QQ	Standards of Performance for the Graphic Arts Industry: Publication Rotogravure Printing	260.433 260.435	260.434															
RR	Standards of Performance for the Pressure Sensitive Tape and Label Surface Coating Operations	260.444 260.446	260.445 260.447															
SS	Standard of Performance for the Industrial Surface Coating Large Appliances	260.453 260.456	260.454 260.455															
TT	Standards of Performance for Metal Coil Surface Coating	260.463 260.466	260.464 260.465															
BBB	Standards of Performance for the Rubber Tire Manufacturing Industry	260.543 260.547	260.544 260.545 260.546															
FFF	Standards of Performance for Flexible Vinyl and Urethane Coating and Printing	260.583	260.584 260.585															
JJJ	Standards of Performance for Petroleum Dry Cleaners																	
SUBPART	**New Source Performance Standards (40 CFR 60)**																	
Cb, F	Portland Cement Plants																	
Dc	Small Industrial -Commercial -Institutional Steam Generators >10 MM Btu but <100 MM Btu.																	
Ea	Municipal Waste Combustors																	
G	Nitric Acid Plants																	
H & Cb	Sulfuric Acid Plants																	

TITLE V APPLICATION
Applicable Requirements Summary Checklist (FORM 1401-H1) - continued

RULE	RULE DESCRIPTION	Test Method or Rule Section	Monitoring, Records, Reports, Rule Section	Facility	Abrasive Blast	Metal Inspect	Paint Spray 1	Paint Spray 2	Solvent Still	Test Cells/Pad	Duct Burner	Thermal Ox	IC Engines	Contractors				Future Effective Date
Subpart																		
N	Oxygen Process Furnaces																	
Na	Oxygen Process Steelmaking Facilities																	
P	Primary Copper Smelters																	
Q	Primary Zinc Smelters																	
R	Primary Lead Smelters																	
S	Primary Aluminum Reduction Plants																	
T & U	Phosphate Fertilizer Industry																	
V,W,X	Phosphate Fertilizer Industry																	
Y	Coal Preparation Plants																	
Z	Ferroalloy Production Facilities																	
AA, AAa	Steel Plants																	
BB	Kraft Pulp Mills																	
CC	Glass Manufacturing Plants																	
HH	Lime Manufacturing Plants																	
KK	Lead-Acid Battery Manufacturing Plants																	
LL	Metallic Mineral Processing Plants																	
MM	Automobile and Light-Duty Truck Surface Coating Operations																	
NN	Phosphate Rock Plants																	
PP	Ammonium Sulfate Manufacture																	
UU	Asphalt Processing and Asphalt Roofing Manufacture																	
VV	Equipment Leaks of VOC in the Synthetic Organic Chemicals Manufacturing Industry.																	
WW	Beverage Can Surface Coating Industry																	
XX	Bulk Gasoline Terminals																	
AAA	New Residential Wood Heaters																	
DDD	VOC Emissions from the Polymer Mfg. Ind.																	
GGG	Equipment Leaks of VOC in Petroleum Refineries.																	

TITLE V APPLICATION
Applicable Requirements Summary Checklist (FORM 1401-H1) - continued

RULE	RULE DESCRIPTION	Test Method or Rule Section	Monitoring, Records, Reports, Rule Section	Facility	Abrasive Blast	Metal Inspect	Paint Spray 1	Paint Spray 2	Solvent Still	Test Cells/Pad	Duct Burner	Thermal Ox	IC Engines	Contractors				Future Effective Date
Subpart																		
HHH	Synthetic Fiber Production Facilities																	
KKK, LLL	Onshore Natural Gas Processing: VOC Equipment Leaks and SO_2 Emissions.																	
HHH	Synthetic Fiber Production Facilities																	
KKK, LLL	Onshore Natural Gas Processing: VOC Equipment Leaks and SO_2 Emissions.																	
NNN	VOC Emissions from Synthetic Organic Chemical Manufacturing Industry Distillation Operations.																	
OOO	Standard of Performance for Nonmetallic Mineral Processing Plants																	
PPP	Wool Fiberglass Insulation Mfg. Plants																	
QQQ	VOC Emissions from Petroleum Refinery Wastewater Systems.																	
RRR	VOC Emissions from the Synthetic Organic Chemical Manufacturing Industry (SOCMI) Reactor Processes.																	
SSS	Magnetic Tape Coating Facilities																	
TTT	Industrial Surface Coating Surface, Surface Coating of Plastic Parts for Business Machines.																	
UUU	Calciners and Dryers in Mineral Industries.																	
VVV	Polymeric Coating of Supporting Substances Facilities.																	
WWW	Standards of Performance for Municipal Solid Waste Facilities																	
SUBPART	**REGULATION XI - NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAPS)**																	
A	General Provisions							X	X									
C, D	Beryllium Extraction Plants; Ceramic Plants, Foundries, Incinerators, Propellant Plants, and Machine Shops that Process Beryllium Containing Material; and Rocket Motor Firing Test Sites.																	

TITLE V APPLICATION
Applicable Requirements Summary Checklist (FORM 1401-H1) - continued

RULE	RULE DESCRIPTION	Test Method or Rule Section	Monitoring, Records, Reports, Rule Section	Facility	Abrasive Blast	Metal Inspect	Paint Spray 1	Paint Spray 2	Solvent Still	Test Cells/Pad	Duct Burner	Thermal Ox	IC Engines	Contractors				Future Effective Date
Subpart																		
E	Mercury Ore Processing; Manufacturing Processes Using Mercury Chloralkali Cells; and Sludge Incinerators.																	
F	Ethylene Dichloride Mfg. Via Oxygen, HCI and Ethylene; Vinyl Chloride Mfg.; and Polyvinyl Chloride Mfg.																	
M	Asbestos Mills; Roadway Surfacing with Asbestos Tailings; Manufacture of Products Containing Asbestos; Demolition; Renovation; and Spraying and Disposal of Asbestos Waste.			X										X				
SUBPART	**NESHAPS (40 CFR 61)**																	
B,Q,R, T,W,	Underground Uranium Mines; Dept. of Energy Facilities; Phosphorus Fertilizer Plants; & Facilities Processing or Disposing of Uranium Ore & Tailings.																	
H,I,K	Dept. of Energy; Nuclear Regulatory Commission Licensed Facilities; Other Federal Facilities; and Elemental Phosphorus Plants. (Radionuclide)																	
J,L,Y, BB,FF	Fugitive Process, Storage, and Transfer Equipment Leaks; Coke By-Product Recovery Plants; Benzene Storage Vessels; Benzene Transfer Operations; and Benzene Waste Operations.																	
N,O,P	Glass Manufacturer; Primary Copper Smelter; Arsenic Trioxide and Metallic Arsenic Production Facilities.																	
V	Pumps, Compressors, Pressure Relief Devices, Connections, Valves, Lines, Flanges, Product Accumulator Vessels, etc. in VHAP Service.																	
SUBPART	**MACT Standards (40 CFR 63)**																	
F,G, H,I	Amendment: Reopening, Averaging Issue																	
L	Coke Ovens																	
O	Ethylene Oxide Sterilizers																	
Q	Industrial Process Cooling Towers																	
R	Gasoline Distribution Facilities																	

TITLE V APPLICATION
Applicable Requirements Summary Checklist (FORM 1401-H1) - continued

RULE	RULE DESCRIPTION	Test Method or Rule Section	Monitoring, Records, Reports, Rule Section	Facility	Abrasive Blast	Metal Inspect	Paint Spray 1	Paint Spray 2	Solvent Still	Test Cells/Pad	Duct Burner	Thermal Ox	IC Engines	Contractors				Future Effective Date
Subpart																		
T	Halogenated Solvent Cleaning Degreasing																	
X	Secondary Lead Smelters																	
Y	Marine Tank Loading/Unloading																	
CC	Petroleum Refineries																	
DD	Off-Site Waste and Recovery Operations																	
EE	Magnetic Tape																	
GG	Aerospace (Coatings)																	
II	Shipbuilding for Ship Repair (Surface Coating)																	
JJ	Wood Furniture Industry (Coatings)																	
KK	Printing and Publishing																	
AAAA	Municipal Solid Waste Landfills																	
DDDDD	Industrial, Commercial and Institutional Boilers and Process Heaters																	
MMMM	Surface Coating of Miscellaneous Metal Parts and Products						X	X										
PPPP	Surface Coating of Plastic Parts																	
ZZZZ	Reciprocating Internal Combustion Engines																	
YYYY	Stationary Combustion Turbines																	
	California Airborne Toxic Control Measures (ATCM) 17 CCR																	
§93102	Hexavalent Chromium ATCM for Chrome Plating and Chromic Acid Anodizing Operations																	
§93109	ATCM for Emissions of Perchloroethylene from Dry Cleaning Operations																	
	40 CFR Part 68 RMP																	
	Title IV - Acid Rain (40 CFR 72)																	
	Title VI-Ozone Depleting Compounds (40 CFR 82)																	
B	Servicing of Motor Vehicle Air Conditioners	B																
F	Servicing of Other Air Conditioners	F		X										X				

San Diego County Air Pollution Control District
10124 Old Grove Road San Diego CA 92131-1649
(858) 586-2600 FAX (858) 586-2601

TITLE V APPLICATION
LIST OF PERMITS BY EQUIPMENT CATEGORY (FORM 1401-H2)

Company Name	District Use Only
Solar Turbines Incorporated - Kearny Mesa Facility	NEDS #
Facility Address: 4200 Ruffin Road, San Diego, CA 92123	SITE ID #

PERMITTED EMISSION UNITS BY EQUIPMENT CATEGORY

In the emission unit (equipment) category order entered on Form 1401-H1, Applicable Requirements Summary Checklist, list emission units by permit number for the specific emission unit (equipment) category. Under the column labeled status place an "O" if operational, "N" if non-operational, or "S" if the equipment is new and currently operating under a startup authorization. **If more space is required, use additional forms. Please type or print legibly.**

Emission Unit Category	Application/ Permit No.	Status of Emission Unit
Abrasive Blasting	7750	O
Metal Inspection Tank	930697	N
Paint Spray (1) Maintenance	1582	N
Paint Spray (2) Small Booth	3977	O
Paint Spray (2) North Booth	978792	O
Paint Spray (2) South Booth	50303	O
Solvent Still	910085	N
Test Cell #1	4252	O
Test Cell #2	4253	O
Test Cell #3	4254	O
Test Cell #4	4255	O
Test Cell #5	4256	O
Test Cell #6	4257	O
Test Cell #7	4015	O
Test Cell #8	3886	O
Test Cell #9	4258	O
Test Cell #10	4495	O
Test Cell #11	4496	O
Test Cell #12	4733	O

San Diego County Air Pollution Control District
10124 Old Grove Road San Diego CA 92131-1649
(858) 586-2600 FAX (858) 586-2601

TITLE V APPLICATION
LIST OF PERMITS BY EQUIPMENT CATEGORY (FORM 1401-H2)

Company Name	District Use Only
Solar Turbines Incorporated - Kearny Mesa Facility	NEDS #
Facility Address: 4200 Ruffin Road, San Diego, CA 92123	SITE ID #

PERMITTED EMISSION UNITS BY EQUIPMENT CATEGORY

In the emission unit (equipment) category order entered on Form 1401-H1, Applicable Requirements Summary Checklist, list emission units by permit number for the specific emission unit (equipment) category. Under the column labeled status place an "O" if operational, "N" if non-operational, or "S" if the equipment is new and currently operating under a startup authorization. **If more space is required, use additional forms. Please type or print legibly.**

Emission Unit Category	Application/ Permit No.	Status of Emission Unit
Test Cell #13	20881	O
Test Cell #14	20882	O
Test Cell #15	20880	O
Test Cell #16	20879	O
Test Cell #16-4	975790	O
Test Cell #17	20878	O
Test Cell #18	20877	O
Test Cell #19	20875	O
Test Cell #21	975791	O
Test Cell #22	975792	O
Test Cell #23	975793	O
Test Cell #30	20876	O
Duct Burner Test Pad	920710	N
Thermal Oxidizer	976905	O
Thermal Oxidizer	976913	O
Thermal Oxidizer	2011-APP-001769	
Test Cell #20 (new)		
Test Cell #24 (new)		
Test Cell #25 (new)		

San Diego County Air Pollution Control District
10124 Old Grove Road San Diego CA 92131-1649
(858) 586-2600 FAX (858) 586-2601

TITLE V APPLICATION
LIST OF PERMITS BY EQUIPMENT CATEGORY (FORM 1401-H2)

Company Name	District Use Only
Solar Turbines Incorporated - Kearny Mesa Facility	NEDS # _____
Facility Address: 4200 Ruffin Road, San Diego, CA 92123	SITE ID # _____

PERMITTED EMISSION UNITS BY EQUIPMENT CATEGORY

In the emission unit (equipment) category order entered on Form 1401-H1, Applicable Requirements Summary Checklist, list emission units by permit number for the specific emission unit (equipment) category. Under the column labeled status place an "O" if operational, "N" if non-operational, or "S" if the equipment is new and currently operating under a startup authorization. **If more space is required, use additional forms. Please type or print legibly.**

Emission Unit Category	Application/ Permit No.	Status of Emission Unit
Test Cell #26 (new)		

Solar® Turbines

A Caterpillar Company

Solar Turbines Incorporated

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

January 9, 2012

Hand Delivered

Mr. John Annicchiario
San Diego Air Pollution Control District
10124 Old Grove Road
San Diego, CA 92131-2601

Subject: Kearny Mesa Title V Significant Permit Modification Application

Facility: Kearny Mesa Facility (APCD I.D. No. 1869A
4200 Ruffin Road, San Diego CA 92123
Title V Permit Number 960991

Dear Mr. Annicchiario:

Please find attached a Title V signification permit modification application for Solar Turbines Incorporated (Solar) Kearny Mesa facility and a check for the sum of $10,320 (Ten thousand Three hundred and twenty dollars). This application is being submitted:

- To increase the facility-wide test cell/pad NOx emission cap by 24.9 tons
- To increase the daily PM and SOx limits
- To update the PM and SOx emission factors
- To include an additional, more accurate, PM10 emission calculation method to condition No. 13 of the test cell permits
- To add 3 additional Test cell/pads at the facility
- To modify the title of the responsible Official.

This application consists of the following information:

- General Facility information (Form 1401-A1)
- Stationary Source Summary (Form 1401-A2)
- Applicable Requirements Summary Check List (Form 1401-H1)
- List of Permits by Equipment Category (Form 1401-H2)
- Certification Statement (Form 1401-I)
- Updated Responsible Official List
- SD APCD applications for the three new test cells
- Supplemental information to process these applications

Under separate applications, Solar has applied for Test Cell #20 and a third Thermal Oxidizer to be operated under the current NOx cap of 158.3 tons a year and to be evaluated as a 502(b)(10) modification of the Title V permit. It is our understanding that funds from the enclosed check will cover the Test Cell #20 application. These two sources should be included with this significant modification application.

If you have any questions or require additional information please contact Lori Haase at (619) 544-5237 or myself at (619) 544-5126.

Sincerely,

Craig Anderson
Manager, Environmental, Health and Safety

cc: Mr. Steve Moore

Application for Permit Modification
Solar Turbines Incorporated
Kearny Mesa Turbine Test Facilities
January 9, 2012

1. Introduction

Solar Turbines Incorporated (Solar) is requesting a modification to the daily and annual potential to emit for at its Kearny Mesa facility located at 4200 Ruffin Road, San Diego. Additionally, authority to construct is requested for four new test cells/pads.

2. Facility Description

Solar currently operates 28 turbine and turbine component test cells and pads under twenty-four (24) Permits to Operate. In addition there are three (3) Thermal Oxidizers (one application in process) and one (1) duct burner test pad, for a total of 28 Permit to operate and 32 sources. These test cells accommodate product and development engine testing, production engine testing, and production package testing for Solar's full line of industrial gas turbines. Operations are limited by an annual NOx PTE of 158.3 tons, a daily PM limit of 394.8 pounds and a daily sulfur limit of 294.8 pounds when fuels with a sulfur content greater than 0.10% by weight is used.

Solar is also proposing to construct 4 new test cells/pads at this facility. Three applications have been included with this significant modification application and one application for Test Cell #20 has been requested separately to be expeditiously process as a 502(b)(10) modification to be operated under current facility limits. Solar requests that Test Cell #20 be included in with this significant permit modification process for the increase in the facility-wide NOx limit.

Each test cell/pad is operated independently without limitation to the type or size of product to be tested or the number of cells operated simultaneously. Operations are limited in a practical way by the number of staff, time necessary to install and setup products in the test cells, the complicated nature of turbine machinery and the large variety of product configurations. For these reasons, actual turbine testing comprises only a fraction of the total time a turbine or package is in a cell or pad.

Nearly 70% of Solar's turbines are shipped to international customers, many of which have unique performance and emission specifications. Testing is performed to demonstrate exact compliance with these contractual specifications under conditions that mirror field conditions. Testing is performed under minimal loads, mid-loads and maximum loads and transitional points in between to simulate field applications. The majority of testing is performed using natural gas fuel although the ratio of liquid-gas usage varies from year-to-year depending on sales and equipment specifications.

3. Project Description

Solar is requesting a 24.9 ton increase in the annual NOx limit, a 99 pound increase in the daily PM PTE and a 249 pound increase in the daily SOx PTE for the Kearny Mesa test cell facilities. In addition we would like to update emission factors for PM and SOx emissions and the PM emission calculation method to Condition Number 13 of the existing test cell/pad permits.

4. Potential to Emit

Test cell activities at Kearny Mesa have been increasing steadily in the last several years as Solar has experienced a period of growth. Solar has implemented changes to test specifications, fuel conservation and test success quality improvements in an effort to minimize emissions. However, business projections for 2012 and beyond indicate a need to increase the facility's PTE and test capacity.

District Permits to Operate Nos. 3886, 4015, 4525-4258, 4495, 4496, 4733, 20875-20882, 920710, 975790, 975791, 975792, 975793, 976905 and 976913 include a permit condition limiting the NOx PTE to 158.3 TPY. When this limit was increased in 1998, it was offset in accordance with the approved New Source Review rules in effect at the time. Therefore the Pre-Project potential to emit (PTE) shall be calculated pursuant to Rule 20.1 Subsection (d)(1)(i)(A) and (B). The NOx Pre-Project PTE is therefore equal to 158.3 TPY and the post-project PTE will be 158.3 + 24.9 = 183.2 TPY

In review of the last 5 years of data, the highest PM day occurred on July 8, 2008 with a PM emission of 358 pounds which is above 80% threshold (or 316 lb PM) of the daily PM limit of 394.8 pounds. Therefore the daily PM Pre-Project PTE is equal to 394.8 lbs and the Post Project –PPTE will be 394.8 + 99 = 493.8 lbs/day. (See Attachment 1) In addition the emission factors for PM should changed to 0.47 lm PM/1000 lb Natural Gas (0.021 lb PM/MMBTU Natural Gas) and 1.16 lb PM/1000 lb liquid fuel (0.06 lb PM/MMBTU liquid fuel) (See Attachment 2)

In review of the last 5 years of data, the highest liquid fuel usage and SOx day occurred on December 14, 2007, with a SOx emission of 342 pounds. Therefore the daily SOx Pre-PPTE is equal to 342 lbs and the Post –PPTE will be 342.8 + 249 = 591.8 lbs/day. (See Attachment 1)

5. Applicable Requirements

The Kearny Mesa facility is a major source for oxides of nitrogen pursuant to District Rule 20.1, Table 20.1 – 6 and therefore the emission increase and proposed new facility are subject to the review requirements of Rule 20.3.

5.1 Rule 20.3 (d)(1) - BACT Review

The requested increase in annual emissions is subject to the review for the application of Best Available Control Technology (BACT). Solar reviewed available literature from the EPA, ARB and equipment vendors as part of a RACT analysis to evaluate the technical feasibility and cost effectiveness of reducing NOx emissions from turbine test cell operations. Solar also performed a detailed evaluation of test cell activities at our Kearny Mesa and Harbor Drive faculties in San Diego.

There are three basic approaches that are demonstrated to control NOx emissions from gas turbines, none of which are applicable to test cell activities. Engine design modifications such as dry low NOx combustors are available for certain models, but can only be applied to Solar's turbines if it is specified by the customer. Similarly, diluents methods such as water injection are readily available but cannot be utilized on a given turbine unless specified by the turbine customer. As discussed earlier, Solar's business is global, with 70 percent of our products exported to regions where NOx controls may not be required. Post combustion or add-on emission controls cannot be applied to turbine test cells because of the wide variation in turbine exhaust flowrates and the frequent variations of turbine loads and corresponding changes in exhaust gas temperatures experienced during testing.

5.2 Rule 20.3 (d)(2) Air Quality Impact Analysis (AQIA)

The requested annual NOx increase is above the annual AQIA trigger levels of Table 20.3 – 1. Solar has retained Dr. Valorie Thompson of Scientific Resources Associated to perform an air quality impact analysis according to District procedures. Pre-meetings have been held with the District's meteorology staff to discuss procedures and documentation. The modeling analysis and report will be submitted separately.

The AQIA mirrors the operational scenarios used in the 1994 and 1998 AQIA analyses. Two scenarios are used to evaluate the maximum possible impacts from the maximum possible operations scenarios. The two scenarios are shown in Table 1. Each scenario includes a mixture of current and planned Solar products ranging from the 4,500 hp Centaur 40 to the 45,000 hp Titan, liquid and natural gas fuel, conventional combustion configurations and low-NOx equipped products. A total of 35 test cells/pads and thermal oxidizers are modeled – 28 exiting test cells/pads, four (20, 24, 25 and 26) to be constructed over the next several years and 3 thermal oxidizers.

Scenario 1 included 18 test cells/thermal oxidizers operating simultaneously with a total fuel consumption rate of approximately 85,000 lbs/hr and a NOx rate of

approximately 840 lbs/hr. Assuming a post project potential to emit of 183.2 and an approximate (surrogate) fuel limit of 49 million pounds, operations under Scenario 1 would consume the permitted capacity in 18 days on an emissions basis or 24 days on a fuel basis. Hence, Scenario 1 represents a conservative worse case operational scenario.

Similarly, Scenario 2 includes 17 test cells/thermal oxidizers operating simultaneously with a total fuel consumption rate of approximately 91,000 lbs/hr and a NOx rate of approximately 590 lbs/hr. Operations under Scenario 2 would consume the permitted capacity in 26 days on an emissions basis or 22 days on a fuel basis.

Preliminary modeling results indicate that even under this very conservative (and improbable) operating scenario, the proposed operations together with long-range facilities will not cause or contribute to a violation of an ambient NOx standard.

5.3 Rule 20.3(d)(5) Emission Offsets – will not be required because the sources contemporaneous emission increase is not considered to be a major modification.

6. Project Schedule

Solar is requesting the permit be reviewed and otherwise processed by April 1, 2012 to accommodate likely increases in testing production. Construction of Test Cell 21 is expected to commence immediately upon approval. The other test cells are expected to commence construction in 2013.

Attachment 1
2007-2011 Sumary of Highest Daily Fuel Usage
Particulate and SOx Emissions

Category	Date	Natural Gas		Liquid Fuel		Total Fuel	PM	SOx
		SCF	Lbs	Gals	Lbs	Lbs	Lbs	Lbs
Highest Natural Gas	**3/11/2008**	**6,851,000**	**308,295**	**2,490**	**17,928**	**326,223**	**269**	**99**
2nd Highest Natural Gas	7/8/2008	6,109,400	274,923	7,805	56,196	331,119	358	289
3rd Highest Natural Gas	2/5/2008	5,785,000	260,325	7,858	56,578	316,903	349	291
Highest Liquid Fuel & Sulfur	12/14/2007	1,966,000	88,470	9,420	67,824	156,294	262	342
2nd Highest Liquid Fuel & Sulfur	7/1/2008	2,442,000	109,890	8,676	62,467	172,357	261	316
3rd Highest Liquid Fuel & Sulfur	6/9/2008	3,411,000	153,495	8,635	62,172	215,667	291	315
Highest Total Fuel	**7/8/2008**	**6,109,400**	**274,923**	**7,805**	**56,196**	**331,119**	**358**	**289**
2nd Highest Total Fuel	3/11/2008	6,851,000	308,295	2,490	17,928	326,223	269	99
3rd Highest Total Fuel	2/5/2008	5,785,000	260,325	7,858	56,578	316,903	349	291
Highest PM Emissions	**7/8/2008**	**6,109,400**	**274,923**	**7,805**	**56,196**	**331,119**	**358**	**289**
2nd Highest PM Emissions	2/5/2008	5,785,000	260,325	7,858	56,578	316,903	349	291
3rd Highest PM Emissions	6/9/2008	3,411,000	153,495	8,635	62,172	215,667	291	315

Attachment 2

Solar Turbines
A Caterpillar Company
Product Information Letter

Particulate Matter Emission Estimates

Leslie Witherspoon
Solar Turbines Incorporated

PURPOSE

Since particulate matter is a regulated pollutant, most air permitting agencies require customers to provide particulate matter emission estimates during the air permitting process. In addition, many air permit agencies require dispersion modeling analyses for particulate matter. More and more often, regulatory agencies are including a particulate matter compliance testing requirement in the air permit.

This document summarizes Solar's recommended $PM_{10/2.5}$ emission levels for our combustion turbines. The recommended levels are based on an analysis of emissions tests collected from customer sites.

Particulate Matter Definition

National Ambient Air Quality Standards (NAAQS) for particulate matter were first set in 1971. Total suspended particulate (TSP) was the first indicator used to represent suspended particles in the ambient air. Since July 1, 1987, the Environmental Protection Agency (EPA) has used the indicator PM_{10}, which includes only the particles with aerodynamic diameter smaller than 10 micrometers. PM_{10} (coarse particles) come from sources such as windblown dust from the desert or agricultural fields and dust kicked up on unpaved roads by vehicle traffic.

The EPA added a $PM_{2.5}$ ambient air standard in 1997. $PM_{2.5}$ includes particles with an aerodynamic diameter less than 2.5 micrometers. $PM_{2.5}$ (fine particles) are generally emitted from activities such as industrial and residential combustion and from vehicle exhaust. Fine particles are also formed in the atmosphere when gases such as sulfur dioxide, nitrogen oxides, and volatile organic compounds, emitted by combustion activities, are transformed by chemical reactions.

Nearly all particulate matter from gas turbine exhaust is less than one micrometer (micron) in diameter. Thus the emission rates of TSP, PM_{10}, and $PM_{2.5}$ from gas turbines are theoretically equivalent although source testing will show significant variation due to test method detection levels and processes.

TESTING FOR PARTICULATE MATTER

The turbine combustion process has little effect on the particulate matter generated and measured. The largest contributor to particulate matter emissions for gas and liquid fired combustion turbines is measurement technique and error. Other, minor contributing, sources of particulate matter emissions include carbon, ash, fuel-bound sulfur, artifact sulfate formation, compressor/lubricating oils, and inlet air.

Historical customer particulate matter source test data show that there is significant variability from test to test. The source test results support the common industry argument that particulate matter from natural gas fired combustion sources is difficult to measure accurately. The reference test methods for particulate matter were developed primarily for measuring emissions from coal-fired power plants and other major emitters of particulates. Particulate concentrations from gas turbine can be 100 to 10,000 times lower than the "traditional" particulate sources. The test methods were not developed or verified for low emission levels. There

are interferences, insignificant at higher exhaust particulate matter concentrations that result in emissions greater than the actual emissions from gas turbines. New methods are being developed to address this problem.

Due to measurement and procedural errors, the measured results, in most cases, may not be representative of actual particulate matter emitted. There are many potential error sources in measuring particulate matter. Most of these have to do with contamination of the samples, material from the sampling apparatus getting into the samples, and general sloppiness in samples and analysis.

Recommended Particulate Matter Emission Factors

When necessary to support the air permitting process Solar recommends using a $PM_{10/2.5}$ emission factor of 0.021 lb/MMBtu fuel input (HHV) for natural gas. For landfill gas, the recommended emission factor is 0.03 lb/MMBtu fuel input (HHV). For liquid fuel, the recommended emission factor is 0.06 lb/MMBtu fuel input (HHV). The liquid fuel emission factor assumes fuel sulfur content is <500 ppm and ash content is <0.005% by wt.

The emission levels cited above are only for engine operation with the fuels listed. Other fuels many not yield similar results.

At this time, Solar does not recommend using AP-42 (EPA AP-42 "Compilation of Air Pollutant Emission Factors.") AP-42. While some source tests have had similar results to AP-42, others are higher.

Test Method Recommendation

For customers who conduct emission source tests for particulate matter, Solar recommends that EPA Methods 201/201A[1] be used to measure the "front half". "Front half" represents filterable particulate matter.

EPA Method 202[2] (with nitrogen purge and field blanks) should be used to measure the "back half". "Back half" measurements represent the condensable portion of particulate matter.

EPA Method 5[3], which measures the front and back halves may be substituted (e.g. where exhaust temperatures do not allow the use of Method 202).

Testing should include three test runs of 4 hours each.

Solar recommends using the aforementioned test methods until more representative test methods are developed and made commercially available.

References

[1] EPA Method 201, Determination of PM10 Emissions, Exhaust Gas Recycle Procedure. EPA Method 201A, Determination of PM10 Emissions, Constant Sampling Rate Procedure, 40 CFR 60, Part 60, Appendix A.

[2] EPA Method 202, Determination of Condensible Particulate Emissions from Stationary Sources, 40 CFR 60, Part 60, Appendix A.

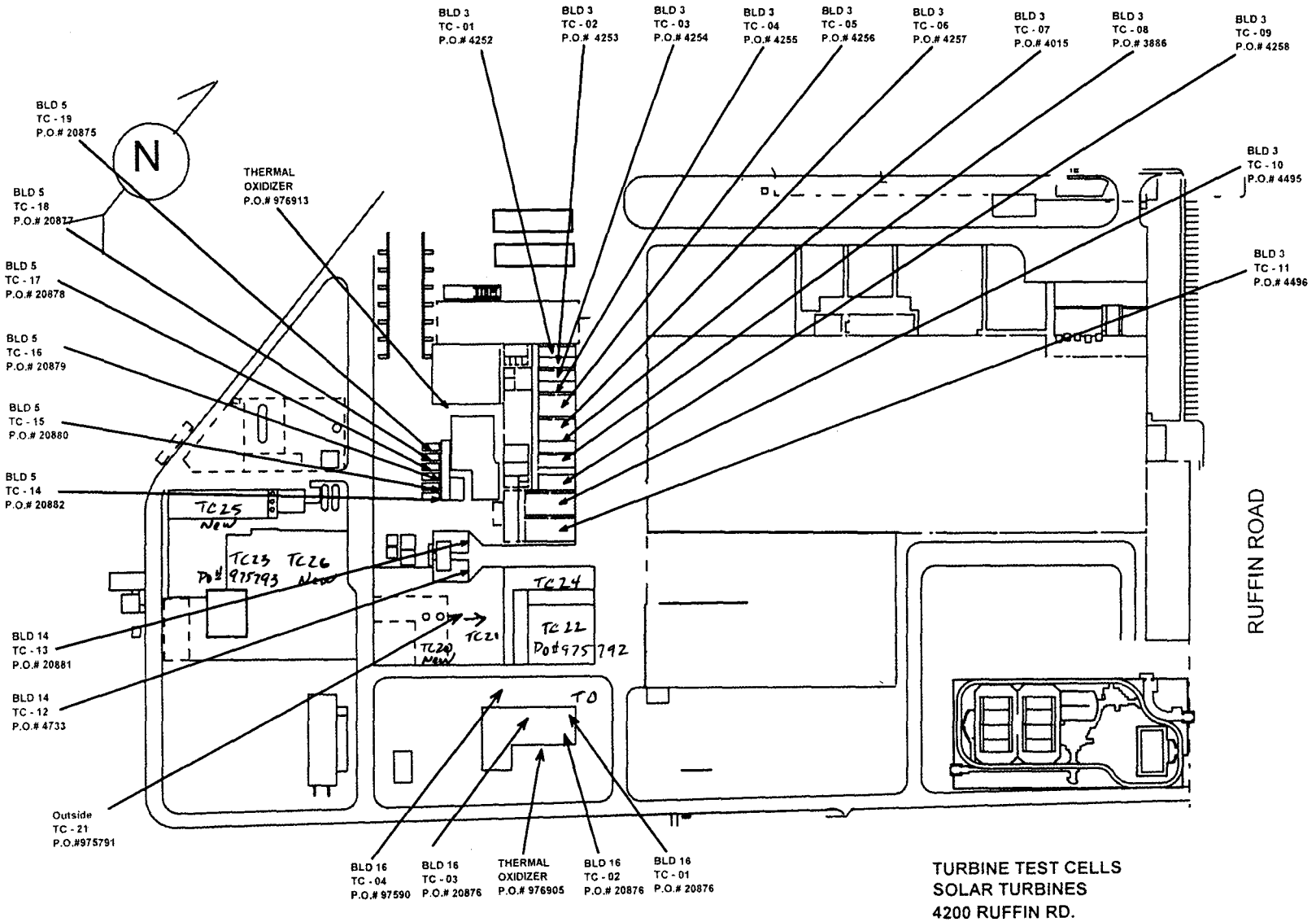
[3] EPA Method 5, Determination of Particulate Emissions from Stationary Sources, 40 CFR 60, Part 60, Appendix

Solar Turbines Incorporated
9330 Sky Park Court
San Diego, CA 92123-5398

Table 1
Solar Turbines Incorporated - Trade Secret and Confidential
Test Cell Operation Modeling Scenarios

								Scenario A				Scenario B			
Source Number	Cell Number	Permit Number	Engine	Model Number	Engine Number	Combustion Configuration	Fuel Type	Fuel Flow (lbs/hour)		NOx Emissions (lb/hour)		Fuel Flow (lbs/hour)		NOx Emissions (lb/hour)	
								Natural Gas	Liquid Fuel	Natural Gas	Liquid Fuel	Natural Gas	Liquid Fuel	Natural Gas	Liquid Fuel
1	1	4252	Centaur 40	C40	4701	SoLoNOx	NG	2,044		4.20					
2	2	4253	Taurus 60	T60	7901	Conventional	NG	2,893		37.55					
3	3	4254	Taurus 60	T60	7901	SoLoNOx	Liq						3,201		23.12
4	4	4255	Taurus 60	T60	7901	SoLoNOx	NG					2,893		5.94	
5	5	4256	Mercury 50	M50	6401	SoLoNOx	NG	1,908		0.78					
6	6	4257	Taurus 60	T60	7802	SoLoNOx	NG					2,883		5.92	
7	7	4015	Taurus 60	T60	7901	Conventional	NG	2,893		37.55					
8	8	3886	Taurus 60	T60	7901	SoLoNOx	NG					2,893		5.94	
9	9	4258	Taurus 70	T70	10801	SoLoNOx	Liq		3,974		19.42				
10	10	4495	Titan 130	T130	20502	SoLoNOx	NG					6,784		13.92	
11	11	4496	Taurus 70	T70	10802	SoLoNOx	NG	3,698		7.59					
12	12A	4733	Centaur 50	C50	6202	Conventional	NG					2,433		23.99	
13	12B	4733	Saturn 20	S20	1602	Conventional	NG	779		6.40					
14	13A	20881	Taurus 70	T70	10802	SoLoNOx	NG					3,698		7.59	
15	13B	20881	Taurus 70	T70	10802	SoLoNOx	NG	3,698		7.59					
16	14	20882	Titan 130	T130	20501	SoLoNOx	NG	6,850		14.06					
17	15	20880	Titan 130	T130	20501	Conventional	NG	6,851		140.62					
18	16	20879	Titan 130	T130	20501	Conventional	NG					6,851		140.62	
19	17	20878	Mars 100	M100	15002	SoLoNOx	Liq						5,622		27.47
20	18	20877	Titan 250	T250	30002	SoLoNOx	NG					8,987		11.08	
21	19	20875	Titan 130	T130	20501	SoLoNOx	NG	6,850		14.06					
22	20 (new)	Proposed	Titan 130	T130	20502	Conventional	NG					6,784		139.22	
23	16-1	20876	Mercury 50	M50	6401	SoLoNOx	NG					1,908		0.78	
24	16-2	20876	Mars 100	M100	16002	SoLoNOx	NG	5,540		11.38					
25	16-3	20876	Titan 130	T130	20501	Conventional	Liq		7,264		210.20				
26	16-4	975790	Taurus 60	T60	7802	SoLoNOx	NG	2,883		5.92					
27	21	975791	Titan 130	T130	20502	SoLoNOx	NG	6,784		13.92					
28	28-22	975792	Titan 250	T250	30002	SoLoNOx	NG					8,987		11.08	
29	23	975793	Titan 130	T130	20502	SoLoNOx	NG	6,784		13.92					
30	24 (new)	Proposed	Titan 250+	T250+	40001	SoLoNOx	NG					12,454		16.31	
31	25 (new)	Proposed	Titan 250	T250	30002	Conventional	NG	9,364		285.60					
32	26 (new)	Proposed	Titan 130	T130	20501	Conventional	NG					6,851		140.62	
33	TO (TC 16-3)	976905	Thermal Oxidizer	TO	Dev	SoLoNOx	NG	3,950		7.87					
34	TO (Prod)	976913	Thermal Oxidizer	TO	Prod	SoLoNOx	NG					3,950		7.87	
35	TO (TC 22)	2011-APP-001769	Thermal Oxidizer	TO	T250	SoLoNOx	NG					3,950		7.87	
All units are at 100% load						Total		73,769	11,238	609	230	82,306	8,823	539	51
						Combined Fuel Total		85,007		839		91,129		589	

12/21/2011



TURBINE TEST CELLS
SOLAR TURBINES
4200 RUFFIN RD.
SAN DIEGO, CA. 92123
AUGUST 2003

SAN DIEGO COUNTY AIR POLLUTION CONTROL DISTRICT

APPLICATION FEE ESTIMATE

Applicant: Solar Turbines - Kearny Mesa

Fee Schedule: 20C (MAL)

Engineer: Arthur Carbonell/John Annicchiarico

Estimate Date: 11/22/2011

Application: To modify existing permit via enhanced ATC. Increasing allowable annual fuel limit such that annual site emissions limit increases by 24 tons/yr of NOx. Assume an AQIA and HRA will be required. Additionally, modify permit conditions for alternative PM calculation methodology.

ACTIVITY	FEE CODE	LABOR CODE	CLASSIFICATION	LABOR HOURS	LABOR RATE	COST	SUBTOTAL
A/C		EG3	Associate Engineer	20	$142	$2,840	
		EG4	Senior Engineer	4	$169	$676	
P/O		EG3	Associate Engineer	6	$142	$852	
		EG4	Senior Engineer	0.5	$169	$85	
							$4,453
NSR	NSR	EG3	Associate Engineer	8	$142	$1,136	
			Senior	0.5			$1,136
AQIA	NSR	EG3	Associate Engineer	1	$142	$142	
	AQA	MET3	Associate Meteorologist	12	$96	$1,152	
							$1,294
Health Risk Assessment	TNS	ES3	Associate Specialist		$123		
		EG3	Associate Engineer	8	$142	$1,136	
		EG4	Senior Engineer	0.5	$169	$85	
							$1,221
Testing or Test Witness	96A	EG3	Associate Engineer		$142		
		CH3	Associate Chemist		$96		
		CH4	Senior Chemist		$112		
Other Fees	RNP		Renewal Fee				
	NBF		Administrative Fee	1	$95	$95	
	EMF		Emissions Fee		$116		
	ITA		Database Replacement (app)	1	$13	$13	
	ITP		Database Replacement (mp)	1	$13	$13	
	ITE		Database Replacement (emf)		$3		$121
Title V		EG3	Associate Engineer	10	$142	$1,420	
		EG4	Senior Engineer	4	$169	$676	
							$2,096

Notes:
1. If actual costs are less than estimated, the difference shall be refunded. If actual costs are greater than estimated, additional fees shall be required. If tests are required, additional fees shall be required but may be deferred until the A/C is issued. Additional emissions fees may also be required. Work records are kept, which may result in a final fee more or less than this estimate.
2. A 2.2% surcharge will be assessed to all credit card payments (American Express and Discover only).
3. Please submit a copy of this fee estimate with your application.

ESTIMATE TOTAL: $10,320