



South Coast Air Quality Management District
 P. O. Box 4944
 Diamond Bar, CA 91765
 (909) 396-2000

Form 400-A and one or more 400-E-xx form(s)
 must accompany all submittals.

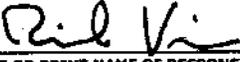
EXPRESS PERMIT PROCESSING REQUEST FORM FORM 400 - XPP

Section I - Facility/Application Information

- Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID:
- The requested application is for a(n): Date of Occurrence: June, 01, 2001
 - New Construction
 - Change of Location
 - Modification of Equipment/Process
 - Existing Equipment with Expired Permit
 - Existing Equipment Operating without a Permit; Initial Operation Date:
 - Change of Condition(s); Specify the change of condition(s) requested:
 - Change of Operator; List previous name of operator and Facility ID #:
- I hereby request Express Permit Processing for this application.
- I understand that this request will incur additional fees.
- This request is not cancelable once engineering review has been initiated.
- Express Permit Processing neither guarantees action by any specific date nor does I guarantee permit approval.

Section II - Equipment Information

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

 TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		VICE PRESIDENT RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993-1854	DATE SIGNED: 4/24/01
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I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF PREPARER: TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION		PREPARER'S TELEPHONE NUMBER (913)-458-4295	DATE SIGNED:
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AQMD USE ONLY		APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT	ENGINEER	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT \$

APPLICATION FOR PERMIT TO CONSTRUCT AND PERMIT TO OPERATE FORM 400 - A

Non-Title V Facilities: This form must be accompanied by one or more 400-E-xx series form(s). Complete this side of form only.
Title V Facilities: Complete both sides of this form. Include additional forms as necessary.

NC/NOV NUMBER:	
INSPECTOR	SECTOR
ISSUE DATE	

Section I - Company Information

LEGAL NAME OF OPERATOR: **PEGASUS POWER PARTNERS, LLC - Pegasus Project** IRS OR S. S. NUMBER 2 2 3 7 9 5 2 0 0

PERMIT TO BE ISSUED TO (SEE INSTRUCTIONS): **PEGASUS POWER PARTNERS, LLC**

BUSINESS MAILING ADDRESS: **89 Headquarters Plaza, North Tower 14th Floor, Morristown, New York 07960**

PERMIT MAILING ADDRESS, IF DIFFERENT FROM BUSINESS MAILING ADDRESS: **Same as Business Address**

TYPE OF ORGANIZATION: Corporation Limited Partnership Government Entity Individual General Partnership Other (Fill in):

ARE YOU A SMALL BUSINESS? (SEE INSTRUCTIONS) Yes No

AVERAGE ANNUAL GROSS RECEIPTS: **\$-0** IS YOUR BUSINESS 51% OR MORE WOMAN/MINORITY OWNED? Yes No

NUMBER OF EMPLOYEES: **Unknown**

THIS SECTION IS REQUIRED FOR ALL APPLICATIONS FOR NEW CONSTRUCTION OR MAJOR MODIFICATIONS.

ARE ALL MAJOR SOURCES UNDER SAME OWNERSHIP IN CALIFORNIA IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL AIR POLLUTION CONTROL RULES? Yes No

ARE YOU THE OWNER OF THE EQUIPMENT UNDER THIS APPLICATION? Yes No IRS OR S. S. NUMBER 2 2 3 7 9 5 2 0 0

IF NO, ENTER THE LEGAL NAME OF OWNER:

Section II - Facility Information

EQUIPMENT ADDRESS/LOCATION: **(Next door on Westside to) 5601, Eucalyptus Avenue**
 NUMBER/STREET: **Chino CA 91710**
 CITY OR COMMUNITY: **Chino** ZIP CODE: **CA 91710**

FACILITY NAME: **SALMON ENERGY LLC - CHINO POWER PLANT**

FACILITY ID NUMBER:

PRINT NAME OF CONTACT PERSON: **Jay Roland** TITLE OF CONTACT PERSON: **Director of Business Development**

TYPE OF BUSINESS AT THIS FACILITY: **Peaking Power Generation** PRIMARY SIC CODE FOR THIS FACILITY: **4 9 1 1** NUMBER OF EMPLOYEES AT THIS FACILITY:

CONTACT PERSON'S TELEPHONE NUMBER: **714-437-5036** CONTACT PERSON'S FAX NUMBER: **714-437-5051** CONTACT PERSON'S E-MAIL ADDRESS: **jroland@deltapower.com**

Section III - Application Type

DESCRIPTION OF EQUIPMENT: **Three (3) GE LM6000 Sprint Enhanced gas turbines with SCR/OxCat** PREVIOUS PERMIT #S:

APPLICATION FOR (SEE INSTRUCTIONS): NEW CONSTRUCTION CHANGE OF LOCATION EXISTING EQUIPMENT WITHOUT PERMIT MODIFICATION EXISTING EQUIPMENT WITH EXPIRED PERMIT CHANGE OF PERMITEE CHANGE OF PERMIT CONDITION

ARE YOU SUBMITTING MULTIPLE APPLICATIONS FOR EQUIPMENT IDENTICAL TO THAT DESCRIBED ABOVE? Yes No

APPLICATION FOR NON-TITLE V EQUIPMENT PERMIT. CHECK THE SUPPLEMENTAL SERIES 400-E-xx FORM(S) SUBMITTED WITH THIS 400-A FORM:

<input type="checkbox"/> 400-E-1 • PARTICULATE MATTER (PM-10) CONTROL EQUIPMENT	<input type="checkbox"/> 400-E-13 • INTERNAL COMBUSTION EQUIPMENT
<input type="checkbox"/> 400-E-2 • VOLATILE ORGANIC COMPOUND (VOC) CONTROL EQUIPMENT	<input type="checkbox"/> 400-E-14 • OPEN PROCESS TANK
<input type="checkbox"/> 400-E-3 • SCRUBBER	<input type="checkbox"/> 400-E-14a • OPEN PROCESS TANK; PROCESS LINE
<input type="checkbox"/> 400-E-4 • ABRASIVE BLASTING EQUIPMENT	<input type="checkbox"/> 400-E-15 • PRINTING EQUIPMENT
<input type="checkbox"/> 400-E-6 • DEGREASER	<input type="checkbox"/> 400-E-16 • SOLID MATERIALS STORAGE EQUIPMENT
<input type="checkbox"/> 400-E-7 • DRY CLEANING EQUIPMENT	<input type="checkbox"/> 400-E-17 • SPRAY BOOTH/OPEN SPRAY
<input type="checkbox"/> 400-E-8 • ETHYLENE OXIDE STERILIZER	<input type="checkbox"/> 400-E-17a • POWDER SPRAY BOOTH
<input type="checkbox"/> 400-E-9 • EXTERNAL COMBUSTION EQUIPMENT	<input type="checkbox"/> 400-E-18 • STORAGE TANK (LIQUID & GASEOUS MATERIAL)
<input type="checkbox"/> 400-E-10 • FOOD BROILER/FRYER	<input type="checkbox"/> 400-E-19 • WAVE SOLDER MACHINE
<input type="checkbox"/> 400-E-11 • FUEL DISPENSING AND STORAGE EQUIPMENT	<input type="checkbox"/> 400-E-20 • ASBESTOS REMOVAL EQUIPMENT
<input checked="" type="checkbox"/> 400-E-12 • GAS TURBINE	<input type="checkbox"/> NONE • ADDITIONAL INFORMATION SUBMITTED AS REQUESTED ON FORM 400-E-GI

APPLICATION FOR TITLE V FACILITY PERMIT. PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS FORM.

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: *[Signature]* TITLE OF RESPONSIBLE OFFICIAL OF FIRM: **Vice President**

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: **RICHARD G. VICENS** RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: **973-993-1854** DATE SIGNED: **04/24/01**

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: *[Signature]* TITLE OF RESPONSIBLE OFFICIAL OF FIRM: **Vice President**

TYPE OR PRINT NAME OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: **Black & Veatch Corporation** PREPARER'S TELEPHONE NUMBER: **913-458-4295** DATE: **04/24**

TITLE V FACILITIES ONLY: COMPLETE OTHER SIDE

AQMD USE ONLY	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE:	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF SECT.	CHECK/MONEY ORDER # AMOUNT \$

TITLE V APPLICATION CERTIFICATION

- TO BE COMPLETED BY TITLE V FACILITIES ONLY -

Section IV - Title V Application

1. This is an application for a(n) (Check all applicable boxes and provide the requested information as appropriate):
 - a. Initial Title V Permit
 - b. Permit Renewal: Provide current permit expiration date: _____
 - c. Administrative Permit Revision (Check all that apply)
 - Change of Ownership. (Complete and attach equipment-specific Form 400-E-xx series forms)
 - Change of Facility Information
 - Other, Please specify: Title V Permit Application is included
 - d. Other (Complete and attach equipment specific Form 400-E-XX series form(s) to this form if your application involves permit action for new construction, change of location, non-administrative permit revision, alternative operating scenario (AOS), permit shield, streamlined permit conditions, or temporary source permit.)
2. Is this facility required to prepare a Risk Management Plan (RMP) for another agency? Yes No

Section V - Title V Submittal Checklist

1. Enter the quantity of each type form submitted in the space provided:

<u>1</u>	500-A2	<u>1</u>	500-F1
	500-B		500-F2
<u>1</u>	500-C1		500-F3
	500-C2		500-F4
<u>1</u>	500-D	<u>1</u>	Other (specify): <u>500-E</u>
2. Additional information referenced in this application submitted (Check ALL that apply):
 - a. Existing Facility Permit
 - b. Preliminary Facility Permit
 - c. EFB Report for Year(s) _____
 - d. None
 - e. Other (Specify): _____
3. Supplemental information included with this application submittal (Check ALL that apply):
 - a. Facility Plot Plan
 - b. MSDS Sheet(s)
 - c. None
 - d. Other (Specify): See Figure section of this package

AQMD USE ONLY	APPLICATION TYPE	30 DAY PUBLIC NOTICE		PUBLIC HEARING	45-DAY EPA REVIEW	
	INITIAL RENEWAL & SIGNIFICANT	START DATE	END DATE	DATE	START DATE	END DATE
	MINOR & DE MINIMIS					
	ESTABLISH GENERAL PERMIT					
USE THE SECTIONS BELOW FOR TITLE V INITIAL AND RENEWAL APPLICATIONS ONLY:						
	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____ / _____		FEE SCHEDULE: \$	VALIDATION
ENG. A DATE	R	ENG. A DATE	R	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF. SECT.
						CHECK/MONEY ORDER AMOUNT # \$



South Coast Air Quality
Management District
21865 East Copley Drive
Diamond Bar, CA 91765
(909) 396- 2000

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) APPLICABILITY FORM 400 - CEQA

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project¹ has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].² Refer to the attached instructions for guidance in completing this form.³ For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Lori Inga at (909) 396-3109.

FACILITY INFORMATION

Facility Name: PEGASUS POWER PARTNERS, LLC **Facility ID (6-Digit):** _____

Project Description: A peaking power generating facility with four GE LM6000 Sprint Enhanced combustion turbines operating in simple cycle mode with a nominal output of 180 MW. Air pollution control equipment will be installed for each gas combustion turbine.

REVIEW FOR EXEMPTION FROM FURTHER CEQA ACTION

Check "Yes" or "No" as applicable

	Yes	No	Exemption for
A.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A request for a change of permittee only (without equipment modifications)?
B.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment certification or equipment registration?
C.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, a permit cannot be issued until a Final CEQA document and Notice of Determination is submitted.
D.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment damaged as a result of a disaster during state of emergency?
E.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V permit renewal (without equipment modifications)?
F.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V administrative permit revision?
G.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The conversion of an existing permit into an initial Title V permit?
H.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A functionally identical permit unit replacement with no increase in rating or emissions?
I.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A change of daily VOC permit limit to a monthly VOC permit limit?

If "Yes" is checked for any question above, your application does not require additional evaluation for CEQA applicability. Skip to page 2, "SIGNATURES" and sign and date this form.

REVIEW OF IMPACTS WHICH MAY TRIGGER CEQA

Complete Sections I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	Section I - General
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is this project part of a larger project?
Section II - Air Quality			
3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

¹ A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

² To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

³ To download this form and the instructions, visit <http://www.scaqmd.gov/ceqa> or <http://www.scaqmd.gov/permit>

	Yes	No	
5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 - Nuisance.
6.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1?⁴
Section III - Water Resources			
8.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
Section IV - Transportation/Circulation			
10.	Will the project result in (Check all that apply):		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. the need for more than 350 new employees?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. increase customer traffic by more than 700 visits per day?
Section V - Noise			
11.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project include equipment with a noise specification GREATER THAN 90 decibels (dB)?
Section VI - Public Services			
12.	Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).

SIGNATURES

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: 973-993-1855	DATE Signed: 04/24/01
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:		TITLE OF PREPARER:	
TYPE OR PRINT NAME OF PREPARER: Black & Veatch Corporation		PREPARER'S TELEPHONE NUMBER: 913-458-4295	DATE Signed: 01/24/01

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND THE ATTACHMENTS WITH FORM 400-A.

⁴ Table 1 - Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.



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 P. O. Box 4944
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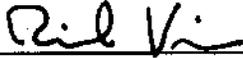
EXPRESS PERMIT PROCESSING REQUEST FORM FORM 400 - XPP

Section I - Facility/Application Information

- Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID:
- The requested application is for a(n): Date of Occurrence: June, 01, 2001
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 - Change of Location
 - Modification of Equipment/Process
 - Existing Equipment with Expired Permit
 - Existing Equipment Operating without a Permit; Initial Operation Date:
 - Change of Condition(s); Specify the change of condition(s) requested:
 - Change of Operator; List previous name of operator and Facility ID #:
- I hereby request Express Permit Processing for this application.
- I understand that this request will incur additional fees.
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Section II - Equipment Information

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 TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		VICE PRESIDENT RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993-1854	DATE SIGNED: 4/24/01
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 SIGNATURE OF PREPARER: TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION		PREPARER'S TELEPHONE NUMBER (913)-458-4295	DATE SIGNED:
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AQMD USE ONLY		APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
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GAS TURBINE - CTG1 (1 of 4) FORM 400 - E - 12

Form 400-A must accompany all submittals.

For:	Change of location, equipment w/expired permit, or change of operator:	ALL other application types: Submit all other information requested and:
Title V Facilities	Complete Sections I, IV, & V	Complete Sections I, II, III, IV, & V
All Other Facilities	Complete Sections I & IV	Complete Sections I, II, III, & IV

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus project Facility ID: _____
2. The requested application is for a(n): Date of Occurrence: June/01/2001
 - a. New Construction
 - b. Change of Location
 - c. Modification of Equipment/Process
 - d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date: ____/____/____
 - f. Change of Condition(s); Specify the change of condition(s) requested: _____
 - g. Change of Operator; List previous name of operator and Facility ID #: _____
3. If equipment has previous written permit, list Permit Number or Device Number(s): _____
4. Are multiple applications being submitted for similar equipment (as defined in Rule 301) described below?
 - No Yes; If Yes, Number of Multiple Units: 4 turbines, 4 APC, & 1 Tank
5. Have you been issued a Notice to Comply (NTC) or Notice of Violation (NOV) for this equipment?
 - No Yes; NTC #: _____ NOV #: _____ Issue Date: ____/____/____
6. For New Construction, Modification, or Change of Location:

Estimated Construction Start Date: 06/01/2001 Estimated Completion Date: 09/30/2001
7. For this project, has a California Environmental Quality Act (CEQA) document been required by another governmental agency? No Yes, for agency (Provide name): California Energy Commission
 - a. Are you required by another governmental agency to have a permit? No Yes, for agency (Provide name) California Energy Commission
 - b. Are any of these permits discretionary? No Yes; list: _____
8. Do you claim confidentiality of data? No Yes (attach explanation)
9. Is the equipment located within 1,000 feet from the outer boundary of a school? No Yes (If Yes, complete a. for all public or private school, grade K-12, within a 1/4 mile radius of facility property)
 - a. School Name(s): _____ Telephone No(s): _____
 School Address(s): _____ School Address(s): _____

Section II - Equipment Information

1. Turbine Manufacturer: General Electric Model No.: Sprint LM6000 Serial No.: CTG1
2. Turbine Size (based on Higher Heating Value):

Manufacturer Maximum Input Rating: 450 MM BTU per hour, _____ KW
 Manufacturer Maximum Output Rating: _____ MM BTU per hour, 45,000 KW
3. Turbine Function:
 - a. Driving Pump/Compressor
 - b. Electrical Generation
 - c. Emergency Peaking Unit
 - d. Exhaust Heat Recovery
 - e. Steam Generation
 - f. Other (specify): _____
4. Cycle Type:
 - a. Simple Cycle
 - b. Combined Cycle
 - c. Regenerative Cycle
 - d. Other (specify): _____
5. Fuel Information (check all that apply):
 - a. Natural Gas
 - b. Diesel Oil
 - c. Propane
 - d. Gasoline
 - e. Digester Gas*
 - f. Landfill Gas*
 - g. Other* (specify): _____

* If Digester Gas, Landfill Gas, and/or Other are checked, attach fuel analysis indicating all constituents and HHV.

TURN OVER AND COMPLETE

AQMD USE ONLY	APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R	ENG. A R	CLASS I III IV	ASSIGNMENT UNIT	ENF. SECT.	CHECK/MONEY ORDER	AMOUNT
DATE	DATE		ENGINEER		#	\$

Section III - Operation Information

- Maximum Rated Full Load Fuel Consumption Rate: _____ gal/hr or 450,222.22 cu.ft/hr
- Average Load: 90 %
- Is Turbine equipped with exhaust heat recovery steam generator (HRSG)? Yes No
If Yes, supply the size, flow rate, steam output capacity, and temperature profile.
- Is Turbine equipped with duct burners? Yes No
If Yes, provide burner description, fuel usage, combustion air input, and location of burner(s). Show all heat transfer surface locations with the HRSG and temperature profile.
- Is duct burner used as air pollution control equipment? Yes No
If Yes and duct burner is permitted, list Permit Number(s) or Device Number(s) of control equipment:
SCR/Oxidation Catalyst for each turbine
If Yes and duct burner is not permitted, a separate permit is required. Please see Form 400-E-GI for instructions.
- Is Turbine equipped with air pollution control equipment? Yes No
 - If Yes, please explain and list Permit Number(s) or Device Number(s) of control equipment:
Control equipment will be in the form of SCR/Oxidation Catalyst for each turbine
 - Steam/Water Injection? Yes No
Injection Rate: 1.14 lbs water/lbs fuel or mole water/mole fuel (circle units)
 - Ammonia (NH₃) Injection? Yes No
Injection Rate: 0.0062 lbs NH₃/lbs fuel or mole NH₃/mole fuel (circle units)
 - Combustion Type? Tubular Can-Annular Annular
 - Selective Catalytic Reduction (SCR)? Yes No
Reactor Temperature: 550 °F to 1,125 °F
If Yes and SCR is not permitted, a separate permit is required. Please see Form 400-E-GI for instructions.

Section IV - Emission Information

POLLUTANTS	EMISSIONS BEFORE CONTROL ¹		EMISSIONS AFTER CONTROL	
	PPM ²	LB/HR	PPM ²	LB/HR
ROG	<u>10</u>	_____	<u>2</u>	<u>1.0</u>
NOX	<u>25</u>	_____	<u>5</u>	<u>8.6</u>
CO	<u>57</u>	_____	<u>6</u>	<u>6.0</u>
PM	_____	<u>3.1</u>	_____	<u>3.1</u>
SOX	_____	<u>0.32</u>	_____	<u>0.32</u>

¹ BASED ON TEMPERATURE, FUEL CONSUMPTION, AND MW OUTPUT
² DRY AND CORRECTED TO 15% OXYGEN

MANUFACTURER DATA ATTACHED EPA EMISSION FACTORS
 AQMD EMISSION FACTORS SOURCE TEST DATA (ATTACH SOURCE TEST RESULTS)

- STACK OR VENT DATA:
 - STACK HEIGHT: 110 FEET _____ INCHES
 - EXHAUST TEMPERATURE: 846 °F
 - EXHAUST FLOW RATE: 599,072 ACFM
 - EXHAUST PRESSURE: _____ INCHES WATER COLUMN
- Operating Schedule: weeks/year 52 days/week 7
Max. Hrs. 7,500 Average Hrs. 20 per day

Section V - Applicant Certification Statement

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: _____ TITLE OF RESPONSIBLE OFFICIAL OF FIRM: _____

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: (973) 993 - 1855	DATE SIGNED: 04/24/01	

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
SIGNATURE OF PREPARER: _____ TITLE OF PREPARER: _____

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION	PREPARER'S TELEPHONE NUMBER: (913) 458 - 4295	DATE SIGNED: 04/24/01
--	--	--------------------------

Section V- Title V Information: Fill out if AQMD has identified your facility as a Title V facility

- The requested application involves a(n): (check all that apply)
- | | |
|--|--|
| a. <input type="checkbox"/> Minor Permit Revision | e. <input type="checkbox"/> Permit Shield (complete Form 500-D) |
| <input type="checkbox"/> Group Processing (check only if applicable) | f. <input type="checkbox"/> Streamlined Permit Conditions |
| b. <input type="checkbox"/> DeMinimis Significant Permit Revision | g. <input type="checkbox"/> Alternative Operating Scenario (AOS) |
| c. <input type="checkbox"/> Significant Permit Revision | h. <input checked="" type="checkbox"/> Other (specify): <u>Title V App. Included</u> |
| d. <input type="checkbox"/> Non-Title V Permit Processing (Available until Initial Title V permit is issued) | |

PERMIT TO OPERATE FORM 400 - A

Non-Title V Facilities: This form must be accompanied by one or more 400-E-xx series form(s). Complete this side of form only. Title V Facilities: Complete both sides of this form. Include additional forms as necessary.	NC/NOV NUMBER: <hr/> INSPECTOR _____ SECTOR _____ ISSUE DATE _____
--	--

Section I - Company Information

LEGAL NAME OF OPERATOR PEGASUS POWER PARTNERS, LLC - Pegasus Project		<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER <u>2</u> <u>2</u> <u>3</u> <u>7</u> <u>9</u> <u>5</u> <u>2</u> <u>0</u> <u>0</u>
PERMIT TO BE ISSUED TO (SEE INSTRUCTIONS) PEGASUS POWER PARTNERS, LLC		
BUSINESS MAILING ADDRESS 89 Headquarters Plaza, North Tower 14th Floor, Morristown, New York 07960		
PERMIT MAILING ADDRESS, IF DIFFERENT FROM BUSINESS MAILING ADDRESS Same as Business Address		
TYPE OF ORGANIZATION <input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Limited Partnership <input type="checkbox"/> Government Entity <input type="checkbox"/> Individual <input type="checkbox"/> General Partnership <input type="checkbox"/> Other (Fill in): _____		
ARE YOU A SMALL BUSINESS? (SEE INSTRUCTIONS) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AVERAGE ANNUAL GROSS RECEIPTS \$-0 NUMBER OF EMPLOYEES Unknown	IS YOUR BUSINESS 51% OR MORE WOMAN/MINORITY OWNED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
THIS SECTION IS REQUIRED FOR ALL APPLICATIONS FOR NEW CONSTRUCTION OR MAJOR MODIFICATIONS.		
ARE ALL MAJOR SOURCES UNDER SAME OWNERSHIP IN CALIFORNIA IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL AIR POLLUTION CONTROL RULES? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
ARE YOU THE OWNER OF THE EQUIPMENT UNDER THIS APPLICATION? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER <u>2</u> <u>2</u> <u>3</u> <u>7</u> <u>9</u> <u>5</u> <u>2</u> <u>0</u> <u>0</u>
IF NO, ENTER THE LEGAL NAME OF OWNER _____		

Section II - Facility Information

EQUIPMENT ADDRESS/LOCATION (Next door on Westside to) 5601, Eucalyptus Avenue NUMBER/STREET		FACILITY NAME SALMON ENERGY LLC - CHINO POWER PLANT	
Chino	CA	91710	FACILITY ID NUMBER _____
CITY OR COMMUNITY ZIP CODE			
PRINT NAME OF CONTACT PERSON Jay Roland		TITLE OF CONTACT PERSON Director of Business Development	
TYPE OF BUSINESS AT THIS FACILITY Peaking Power Generation		PRIMARY SIC CODE FOR THIS FACILITY 4 9 1 1	NUMBER OF EMPLOYEES AT THIS FACILITY _____
CONTACT PERSON'S TELEPHONE NUMBER 714-437-5036	CONTACT PERSON'S FAX NUMBER 714-437-5051	CONTACT PERSON'S E-MAIL ADDRESS jroland@deltapower.com	

Section III - Application Type

DESCRIPTION OF EQUIPMENT: Three (3) GE LM6000 Sprint Enhanced gas turbines with SCR/OxCat		PREVIOUS PERMIT #S: _____
APPLICATION FOR (SEE INSTRUCTIONS):	<input type="checkbox"/> CHANGE OF LOCATION <input type="checkbox"/> MODIFICATION <input type="checkbox"/> CHANGE OF PERMITTEE <input type="checkbox"/> CHANGE OF PERMIT CONDITION	ARE YOU SUBMITTING MULTIPLE APPLICATIONS FOR EQUIPMENT IDENTICAL TO THAT DESCRIBED ABOVE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> EXISTING EQUIPMENT WITHOUT PERMIT <input type="checkbox"/> EXISTING EQUIPMENT WITH EXPIRED PERMIT	<input checked="" type="checkbox"/> APPLICATION FOR NON-TITLE V EQUIPMENT PERMIT. CHECK THE SUPPLEMENTAL SERIES 400-E-xx FORM(S) SUBMITTED WITH THIS 400-A FORM: _____ 400-E-1 • PARTICULATE MATTER (PM-10) CONTROL EQUIPMENT _____ 400-E-13 • INTERNAL COMBUSTION EQUIPMENT _____ 400-E-2 • VOLATILE ORGANIC COMPOUND (VOC) CONTROL EQUIPMENT _____ 400-E-14 • OPEN PROCESS TANK _____ 400-E-3 • SCRUBBER _____ 400-E-14a • OPEN PROCESS TANK; PROCESS LINE _____ 400-E-4 • ABRASIVE BLASTING EQUIPMENT _____ 400-E-15 • PRINTING EQUIPMENT _____ 400-E-6 • DEGREASER _____ 400-E-16 • SOLID MATERIALS STORAGE EQUIPMENT _____ 400-E-7 • DRY CLEANING EQUIPMENT _____ 400-E-17 • SPRAY BOOTH/OPEN SPRAY _____ 400-E-8 • ETHYLENE OXIDE STERILIZER _____ 400-E-17a • POWDER SPRAY BOOTH _____ 400-E-9 • EXTERNAL COMBUSTION EQUIPMENT <u>1</u> 400-E-18 • STORAGE TANK (LIQUID & GASEOUS MATERIAL) _____ 400-E-10 • FOOD BROILER/FRYER _____ 400-E-19 • WAVE SOLDER MACHINE _____ 400-E-11 • FUEL DISPENSING AND STORAGE EQUIPMENT _____ 400-E-20 • ASBESTOS REMOVAL EQUIPMENT <u>4</u> 400-E-12 • GAS TURBINE _____ NONE • ADDITIONAL INFORMATION SUBMITTED AS REQUESTED ON FORM 400-E-GI	
<input checked="" type="checkbox"/> APPLICATION FOR TITLE V FACILITY PERMIT. PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS FORM.		

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: <i>[Signature]</i>	TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Vice President
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER 973-993-1854
	DATE SIGNED: 04/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: <i>[Signature]</i>	TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Vice President
TYPE OR PRINT NAME OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: Black & Veatch Corporation	PREPARER'S TELEPHONE NUMBER 913-458-4295
	DATE SIGNED: 04/24

TITLE V FACILITIES ONLY: COMPLETE OTHER SIDE

AQMD USE ONLY	APPLICATION/TRACKING # _____	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$ _____	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF SECT.	CHECK/MONEY ORDER # AMOUNT \$

TITLE V APPLICATION CERTIFICATION

- TO BE COMPLETED BY TITLE V FACILITIES ONLY -

Section IV - Title V Application

1. This is an application for a(n) (Check all applicable boxes and provide the requested information as appropriate):
- a. Initial Title V Permit
 - b. Permit Renewal: Provide current permit expiration date: _____
 - c. Administrative Permit Revision (Check all that apply)
 - Change of Ownership. (Complete and attach equipment-specific Form 400-E-xx series forms)
 - Change of Facility Information
 - Other, Please specify: Title V Permit Application Is Included
 - d. Other (Complete and attach equipment specific Form 400-E-XX series form(s) to this form if your application involves permit action for new construction, change of location, non-administrative permit revision, alternative operating scenario (AOS), permit shield, streamlined permit conditions, or temporary source permit.)
2. Is this facility required to prepare a Risk Management Plan (RMP) for another agency? Yes No

Section V - Title V Submittal Checklist

1. Enter the quantity of each type form submitted in the space provided:
- | | | | |
|---|--------|---|-------------------------------|
| 1 | 500-A2 | 1 | 500-F1 |
| | 500-B | | 500-F2 |
| 1 | 500-C1 | | 500-F3 |
| | 500-C2 | | 500-F4 |
| 1 | 500-D | 1 | Other (specify): <u>500-E</u> |
2. Additional information referenced in this application submitted (Check ALL that apply):
- a. Existing Facility Permit
 - b. Preliminary Facility Permit
 - c. EFB Report for Year(s) _____
 - d. None
 - e. Other (Specify): _____
3. Supplemental information included with this application submittal (Check ALL that apply):
- a. Facility Plot Plan
 - b. MSDS Sheet(s)
 - c. None
 - d. Other (Specify): See Figure section of this package

	APPLICATION TYPE		30 DAY PUBLIC NOTICE		PUBLIC HEARING	45-DAY EPA REVIEW		
			START DATE	END DATE	DATE	START DATE	END DATE	
AQMD	INITIAL, RENEWAL & SIGNIFICANT							
	MINOR & DE MINIMIS							
USE	ESTABLISH GENERAL PERMIT							
USE THE SECTIONS BELOW FOR TITLE V INITIAL AND RENEWAL APPLICATIONS ONLY:								
ONLY	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____ / _____		FEE SCHEDULE: \$	VALIDATION		
ENG. A DATE	R	ENG. A DATE	R	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT \$



South Coast Air Quality
Management District
21865 East Copley Drive
Diamond Bar, CA 91765
(909) 396- 2000

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) APPLICABILITY FORM 400 - CEQA

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project¹ has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].² Refer to the attached instructions for guidance in completing this form.³ For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Lori Inga at (909) 396-3109.

FACILITY INFORMATION

Facility Name: PEGASUS POWER PARTNERS, LLC **Facility ID (6-Digit):** _____

Project Description: A peaking power generating facility with four GE LM6000 Sprint Enhanced combustion turbines operating in simple cycle mode with a nominal output of 180 MW. Air pollution control equipment will be installed for each gas combustion turbine.

REVIEW FOR EXEMPTION FROM FURTHER CEQA ACTION

Check "Yes" or "No" as applicable

	Yes	No	Section of General
			Section I - General
A.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A request for a change of permittee only (without equipment modifications)?
B.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment certification or equipment registration?
C.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, a permit cannot be issued until a Final CEQA document and Notice of Determination is submitted.
D.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment damaged as a result of a disaster during state of emergency?
E.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V permit renewal (without equipment modifications)?
F.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V administrative permit revision?
G.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The conversion of an existing permit into an initial Title V permit?
H.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A functionally identical permit unit replacement with no increase in rating or emissions?
I.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A change of daily VOC permit limit to a monthly VOC permit limit?

If "Yes" is checked for any question above, your application does not require additional evaluation for CEQA applicability. Skip to page 2, "SIGNATURES" and sign and date this form.

REVIEW OF IMPACTS WHICH MAY TRIGGER CEQA

Complete Sections I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	Section of General
			Section I - General
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is this project part of a larger project?
			Section II - Air Quality
3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

¹ A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

² To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.htm.

³ To download this form and the instructions, visit <http://www.scaqmd.gov/ceqa> or <http://www.scaqmd.gov/permit>

	Yes	No	
5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 - Nuisance.
6.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1?*
Section III - Water Resources			
8.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
Section IV - Transportation/Logistics			
10.	Will the project result in (Check all that apply):		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. the need for more than 350 new employees?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. increase customer traffic by more than 700 visits per day?
Section V - Noise			
11.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project include equipment with a noise specification GREATER THAN 90 decibels (dB)?
Section VI - Public Services			
12.	Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).

SIGNATURES

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: 973-993-1855	DATE Signed: 04/24/01
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:		TITLE OF PREPARER:	
TYPE OR PRINT NAME OF PREPARER: Black & Veatch Corporation		PREPARER'S TELEPHONE NUMBER: 913-458-4295	DATE Signed: 01/24/01

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND THE ATTACHMENTS WITH FORM 400-A.

* Table 1 - Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.



South Coast Air Quality Management District
 P. O. Box 4944
 Diamond Bar, CA 91765
 (909) 396-2000

Form 400-A and one or more 400-E-xx form(s)
 must accompany all submittals.

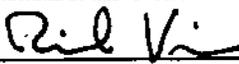
EXPRESS PERMIT PROCESSING REQUEST FORM FORM 400 - XPP

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID:
2. The requested application is for a(n): Date of Occurrence: June, 01, 2001
- a. New Construction
 - b. Change of Location
 - c. Modification of Equipment/Process
 - d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date:
 - f. Change of Condition(s); Specify the change of condition(s) requested:
 - g. Change of Operator; List previous name of operator and Facility ID #:
3. I hereby request Express Permit Processing for this application.
4. I understand that this request will incur additional fees.
5. This request is not cancelable once engineering review has been initiated.
6. Express Permit Processing neither guarantees action by any specific date nor does I guarantee permit approval.

Section II - Equipment Information

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

 TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993-1854	DATE SIGNED: 4/24/01
VICE PRESIDENT		

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF PREPARER: TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION	PREPARER'S TELEPHONE NUMBER (913)-458-4295	DATE SIGNED:
--	--	--------------

AQMD USE ONLY	APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT	ENF. SECT.	CHECK/MONEY ORDER \$	AMOUNT \$



GAS TURBINE - CTG1 (2 of 4) FORM 400 - E - 12

Form 400-A must accompany all submittals.

For:	Change of location, equipment w/expired permit, or change of operator:	ALL other application types: Submit all other information requested and:
Title V Facilities	Complete Sections I, IV, & V	Complete Sections I, II, III, IV, & V
All Other Facilities	Complete Sections I & IV	Complete Sections I, II, III, & IV

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus project Facility ID: _____
2. The requested application is for a(n): Date of Occurrence: June/01 /2001
 - a. New Construction
 - b. Change of Location
 - c. Modification of Equipment/Process
 - d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date: ____/____/____
 - f. Change of Condition(s); Specify the change of condition(s) requested: _____
 - g. Change of Operator; List previous name of operator and Facility ID #: _____
3. If equipment has previous written permit, list Permit Number or Device Number(s): _____
4. Are multiple applications being submitted for similar equipment (as defined in Rule 301) described below?
 No Yes; If Yes, Number of Multiple Units: 4 turbines, 4 APC, & 1 Tank
5. Have you been issued a Notice to Comply (NTC) or Notice of Violation (NOV) for this equipment?
 No Yes; NTC #: _____ NOV #: _____ Issue Date: ____/____/____
6. For New Construction, Modification, or Change of Location:
 Estimated Construction Start Date: 06/01/2001 Estimated Completion Date: 09/30/2001
7. For this project, has a California Environmental Quality Act (CEQA) document been required by another governmental agency? No Yes, for agency (Provide name): California Energy Commission
 a. Are you required by another governmental agency to have a permit? No Yes, for agency (Provide name) California Energy Commission
 b. Are any of these permits discretionary? No Yes; list: _____
8. Do you claim confidentiality of data? No Yes (attach explanation)
9. Is the equipment located within 1,000 feet from the outer boundary of a school? No Yes
 (If Yes, complete a. for all public or private school, grade K-12, within a 1/4 mile radius of facility property)
 a. School Name(s): _____ Telephone No(s): _____
 School Address(s): _____ School Address(s): _____

Section II - Equipment Information

1. Turbine Manufacturer: General Electric Model No.: Sprint LM6000 Serial No.: CTG2
2. Turbine Size (based on Higher Heating Value):
 Manufacturer Maximum Input Rating: 450 MM BTU per hour, _____ KW
 Manufacturer Maximum Output Rating: _____ MM BTU per hour, 45,000 KW
3. Turbine Function:
 - a. Driving Pump/Compressor
 - b. Electrical Generation
 - c. Emergency Peaking Unit
 - d. Exhaust Heat Recovery
 - e. Steam Generation
 - f. Other (specify): _____
4. Cycle Type:
 - a. Simple Cycle
 - b. Combined Cycle
 - c. Regenerative Cycle
 - d. Other (specify): _____
5. Fuel Information (check all that apply):
 - a. Natural Gas
 - b. Diesel Oil
 - c. Propane
 - d. Gasoline
 - e. Digester Gas*
 - f. Landfill Gas*
 - g. Other* (specify): _____

* If Digester Gas, Landfill Gas, and/or Other are checked, attach fuel analysis indicating all constituents and HHV.

TURN OVER AND COMPLETE

AQMD USE ONLY	APPLICATION/TRACKING #	PROJECT #		TYPE	EQUIPMENT CATEGORY CODE:	FEE SCHEDULE:	VALIDATION
				B C D	____/____	\$	
ENG. A R	ENG. A R	CLASS	ASSIGNMENT		ENF.	CHECK/MONEY ORDER AMOUNT	
DATE	DATE	I III IV	UNIT	ENGINEER	SECT.	*	\$

Section III - Operation Information

1. Maximum Rated Full Load Fuel Consumption Rate: _____ gal/hr or 450,222.22 cu.ft/hr
2. Average Load: 90 %
3. Is Turbine equipped with exhaust heat recovery steam generator (HRSG)? Yes No
If Yes, supply the size, flow rate, steam output capacity, and temperature profile.
4. Is Turbine equipped with duct burners? Yes No
If Yes, provide burner description, fuel usage, combustion air input, and location of burner(s). Show all heat transfer surface locations with the HRSG and temperature profile.
5. Is duct burner used as air pollution control equipment? Yes No
If Yes and duct burner is permitted, list Permit Number(s) or Device Number(s) of control equipment:
SCR/Oxidation Catalyst for each turbine
If Yes and duct burner is not permitted, a separate permit is required. Please see Form 400-E-GI for instructions.
6. a. Is Turbine equipped with air pollution control equipment? Yes No
b. If Yes, please explain and list Permit Number(s) or Device Number(s) of control equipment:
Control equipment will be in the form of SCR/Oxidation Catalyst for each turbine
c. Steam/Water Injection? Yes No
Injection Rate: 1.14 lbs water/lbs fuel or mole water/mole fuel (circle units)
d. Ammonia (NH₃) Injection? Yes No
Injection Rate: 0.0062 lbs NH₃/lbs fuel or mole NH₃/mole fuel (circle units)
e. Combustion Type? Tubular Can-Annular Annular
f. Selective Catalytic Reduction (SCR)? Yes No
Reactor Temperature: 550 °F to 1,125 °F
If Yes and SCR is not permitted, a separate permit is required. Please see Form 400-E-GI for instructions.

Section IV - Emission Information

1. Emissions Data:

POLLUTANTS	EMISSIONS BEFORE CONTROL ¹		EMISSIONS AFTER CONTROL	
	PPM ²	LB/HR	PPM ²	LB/HR
ROG	<u>10</u>	_____	<u>2</u>	<u>1.0</u>
NOX	<u>25</u>	_____	<u>5</u>	<u>8.6</u>
CO	<u>57</u>	_____	<u>6</u>	<u>6.0</u>
PM	_____	<u>3.1</u>	_____	<u>3.1</u>
SOX	_____	<u>0.32</u>	_____	<u>0.32</u>

¹ BASED ON TEMPERATURE, FUEL CONSUMPTION, AND MW OUTPUT

² DRY AND CORRECTED TO 15% OXYGEN

- MANUFACTURER DATA ATTACHED EPA EMISSION FACTORS
 AQMD EMISSION FACTORS SOURCE TEST DATA (ATTACH SOURCE TEST RESULTS)

2. STACK OR VENT DATA:

- A. STACK HEIGHT: 110 FEET _____ INCHES C. EXHAUST FLOW RATE: 599,072 ACFM
 B. EXHAUST TEMPERATURE: 846 °F D. EXHAUST PRESSURE: _____ INCHES WATER COLUMN

3. Operating Schedule: weeks/year 52 days/week 7
 Max. Hrs. 7,500 Average Hrs. 20 per day

Section V - Applicant Certification Statement

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM:


TITLE OF RESPONSIBLE OFFICIAL OF FIRM:
VICE PRESIDENT

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM:
RICHARD G. VICENS

RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER
 (973) 993 - 1855

DATE SIGNED:
 04/ 24 /01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER:

TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER:
BLACK & VEATCH CORPORATION

PREPARER'S TELEPHONE NUMBER
 (913) 458 - 4295

DATE SIGNED:
 04/ 24 / 01

Section V- Title V Information: Fill out if AQMD has identified your facility as a Title V facility

The requested application involves a(n): (check all that apply)

- a. Minor Permit Revision e. Permit Shield (complete Form 500-D)
 Group Processing (check only if applicable) f. Streamlined Permit Conditions
 b. DeMinimis Significant Permit Revision g. Alternative Operating Scenario (AOS)
 c. Significant Permit Revision h. Other (specify): Title V App. included
 d. Non-Title V Permit Processing (Available until Initial Title V permit is issued)



APPLICATION FOR PERMIT TO CONSTRUCT AND PERMIT TO OPERATE FORM 400 - A

Non-Title V Facilities: This form must be accompanied by one or more 400-E-xx series form(s). Complete this side of form only.
Title V Facilities: Complete both sides of this form. Include additional forms as necessary.

NC/NOV NUMBER:	
INSPECTOR	SECTOR
ISSUE DATE	

Section I - Company Information

LEGAL NAME OF OPERATOR PEGASUS POWER PARTNERS, LLC - Pegasus Project	<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER <u>2</u> <u>2</u> <u>3</u> <u>7</u> <u>9</u> <u>5</u> <u>2</u> <u>0</u> <u>0</u>
PERMIT TO BE ISSUED TO (SEE INSTRUCTIONS) PEGASUS POWER PARTNERS, LLC	
BUSINESS MAILING ADDRESS 89 Headquarters Plaza, North Tower 14th Floor, Morristown, New York 07960	
PERMIT MAILING ADDRESS, IF DIFFERENT FROM BUSINESS MAILING ADDRESS Same as Business Address	
TYPE OF ORGANIZATION <input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Limited Partnership <input type="checkbox"/> Government Entity <input type="checkbox"/> Individual <input type="checkbox"/> General Partnership <input type="checkbox"/> Other (Fill In): _____	
ARE YOU A SMALL BUSINESS? (SEE INSTRUCTIONS) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AVERAGE ANNUAL GROSS RECEIPTS \$-0 NUMBER OF EMPLOYEES Unknown
IS YOUR BUSINESS 51% OR MORE WOMAN/MINORITY OWNED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
THIS SECTION IS REQUIRED FOR ALL APPLICATIONS FOR NEW CONSTRUCTION OR MAJOR MODIFICATIONS.	
ARE ALL MAJOR SOURCES UNDER SAME OWNERSHIP IN CALIFORNIA IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL AIR POLLUTION CONTROL RULES? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARE YOU THE OWNER OF THE EQUIPMENT UNDER THIS APPLICATION? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER <u>2</u> <u>2</u> <u>3</u> <u>7</u> <u>9</u> <u>5</u> <u>2</u> <u>0</u> <u>0</u>
IF NO, ENTER THE LEGAL NAME OF OWNER _____	

Section II - Facility Information

EQUIPMENT ADDRESS/LOCATION (Next door on Westside to) 5601, Eucalyptus Avenue NUMBER/STREET	FACILITY NAME SALMON ENERGY LLC - CHINO POWER PLANT
Chino CITY OR COMMUNITY	FACILITY ID NUMBER _____
CA STATE	91710 ZIP CODE
PRINT NAME OF CONTACT PERSON Jay Roland	TITLE OF CONTACT PERSON Director of Business Development
TYPE OF BUSINESS AT THIS FACILITY Peaking Power Generation	PRIMARY SIC CODE FOR THIS FACILITY 4 9 1 1
CONTACT PERSON'S TELEPHONE NUMBER 714-437-5036	CONTACT PERSON'S FAX NUMBER 714-437-5051
CONTACT PERSON'S E-MAIL ADDRESS jroland@deltapower.com	

Section III - Application Type

DESCRIPTION OF EQUIPMENT: Three (3) GE LM6000 Sprint Enhanced gas turbines with SCR/OxCat		PREVIOUS PERMIT #S:
APPLICATION FOR (SEE INSTRUCTIONS): <input checked="" type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> EXISTING EQUIPMENT WITHOUT PERMIT <input type="checkbox"/> EXISTING EQUIPMENT WITH EXPIRED PERMIT	<input type="checkbox"/> CHANGE OF LOCATION <input type="checkbox"/> MODIFICATION <input type="checkbox"/> CHANGE OF PERMITTEE <input type="checkbox"/> CHANGE OF PERMIT CONDITION	ARE YOU SUBMITTING MULTIPLE APPLICATIONS FOR EQUIPMENT IDENTICAL TO THAT DESCRIBED ABOVE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> APPLICATION FOR NON-TITLE V EQUIPMENT PERMIT. CHECK THE SUPPLEMENTAL SERIES 400-E-xx FORM(S) SUBMITTED WITH THIS 400-A FORM: _____ 400-E-1 • PARTICULATE MATTER (PM-10) CONTROL EQUIPMENT _____ 400-E-2 • VOLATILE ORGANIC COMPOUND (VOC) CONTROL EQUIPMENT _____ 400-E-3 • SCRUBBER _____ 400-E-4 • ABRASIVE BLASTING EQUIPMENT _____ 400-E-5 • DEGREASER _____ 400-E-7 • DRY CLEANING EQUIPMENT _____ 400-E-8 • ETHYLENE OXIDE STERILIZER _____ 400-E-9 • EXTERNAL COMBUSTION EQUIPMENT _____ 400-E-10 • FOOD BROILER/FRYER _____ 400-E-11 • FUEL DISPENSING AND STORAGE EQUIPMENT <u>4</u> 400-E-12 • GAS TURBINE _____ 400-E-13 • INTERNAL COMBUSTION EQUIPMENT _____ 400-E-14 • OPEN PROCESS TANK _____ 400-E-14a • OPEN PROCESS TANK; PROCESS LINE _____ 400-E-15 • PRINTING EQUIPMENT _____ 400-E-16 • SOLID MATERIALS STORAGE EQUIPMENT _____ 400-E-17 • SPRAY BOOTH/OPEN SPRAY _____ 400-E-17a • POWDER SPRAY BOOTH <u>1</u> 400-E-18 • STORAGE TANK (LIQUID & GASEOUS MATERIAL) _____ 400-E-19 • WAVE SOLDER MACHINE _____ 400-E-20 • ASBESTOS REMOVAL EQUIPMENT _____ NONE • ADDITIONAL INFORMATION SUBMITTED AS REQUESTED ON FORM 400-E-GI		
<input checked="" type="checkbox"/> APPLICATION FOR TITLE V FACILITY PERMIT. PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS FORM.		

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: *[Signature]* TITLE OF RESPONSIBLE OFFICIAL OF FIRM: **Vice President**

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER 973-993-1854	DATE SIGNED: 04/24/01
---	--	---------------------------------

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: _____ TITLE OF RESPONSIBLE OFFICIAL OF FIRM: **Vice President**

TYPE OR PRINT NAME OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: Black & Veatch Corporation	PREPARER'S TELEPHONE NUMBER 913-458-4295	DATE SIGNED: 04/24
---	--	------------------------------

TITLE V FACILITIES ONLY: COMPLETE OTHER SIDE

AQMD USE ONLY	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF SECT.	CHECK/MONEY ORDER # AMOUNT \$

TITLE V APPLICATION CERTIFICATION

- TO BE COMPLETED BY TITLE V FACILITIES ONLY -

Section IV - Title V Application

1. This is an application for a(n) (Check all applicable boxes and provide the requested information as appropriate):
 - a. Initial Title V Permit
 - b. Permit Renewal: Provide current permit expiration date: _____
 - c. Administrative Permit Revision (Check all that apply)
 - Change of Ownership. (Complete and attach equipment-specific Form 400-E-xx series forms)
 - Change of Facility Information
 - Other, Please specify: Title V Permit Application is Included
 - d. Other (Complete and attach equipment specific Form 400-E-XX series form(s) to this form if your application involves permit action for new construction, change of location, non-administrative permit revision, alternative operating scenario (AOS), permit shield, streamlined permit conditions, or temporary source permit.)
2. Is this facility required to prepare a Risk Management Plan (RMP) for another agency? Yes No

Section V - Title V Submittal Checklist

1. Enter the quantity of each type form submitted in the space provided:

<u>1</u>	500-A2	<u>1</u>	500-F1
	500-B		500-F2
<u>1</u>	500-C1		500-F3
	500-C2		500-F4
<u>1</u>	500-D	<u>1</u>	Other (specify): <u>500-E</u>
2. Additional information referenced in this application submitted (Check ALL that apply):
 - a. Existing Facility Permit
 - b. Preliminary Facility Permit
 - c. EFB Report for Year(s) _____
 - d. None
 - e. Other (Specify): _____
3. Supplemental information included with this application submittal (Check ALL that apply):
 - a. Facility Plot Plan
 - b. MSDS Sheet(s)
 - c. None
 - d. Other (Specify): See Figure section of this package

	APPLICATION TYPE	30 DAY PUBLIC NOTICE		PUBLIC HEARING	45-DAY EPA REVIEW		
		START DATE	END DATE	DATE	START DATE	END DATE	
AQMD USE	INITIAL, RENEWAL & SIGNIFICANT						
	MINOR & DE MINIMIS						
ONLY	ESTABLISH GENERAL PERMIT						
USE THE SECTIONS BELOW FOR TITLE V INITIAL AND RENEWAL APPLICATIONS ONLY:							
	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____ / _____	FEE SCHEDULE: \$	VALIDATION		
ENG. A DATE	R	ENG. A DATE	R	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF. SECT.	CHECK/MONEY ORDER # AMOUNT \$



South Coast Air Quality
Management District
21865 East Copley Drive
Diamond Bar, CA 91765
(909) 396- 2000

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) APPLICABILITY FORM 400 - CEQA

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project¹ has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].² Refer to the attached instructions for guidance in completing this form.³ For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Lori Inga at (909) 396-3109.

FACILITY INFORMATION

Facility Name: PEGASUS POWER PARTNERS, LLC **Facility ID (6-Digit):** _____

Project Description: A peaking power generating facility with four GE LM6000 Sprint Enhanced combustion turbines operating in simple cycle mode with a nominal output of 180 MW. Air pollution control equipment will be installed for each gas combustion turbine.

REVIEW FOR EXEMPTION FROM FURTHER CEQA ACTION

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
A.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A request for a change of permittee only (without equipment modifications)?
B.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment certification or equipment registration?
C.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, a permit cannot be issued until a Final CEQA document and Notice of Determination is submitted.
D.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment damaged as a result of a disaster during state of emergency?
E.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V permit renewal (without equipment modifications)?
F.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V administrative permit revision?
G.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The conversion of an existing permit into an initial Title V permit?
H.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A functionally identical permit unit replacement with no increase in rating or emissions?
I.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A change of dally VOC permit limit to a monthly VOC permit limit?

If "Yes" is checked for any question above, your application does not require additional evaluation for CEQA applicability. Skip to page 2, "SIGNATURES" and sign and date this form.

REVIEW OF IMPACTS WHICH MAY TRIGGER CEQA

Complete Sections I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	Section I - General
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is this project part of a larger project?
Section IV - Air Quality			
3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

¹ A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

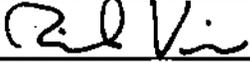
² To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

³ To download this form and the instructions, visit <http://www.aqmd.gov/ceqa> or <http://www.aqmd.gov/permit>

	Yes	No	
5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 - Nuisance.
6.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 17⁴
Section III - Water Resources			
8.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
Section IV - Transportation/Circulation			
10.			Will the project result in (Check all that apply):
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. the need for more than 350 new employees?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. increase customer traffic by more than 700 visits per day?
Section V - Noise			
11.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project include equipment with a noise specification GREATER THAN 90 decibels (dB)?
Section VI - Public Services			
12.			Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).

SIGNATURES

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: 973-993-1855	DATE Signed: 04/24/01
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:		TITLE OF PREPARER:	
TYPE OR PRINT NAME OF PREPARER: Black & Veatch Corporation		PREPARER'S TELEPHONE NUMBER: 913-458-4295	DATE Signed: 01/24/01

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND THE ATTACHMENTS WITH FORM 400-A.

⁴ Table 1 - Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.



South Coast Air Quality Management District
 P. O. Box 4944
 Diamond Bar, CA 91765
 (909) 396-2000

Form 400-A and one or more 400-E-xx form(s)
 must accompany all submittals.

EXPRESS PERMIT PROCESSING REQUEST FORM FORM 400 - XPP

Section I - Facility/Application Information

- Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID:
- The requested application is for a(n): Date of Occurrence: June, 01, 2001
 - New Construction
 - Change of Location
 - Modification of Equipment/Process
 - Existing Equipment with Expired Permit
 - Existing Equipment Operating without a Permit; Initial Operation Date:
 - Change of Condition(s); Specify the change of condition(s) requested:
 - Change of Operator; List previous name of operator and Facility ID #:
- I hereby request Express Permit Processing for this application.
- I understand that this request will incur additional fees.
- This request is not cancelable once engineering review has been initiated.
- Express Permit Processing neither guarantees action by any specific date nor does I guarantee permit approval.

Section II - Equipment Information

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

<i>Richard G. Vicens</i>		VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993-1854	DATE SIGNED: 4/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF PREPARER: TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION		PREPARER'S TELEPHONE NUMBER (913)-458-4295	DATE SIGNED:
---	--	---	--------------

AQMD USE ONLY		APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT	ENGINEER	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT \$



GAS TURBINE - CTG1 (3 of 4) FORM 400 - E - 12

Form 400-A must accompany all submittals.

For:	Change of location, equipment w/expired permit, or change of operator:	ALL other application types: Submit all other information requested and:
Title V Facilities	Complete Sections I, IV, & V	Complete Sections I, II, III, IV, & V
All Other Facilities	Complete Sections I & IV	Complete Sections I, II, III, & IV

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus project Facility ID: _____
2. The requested application is for a(n): Date of Occurrence: June/01/2001
 - a. New Construction
 - b. Change of Location
 - c. Modification of Equipment/Process
 - d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date: ____/____/____
 - f. Change of Condition(s); Specify the change of condition(s) requested: _____
 - g. Change of Operator; List previous name of operator and Facility ID #: _____
3. If equipment has previous written permit, list Permit Number or Device Number(s): _____
4. Are multiple applications being submitted for similar equipment (as defined in Rule 301) described below?
 No Yes; If Yes, Number of Multiple Units: 4 turbines, 4 APC, & 1 Tank
5. Have you been issued a Notice to Comply (NTC) or Notice of Violation (NOV) for this equipment?
 No Yes; NTC #: _____ NOV #: _____ Issue Date: ____/____/____
6. For New Construction, Modification, or Change of Location:
 Estimated Construction Start Date: 06/01/2001 Estimated Completion Date: 09/30/2001
7. For this project, has a California Environmental Quality Act (CEQA) document been required by another governmental agency? No Yes, for agency (Provide name): California Energy Commission
 - a. Are you required by another governmental agency to have a permit? No Yes, for agency (Provide name) California Energy Commission
 - b. Are any of these permits discretionary? No Yes; list: _____
8. Do you claim confidentiality of data? No Yes (attach explanation)
9. Is the equipment located within 1,000 feet from the outer boundary of a school? No Yes
 (If Yes, complete a. for all public or private school, grade K-12, within a 1/4 mile radius of facility property)
 - a. School Name(s): _____ Telephone No(s): _____
 School Address(s): _____ School Address(s): _____

Section II - Equipment Information

1. Turbine Manufacturer: General Electric Model No.: Sprint LM6000 Serial No.: CTG3
2. Turbine Size (based on Higher Heating Value):
 Manufacturer Maximum Input Rating: 450 MM BTU per hour, _____ KW
 Manufacturer Maximum Output Rating: _____ MM BTU per hour, 45,000 KW
3. Turbine Function:
 - a. Driving Pump/Compressor
 - b. Electrical Generation
 - c. Emergency Peaking Unit
 - d. Exhaust Heat Recovery
 - e. Steam Generation
 - f. Other (specify): _____
4. Cycle Type:
 - a. Simple Cycle
 - b. Combined Cycle
 - c. Regenerative Cycle
 - d. Other (specify): _____
5. Fuel Information (check all that apply):
 - a. Natural Gas
 - b. Diesel Oil
 - c. Propane
 - d. Gasoline
 - e. Digester Gas*
 - f. Landfill Gas*
 - g. Other* (specify): _____

* If Digester Gas, Landfill Gas, and/or Other are checked, attach fuel analysis indicating all constituents and HHV.

TURN OVER AND COMPLETE

AQMD USE ONLY	APPLICATION/TRACKING #	PROJECT #	TYPE	EQUIPMENT CATEGORY CODE:	FEE SCHEDULE:	VALIDATION
			B C D	_____/_____/____	\$	
ENG. A R	ENG. A R	CLASS	ASSIGNMENT	ENF.	CHECK/MONEY ORDER	AMOUNT
DATE	DATE	I III IV	UNIT	ENGINEER	#	\$

Section III - Operation Information

- Maximum Rated Full Load Fuel Consumption Rate: _____ gal/hr or 450,222.22 cu.ft/hr
- Average Load: 90 %
- Is Turbine equipped with exhaust heat recovery steam generator (HRSG)? Yes No
If Yes, supply the size, flow rate, steam output capacity, and temperature profile.
- Is Turbine equipped with duct burners? Yes No
If Yes, provide burner description, fuel usage, combustion air input, and location of burner(s). Show all heat transfer surface locations with the HRSG and temperature profile.
- Is duct burner used as air pollution control equipment? Yes No
If Yes and duct burner is permitted, list Permit Number(s) or Device Number(s) of control equipment:
SCR/Oxidation Catalyst for each turbine
If Yes and duct burner is not permitted, a separate permit is required. Please see Form 400-E-GI for instructions.
- Is Turbine equipped with air pollution control equipment? Yes No
 - If Yes, please explain and list Permit Number(s) or Device Number(s) of control equipment:
Control equipment will be in the form of SCR/Oxidation Catalyst for each turbine
 - Steam/Water Injection? Yes No
Injection Rate: 1.14 lbs water/lbs fuel or mole water/mole fuel (circle units)
 - Ammonia (NH₃) Injection? Yes No
Injection Rate: 0.0062 lbs NH₃/lbs fuel or mole NH₃/mole fuel (circle units)
 - Combustion Type? Tubular Can-Annular Annular
 - Selective Catalytic Reduction (SCR)? Yes No
Reactor Temperature: 550 °F to 1,125 °F
If Yes and SCR is not permitted, a separate permit is required. Please see Form 400-E-GI for instructions.

Section IV - Emission Information

1. Emissions Data: POLLUTANTS	EMISSIONS BEFORE CONTROL ¹		EMISSIONS AFTER CONTROL	
	PPM ²	LB/HR	PPM ²	LB/HR
ROG	<u>10</u>	_____	<u>2</u>	<u>1.0</u>
NOX	<u>25</u>	_____	<u>5</u>	<u>8.6</u>
CO	<u>57</u>	_____	<u>6</u>	<u>6.0</u>
PM	_____	<u>3.1</u>	_____	<u>3.1</u>
SOX	_____	<u>0.32</u>	_____	<u>0.32</u>

¹ BASED ON TEMPERATURE, FUEL CONSUMPTION, AND MW OUTPUT
² DRY AND CORRECTED TO 15% OXYGEN

MANUFACTURER DATA ATTACHED EPA EMISSION FACTORS
 AQMD EMISSION FACTORS SOURCE TEST DATA (ATTACH SOURCE TEST RESULTS)

- STACK OR VENT DATA:
 - STACK HEIGHT: 110 FEET _____ INCHES
 - EXHAUST TEMPERATURE: 846 °F
- Operating Schedule: weeks/year 52 days/week 7
Max. Hrs. 7,500 Average Hrs. 20 per day

C. EXHAUST FLOW RATE: 599,072 ACFM
 D. EXHAUST PRESSURE: _____ INCHES WATER COLUMN

Section V - Applicant Certification Statement

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: _____ TITLE OF RESPONSIBLE OFFICIAL OF FIRM: _____

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993 - 1855	DATE SIGNED: 04/ 24 /01	

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF PREPARER: _____ TITLE OF PREPARER: _____

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION	PREPARER'S TELEPHONE NUMBER (913) 458 - 4295	DATE SIGNED: 04/ 24 / 01
---	---	-----------------------------

Section V- Title V Information: Fill out if AQMD has identified your facility as a Title V facility

- The requested application involves a(n): (check all that apply)
- | | |
|--|--|
| a. <input type="checkbox"/> Minor Permit Revision | e. <input type="checkbox"/> Permit Shield (complete Form 500-D) |
| <input type="checkbox"/> Group Processing (check only if applicable) | f. <input type="checkbox"/> Streamlined Permit Conditions |
| b. <input type="checkbox"/> DeMinimis Significant Permit Revision | g. <input type="checkbox"/> Alternative Operating Scenario (AOS) |
| c. <input type="checkbox"/> Significant Permit Revision | h. <input checked="" type="checkbox"/> Other (specify): <u>Title V App. included</u> |
| d. <input type="checkbox"/> Non-Title V Permit Processing (Available until initial Title V permit is issued) | |



APPLICATION FOR PERMIT TO OPERATE AND PERMIT TO OPERATE FORM 400 - A

Non-Title V Facilities: This form must be accompanied by one or more 400-E-xx series form(s). Complete this side of form only.
Title V Facilities: Complete both sides of this form. Include additional forms as necessary.

NC/NOV NUMBER:	
INSPECTOR	SECTOR
ISSUE DATE	

Section I - Company Information

LEGAL NAME OF OPERATOR PEGASUS POWER PARTNERS, LLC - Pegasus Project	<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER 2 2 3 7 9 5 2 0 0
PERMIT TO BE ISSUED TO (SEE INSTRUCTIONS) PEGASUS POWER PARTNERS, LLC	
BUSINESS MAILING ADDRESS 89 Headquarters Plaza, North Tower 14th Floor, Morristown, New York 07960	
PERMIT MAILING ADDRESS, IF DIFFERENT FROM BUSINESS MAILING ADDRESS Same as Business Address	
TYPE OF ORGANIZATION <input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Limited Partnership <input type="checkbox"/> Government Entity <input type="checkbox"/> Individual <input type="checkbox"/> General Partnership <input type="checkbox"/> Other (Fill in): _____	
ARE YOU A SMALL BUSINESS? (SEE INSTRUCTIONS) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AVERAGE ANNUAL GROSS RECEIPTS \$-0 NUMBER OF EMPLOYEES Unknown
IS YOUR BUSINESS 51% OR MORE WOMAN/MINORITY OWNED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	
THIS SECTION IS REQUIRED FOR ALL APPLICATIONS FOR NEW CONSTRUCTION OR MAJOR MODIFICATIONS.	
ARE ALL MAJOR SOURCES UNDER SAME OWNERSHIP IN CALIFORNIA IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL AIR POLLUTION CONTROL RULES? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARE YOU THE OWNER OF THE EQUIPMENT UNDER THIS APPLICATION? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER 2 2 3 7 9 5 2 0 0
IF NO, ENTER THE LEGAL NAME OF OWNER _____	

Section II - Facility Information

EQUIPMENT ADDRESS/LOCATION (Next door on Westside to) 5601, Eucalyptus Avenue NUMBER/STREET	FACILITY NAME SALMON ENERGY LLC - CHINO POWER PLANT
Chino CA 91710 CITY OR COMMUNITY ZIP CODE	FACILITY ID NUMBER _____
PRINT NAME OF CONTACT PERSON Jay Roland	TITLE OF CONTACT PERSON Director of Business Development
TYPE OF BUSINESS AT THIS FACILITY Peaking Power Generation	PRIMARY SIC CODE FOR THIS FACILITY 4 9 1 1
CONTACT PERSON'S TELEPHONE NUMBER 714-437-5036	CONTACT PERSON'S FAX NUMBER 714-437-5051
CONTACT PERSON'S E-MAIL ADDRESS jroland@deltapower.com	

Section III - Application Type

DESCRIPTION OF EQUIPMENT: Three (3) GE LM6000 Sprint Enhanced gas turbines with SCR/OxCat	PREVIOUS PERMIT #S: _____
APPLICATION FOR (SEE INSTRUCTIONS): <input checked="" type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> EXISTING EQUIPMENT WITHOUT PERMIT <input type="checkbox"/> EXISTING EQUIPMENT WITH EXPIRED PERMIT	<input type="checkbox"/> CHANGE OF LOCATION <input type="checkbox"/> MODIFICATION <input type="checkbox"/> CHANGE OF PERMITTEE <input type="checkbox"/> CHANGE OF PERMIT CONDITION
ARE YOU SUBMITTING MULTIPLE APPLICATIONS FOR EQUIPMENT IDENTICAL TO THAT DESCRIBED ABOVE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
<input checked="" type="checkbox"/> APPLICATION FOR NON-TITLE V EQUIPMENT PERMIT. CHECK THE SUPPLEMENTAL SERIES 400-E-xx FORM(S) SUBMITTED WITH THIS 400-A FORM: _____ 400-E-1 • PARTICULATE MATTER (PM-10) CONTROL EQUIPMENT _____ 400-E-2 • VOLATILE ORGANIC COMPOUND (VOC) CONTROL EQUIPMENT _____ 400-E-3 • SCRUBBER _____ 400-E-4 • ABRASIVE BLASTING EQUIPMENT _____ 400-E-6 • DEGREASER _____ 400-E-7 • DRY CLEANING EQUIPMENT _____ 400-E-8 • ETHYLENE OXIDE STERILIZER _____ 400-E-9 • EXTERNAL COMBUSTION EQUIPMENT _____ 400-E-10 • FOOD BROILER/FRYER _____ 400-E-11 • FUEL DISPENSING AND STORAGE EQUIPMENT 4 400-E-12 • GAS TURBINE _____ 400-E-13 • INTERNAL COMBUSTION EQUIPMENT _____ 400-E-14 • OPEN PROCESS TANK _____ 400-E-14a • OPEN PROCESS TANK; PROCESS LINE _____ 400-E-15 • PRINTING EQUIPMENT _____ 400-E-16 • SOLID MATERIALS STORAGE EQUIPMENT _____ 400-E-17 • SPRAY BOOTH/OPEN SPRAY _____ 400-E-17a • POWDER SPRAY BOOTH 1 400-E-18 • STORAGE TANK (LIQUID & GASEOUS MATERIAL) _____ 400-E-19 • WAVE SOLDER MACHINE _____ 400-E-20 • ASBESTOS REMOVAL EQUIPMENT _____ NONE • ADDITIONAL INFORMATION SUBMITTED AS REQUESTED ON FORM 400-E-GI	
<input checked="" type="checkbox"/> APPLICATION FOR TITLE V FACILITY PERMIT. PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS FORM.	

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 	TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Vice President
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER 973-993-1854
	DATE SIGNED: 04/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: 	TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Vice President
TYPE OR PRINT NAME OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: Black & Veatch Corporation	PREPARER'S TELEPHONE NUMBER 913-458-4295
	DATE SIGNED: 04/24

TITLE V FACILITIES ONLY: COMPLETE OTHER SIDE

AQMD USE ONLY	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF SECT.	CHECK/MONEY ORDER # AMOUNT \$

TITLE V APPLICATION CERTIFICATION

- TO BE COMPLETED BY TITLE V FACILITIES ONLY -

Section IV - Title V Application

1. This is an application for a(n) (Check all applicable boxes and provide the requested information as appropriate):
- a. Initial Title V Permit
 - b. Permit Renewal: Provide current permit expiration date: _____
 - c. Administrative Permit Revision (Check all that apply)
 - Change of Ownership. (Complete and attach equipment-specific Form 400-E-xx series forms)
 - Change of Facility Information
 - Other, Please specify: Title V Permit Application is included
 - d. Other (Complete and attach equipment specific Form 400-E-XX series form(s) to this form if your application involves permit action for new construction, change of location, non-administrative permit revision, alternative operating scenario (AOS), permit shield, streamlined permit conditions, or temporary source permit.)
2. Is this facility required to prepare a Risk Management Plan (RMP) for another agency? Yes No

Section V - Title V Submittal Checklist

1. Enter the quantity of each type form submitted in the space provided:
- | | | | |
|----------|--------|----------|-------------------------------|
| <u>1</u> | 500-A2 | <u>1</u> | 500-F1 |
| | 500-B | | 500-F2 |
| <u>1</u> | 500-C1 | | 500-F3 |
| | 500-C2 | | 500-F4 |
| <u>1</u> | 500-D | <u>1</u> | Other (specify): <u>500-E</u> |
2. Additional information referenced in this application submitted (Check ALL that apply):
- a. Existing Facility Permit
 - b. Preliminary Facility Permit
 - c. EFB Report for Year(s) _____
 - d. None
 - e. Other (Specify): _____
3. Supplemental information included with this application submittal (Check ALL that apply):
- a. Facility Plot Plan
 - b. MSDS Sheet(s)
 - c. None
 - d. Other (Specify): See Figure section of this package

APPLICATION TYPE		30 DAY PUBLIC NOTICE		PUBLIC HEARING	45-DAY EPA REVIEW	
		START DATE	END DATE	DATE	START DATE	END DATE
AQMD	INITIAL, RENEWAL & SIGNIFICANT					
	MINOR & DE MINIMIS					
USE	ESTABLISH GENERAL PERMIT					
USE THE SECTIONS BELOW FOR TITLE V INITIAL AND RENEWAL APPLICATIONS ONLY:						
APPLICATION/TRACKING #		TYPE B C D	EQUIPMENT CATEGORY CODE: _____ / _____		FEE SCHEDULE: \$	VALIDATION
ENG. A DATE	R	ENG. A DATE	R	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF. SECT.
				CHECK/MONEY ORDER #	AMOUNT \$	



South Coast Air Quality
Management District
21865 East Copley Drive
Diamond Bar, CA 91765
(909) 396- 2000

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) APPLICABILITY FORM 400 - CEQA

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project¹ has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].² Refer to the attached instructions for guidance in completing this form.³ For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Lori Inga at (909) 396-3109.

FACILITY INFORMATION

Facility Name: PEGASUS POWER PARTNERS, LLC **Facility ID (6-Digit):** _____

Project Description: A peaking power generating facility with four GE LM6000 Sprint Enhanced combustion turbines operating in simple cycle mode with a nominal output of 180 MW. Air pollution control equipment will be installed for each gas combustion turbine.

REVIEW FOR EXEMPTION FROM FURTHER CEQA ACTION

Check "Yes" or "No" as applicable

	Yes	No	Is this application?
A.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A request for a change of permittee only (without equipment modifications)?
B.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment certification or equipment registration?
C.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, a permit cannot be issued until a Final CEQA document and Notice of Determination is submitted.
D.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment damaged as a result of a disaster during state of emergency?
E.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V permit renewal (without equipment modifications)?
F.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V administrative permit revision?
G.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The conversion of an existing permit into an initial Title V permit?
H.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A functionally identical permit unit replacement with no increase in rating or emissions?
I.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A change of daily VOC permit limit to a monthly VOC permit limit?

If "Yes" is checked for any question above, your application does not require additional evaluation for CEQA applicability. Skip to page 2, "SIGNATURES" and sign and date this form.

REVIEW OF IMPACTS WHICH MAY TRIGGER CEQA

Complete Sections I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	Section I - General
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is this project part of a larger project?
Section II - Air Quality			
3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

¹ A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

² To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

³ To download this form and the instructions, visit <http://www.aqmd.gov/ceqa> or <http://www.aqmd.gov/permit>

		Yes	No	
5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 - Nuisance.
6.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1?⁴
Section III - Water Resources				
8.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
Section IV - Transportation/Circulation				
10.	Will the project result in (Check all that apply):			
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		a. the need for more than 350 new employees?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		c. increase customer traffic by more than 700 visits per day?
Section V - Noise				
11.	<input type="checkbox"/>	<input checked="" type="checkbox"/>		Will the project include equipment with a noise specification GREATER THAN 90 decibels (dB)?
Section VI - Public Services				
12.	Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):			
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	<input type="checkbox"/>	<input checked="" type="checkbox"/>		b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).

TABLE 1 - Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.

SIGNATURES

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: 973-993-1855	DATE Signed: 04/24/01
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:		TITLE OF PREPARER:	
TYPE OR PRINT NAME OF PREPARER: Black & Veatch Corporation		PREPARER'S TELEPHONE NUMBER: 913-458-4295	DATE Signed: 01/24/01

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND THE ATTACHMENTS WITH FORM 400-A.

⁴ Table 1 - Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.



South Coast Air Quality Management District
 P. O. Box 4944
 Diamond Bar, CA 91765
 (909) 396-2000

Form 400-A and one or more 400-E-xx form(s)
 must accompany all submittals.

EXPRESS PERMIT PROCESSING REQUEST FORM FORM 400 - XPP

Section I - Facility/Application Information

- Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID:
- The requested application is for a(n): Date of Occurrence: June, 01, 2001
 - New Construction
 - Change of Location
 - Modification of Equipment/Process
 - Existing Equipment with Expired Permit
 - Existing Equipment Operating without a Permit; Initial Operation Date:
 - Change of Condition(s); Specify the change of condition(s) requested:
 - Change of Operator; List previous name of operator and Facility ID #:
- I hereby request Express Permit Processing for this application.
- I understand that this request will incur additional fees.
- This request is not cancelable once engineering review has been initiated.
- Express Permit Processing neither guarantees action by any specific date nor does I guarantee permit approval.

Section II - Equipment Information

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

<i>Richard G. Vicens</i>		VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993-1854	DATE SIGNED: 4/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF PREPARER: TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION		PREPARER'S TELEPHONE NUMBER (913)-458-4295	DATE SIGNED:
---	--	---	--------------

AQMD USE ONLY		APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT	ENGINEER	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT \$



GAS TURBINE - CTG1 (4 of 4)

FORM 400 - E - 12

Form 400-A must accompany all submittals.

For:	Change of location, equipment w/expired permit, or change of operator:	ALL other application types: Submit all other information requested and:
Title V Facilities	Complete Sections I, IV, & V	Complete Sections I, II, III, IV, & V
All Other Facilities	Complete Sections I & IV	Complete Sections I, II, III, & IV

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus project Facility ID: _____
2. The requested application is for a(n): Date of Occurrence: June/01 /2001
 - a. New Construction
 - b. Change of Location
 - c. Modification of Equipment/Process
 - d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date: ____/____/____
 - f. Change of Condition(s); Specify the change of condition(s) requested: _____
 - g. Change of Operator; List previous name of operator and Facility ID #: _____
3. If equipment has previous written permit, list Permit Number or Device Number(s): _____
4. Are multiple applications being submitted for similar equipment (as defined in Rule 301) described below?
 - No Yes; If Yes, Number of Multiple Units: 4 turbines, 4 APC, & 1 Tank
5. Have you been issued a Notice to Comply (NTC) or Notice of Violation (NOV) for this equipment?
 - No Yes; NTC #: _____ NOV #: _____ Issue Date: ____/____/____
6. For New Construction, Modification, or Change of Location:

Estimated Construction Start Date: 06/01/2001 Estimated Completion Date: 09/30/2001
7. For this project, has a California Environmental Quality Act (CEQA) document been required by another governmental agency? No Yes, for agency (Provide name): California Energy Commission
 - a. Are you required by another governmental agency to have a permit? No Yes, for agency (Provide name) California Energy Commission
 - b. Are any of these permits discretionary? No Yes; list: _____
8. Do you claim confidentiality of data? No Yes (attach explanation)
9. Is the equipment located within 1,000 feet from the outer boundary of a school? No Yes
 (If Yes, complete a. for all public or private school, grade K-12, within a 1/4 mile radius of facility property)
 - a. School Name(s): _____ Telephone No(s): _____
 School Address(s): _____ School Address(s): _____

Section II - Equipment Information

1. Turbine Manufacturer: General Electric Model No.: Sprint LM6000 Serial No.: CTG4
2. Turbine Size (based on Higher Heating Value):

Manufacturer Maximum Input Rating: 450 MM BTU per hour, _____ KW
 Manufacturer Maximum Output Rating: _____ MM BTU per hour, 45,000 KW
3. Turbine Function:
 - a. Driving Pump/Compressor
 - b. Electrical Generation
 - c. Emergency Peaking Unit
 - d. Exhaust Heat Recovery
 - e. Steam Generation
 - f. Other (specify): _____
4. Cycle Type:
 - a. Simple Cycle
 - b. Combined Cycle
 - c. Regenerative Cycle
 - d. Other (specify): _____
5. Fuel Information (check all that apply):
 - a. Natural Gas
 - b. Diesel Oil
 - c. Propane
 - d. Gasoline
 - e. Digester Gas*
 - f. Landfill Gas*
 - g. Other* (specify): _____

* If Digester Gas, Landfill Gas, and/or Other are checked, attach fuel analysis indicating all constituents and HHV.

TURN OVER AND COMPLETE

AQMD USE ONLY	APPLICATION/TRACKING #	PROJECT #	TYPE	EQUIPMENT CATEGORY CODE:	FEE SCHEDULE:	VALIDATION
			B C D	_____/____	\$	
ENG. A R	ENG. A R	CLASS	ASSIGNMENT	ENF.	CHECK/MONEY ORDER	AMOUNT
DATE	DATE	I III IV	UNIT ENGINEER	SECT.	#	\$

Section III - Operation Information

- Maximum Rated Full Load Fuel Consumption Rate: _____ gal/hr or 450,222.22 cu.ft/hr
- Average Load: 90 %
- Is Turbine equipped with exhaust heat recovery steam generator (HRSG)? Yes No
If Yes, supply the size, flow rate, steam output capacity, and temperature profile.
- Is Turbine equipped with duct burners? Yes No
If Yes, provide burner description, fuel usage, combustion air input, and location of burner(s). Show all heat transfer surface locations with the HRSG and temperature profile.
- Is duct burner used as air pollution control equipment? Yes No
If Yes and duct burner is permitted, list Permit Number(s) or Device Number(s) of control equipment:
SCR/Oxidation Catalyst for each turbine
If Yes and duct burner is not permitted, a separate permit is required. Please see Form 400-E-GI for instructions.
- a. Is Turbine equipped with air pollution control equipment? Yes No
b. If Yes, please explain and list Permit Number(s) or Device Number(s) of control equipment:
Control equipment will be in the form of SCR/Oxidation Catalyst for each turbine
- c. Steam/Water Injection? Yes No
Injection Rate: 1.14 lbs water/lbs fuel or mole water/mole fuel (circle units)
- d. Ammonia (NH₃) Injection? Yes No
Injection Rate: 0.0062 lbs NH₃/lbs fuel or mole NH₃/mole fuel (circle units)
- e. Combustion Type? Tubular Can-Annular Annular
- f. Selective Catalytic Reduction (SCR)? Yes No
Reactor Temperature: 550 °F to 1,125 °F
If Yes and SCR is not permitted, a separate permit is required. Please see Form 400-E-GI for instructions.

Section IV - Emission Information

1. Emissions Data:	EMISSIONS BEFORE CONTROL ¹		EMISSIONS AFTER CONTROL	
	POLLUTANTS	PPM ²	LB/HR	PPM ²
ROG	<u>10</u>	_____	<u>2</u>	<u>1.0</u>
NOX	<u>25</u>	_____	<u>5</u>	<u>8.6</u>
CO	<u>57</u>	_____	<u>6</u>	<u>6.0</u>
PM	_____	<u>3.1</u>	_____	<u>3.1</u>
SOX	_____	<u>0.32</u>	_____	<u>0.32</u>

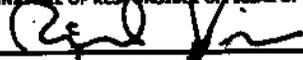
¹ BASED ON TEMPERATURE, FUEL CONSUMPTION, AND MW OUTPUT
² DRY AND CORRECTED TO 15% OXYGEN

MANUFACTURER DATA ATTACHED EPA EMISSION FACTORS
 AQMD EMISSION FACTORS SOURCE TEST DATA (ATTACH SOURCE TEST RESULTS)

- STACK OR VENT DATA:
 A. STACK HEIGHT: 110 FEET _____ INCHES
 B. EXHAUST TEMPERATURE: 846 °F
 C. EXHAUST FLOW RATE: 599,072 ACFM
 D. EXHAUST PRESSURE: _____ INCHES WATER COLUMN
- Operating Schedule: weeks/year 52 days/week 7
 Max. Hrs. 7,500 Average Hrs. 20 per day

Section V - Applicant Certification Statement

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: _____ TITLE OF RESPONSIBLE OFFICIAL OF FIRM: _____

 VICE PRESIDENT		DATE SIGNED: <u>04/ 24 /01</u>
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER <u>(973) 993 - 1855</u>	

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF PREPARER: _____ TITLE OF PREPARER: _____

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION	PREPARER'S TELEPHONE NUMBER <u>(913) 458 - 4295</u>	DATE SIGNED: <u>04/ 24 / 01</u>
--	--	------------------------------------

Section V- Title V Information: Fill out if AQMD has identified your facility as a Title V facility

- The requested application involves a(n): (check all that apply)
- | | |
|--|--|
| a. <input type="checkbox"/> Minor Permit Revision | e. <input type="checkbox"/> Permit Shield (complete Form 500-D) |
| <input type="checkbox"/> Group Processing (check only if applicable) | f. <input type="checkbox"/> Streamlined Permit Conditions |
| b. <input type="checkbox"/> DeMinimis Significant Permit Revision | g. <input type="checkbox"/> Alternative Operating Scenario (AOS) |
| c. <input type="checkbox"/> Significant Permit Revision | h. <input checked="" type="checkbox"/> Other (specify): <u>Title V App. included</u> |
| d. <input type="checkbox"/> Non-Title V Permit Processing (Available until Initial Title V permit is issued) | |

Non-Title V Facilities: This form must be accompanied by one or more 400-E-xx series form(s). Complete this side of form only. Title V Facilities: Complete both sides of this form. Include additional forms as necessary.	NC/NOV NUMBER:
	INSPECTOR _____ SECTOR _____
	ISSUE DATE _____

Section I - Company Information

LEGAL NAME OF OPERATOR PEGASUS POWER PARTNERS, LLC - Pegasus Project	<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER <u>2</u> <u>2</u> <u>3</u> <u>7</u> <u>9</u> <u>5</u> <u>2</u> <u>0</u> <u>0</u>
PERMIT TO BE ISSUED TO (SEE INSTRUCTIONS) PEGASUS POWER PARTNERS, LLC	
BUSINESS MAILING ADDRESS 89 Headquarters Plaza, North Tower 14th Floor, Morristown, New York 07960	
PERMIT MAILING ADDRESS, IF DIFFERENT FROM BUSINESS MAILING ADDRESS Same as Business Address	
TYPE OF ORGANIZATION <input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Limited Partnership <input type="checkbox"/> Government Entity <input type="checkbox"/> Individual <input type="checkbox"/> General Partnership <input type="checkbox"/> Other (Fill in): _____	
ARE YOU A SMALL BUSINESS? (SEE INSTRUCTIONS) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AVERAGE ANNUAL GROSS RECEIPTS <u>\$-0</u> NUMBER OF EMPLOYEES <u>Unknown</u> IS YOUR BUSINESS 51% OR MORE WOMAN/MINORITY OWNED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
THIS SECTION IS REQUIRED FOR ALL APPLICATIONS FOR NEW CONSTRUCTION OR MAJOR MODIFICATIONS. ARE ALL MAJOR SOURCES UNDER SAME OWNERSHIP IN CALIFORNIA IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL AIR POLLUTION CONTROL RULES? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
ARE YOU THE OWNER OF THE EQUIPMENT UNDER THIS APPLICATION? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No IF NO, ENTER THE LEGAL NAME OF OWNER _____	<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER <u>2</u> <u>2</u> <u>3</u> <u>7</u> <u>9</u> <u>5</u> <u>2</u> <u>0</u> <u>0</u>

Section II - Facility Information

EQUIPMENT ADDRESS/LOCATION (Next door on Westside to) 5601, Eucalyptus Avenue NUMBER/STREET	FACILITY NAME SALMON ENERGY LLC - CHINO POWER PLANT
Chino CITY OR COMMUNITY	FACILITY ID NUMBER _____
CA STATE	91710 ZIP CODE
PRINT NAME OF CONTACT PERSON Jay Roland	TITLE OF CONTACT PERSON Director of Business Development
TYPE OF BUSINESS AT THIS FACILITY Peaking Power Generation	PRIMARY SIC CODE FOR THIS FACILITY 4 9 1 1 NUMBER OF EMPLOYEES AT THIS FACILITY _____
CONTACT PERSON'S TELEPHONE NUMBER 714-437-5036	CONTACT PERSON'S FAX NUMBER 714-437-5051
CONTACT PERSON'S E-MAIL ADDRESS jroland@deltapower.com	

Section III - Application Type

DESCRIPTION OF EQUIPMENT: Three (3) GE LM6000 Sprint Enhanced gas turbines with SCR/OxCat	PREVIOUS PERMIT #S: _____																						
APPLICATION FOR (SEE INSTRUCTIONS): <input checked="" type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> EXISTING EQUIPMENT WITHOUT PERMIT <input type="checkbox"/> EXISTING EQUIPMENT WITH EXPIRED PERMIT <input type="checkbox"/> CHANGE OF LOCATION <input type="checkbox"/> MODIFICATION <input type="checkbox"/> CHANGE OF PERMITTEE <input type="checkbox"/> CHANGE OF PERMIT CONDITION	ARE YOU SUBMITTING MULTIPLE APPLICATIONS FOR EQUIPMENT IDENTICAL TO THAT DESCRIBED ABOVE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No																						
<input checked="" type="checkbox"/> APPLICATION FOR NON-TITLE V EQUIPMENT PERMIT. CHECK THE SUPPLEMENTAL SERIES 400-E-xx FORM(S) SUBMITTED WITH THIS 400-A FORM: <table border="0"> <tr> <td><input type="checkbox"/> 400-E-1 • PARTICULATE MATTER (PM-10) CONTROL EQUIPMENT</td> <td><input type="checkbox"/> 400-E-13 • INTERNAL COMBUSTION EQUIPMENT</td> </tr> <tr> <td><input type="checkbox"/> 400-E-2 • VOLATILE ORGANIC COMPOUND (VOC) CONTROL EQUIPMENT</td> <td><input type="checkbox"/> 400-E-14 • OPEN PROCESS TANK</td> </tr> <tr> <td><input type="checkbox"/> 400-E-3 • SCRUBBER</td> <td><input type="checkbox"/> 400-E-14a • OPEN PROCESS TANK; PROCESS LINE</td> </tr> <tr> <td><input type="checkbox"/> 400-E-4 • ABRASIVE BLASTING EQUIPMENT</td> <td><input type="checkbox"/> 400-E-15 • PRINTING EQUIPMENT</td> </tr> <tr> <td><input type="checkbox"/> 400-E-6 • DEGREASER</td> <td><input type="checkbox"/> 400-E-16 • SOLID MATERIALS STORAGE EQUIPMENT</td> </tr> <tr> <td><input type="checkbox"/> 400-E-7 • DRY CLEANING EQUIPMENT</td> <td><input type="checkbox"/> 400-E-17 • SPRAY BOOTH/OPEN SPRAY</td> </tr> <tr> <td><input type="checkbox"/> 400-E-8 • ETHYLENE OXIDE STERILIZER</td> <td><input type="checkbox"/> 400-E-17a • POWDER SPRAY BOOTH</td> </tr> <tr> <td><input type="checkbox"/> 400-E-9 • EXTERNAL COMBUSTION EQUIPMENT</td> <td><input type="checkbox"/> 400-E-18 • STORAGE TANK (LIQUID & GASEOUS MATERIAL)</td> </tr> <tr> <td><input type="checkbox"/> 400-E-10 • FOOD BROILER/FRYER</td> <td><input type="checkbox"/> 400-E-19 • WAVE SOLDER MACHINE</td> </tr> <tr> <td><input type="checkbox"/> 400-E-11 • FUEL DISPENSING AND STORAGE EQUIPMENT</td> <td><input type="checkbox"/> 400-E-20 • ASBESTOS REMOVAL EQUIPMENT</td> </tr> <tr> <td><input checked="" type="checkbox"/> 400-E-12 • GAS TURBINE</td> <td><input type="checkbox"/> NONE • ADDITIONAL INFORMATION SUBMITTED AS REQUESTED ON FORM 400-E-GI</td> </tr> </table>		<input type="checkbox"/> 400-E-1 • PARTICULATE MATTER (PM-10) CONTROL EQUIPMENT	<input type="checkbox"/> 400-E-13 • INTERNAL COMBUSTION EQUIPMENT	<input type="checkbox"/> 400-E-2 • VOLATILE ORGANIC COMPOUND (VOC) CONTROL EQUIPMENT	<input type="checkbox"/> 400-E-14 • OPEN PROCESS TANK	<input type="checkbox"/> 400-E-3 • SCRUBBER	<input type="checkbox"/> 400-E-14a • OPEN PROCESS TANK; PROCESS LINE	<input type="checkbox"/> 400-E-4 • ABRASIVE BLASTING EQUIPMENT	<input type="checkbox"/> 400-E-15 • PRINTING EQUIPMENT	<input type="checkbox"/> 400-E-6 • DEGREASER	<input type="checkbox"/> 400-E-16 • SOLID MATERIALS STORAGE EQUIPMENT	<input type="checkbox"/> 400-E-7 • DRY CLEANING EQUIPMENT	<input type="checkbox"/> 400-E-17 • SPRAY BOOTH/OPEN SPRAY	<input type="checkbox"/> 400-E-8 • ETHYLENE OXIDE STERILIZER	<input type="checkbox"/> 400-E-17a • POWDER SPRAY BOOTH	<input type="checkbox"/> 400-E-9 • EXTERNAL COMBUSTION EQUIPMENT	<input type="checkbox"/> 400-E-18 • STORAGE TANK (LIQUID & GASEOUS MATERIAL)	<input type="checkbox"/> 400-E-10 • FOOD BROILER/FRYER	<input type="checkbox"/> 400-E-19 • WAVE SOLDER MACHINE	<input type="checkbox"/> 400-E-11 • FUEL DISPENSING AND STORAGE EQUIPMENT	<input type="checkbox"/> 400-E-20 • ASBESTOS REMOVAL EQUIPMENT	<input checked="" type="checkbox"/> 400-E-12 • GAS TURBINE	<input type="checkbox"/> NONE • ADDITIONAL INFORMATION SUBMITTED AS REQUESTED ON FORM 400-E-GI
<input type="checkbox"/> 400-E-1 • PARTICULATE MATTER (PM-10) CONTROL EQUIPMENT	<input type="checkbox"/> 400-E-13 • INTERNAL COMBUSTION EQUIPMENT																						
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<input checked="" type="checkbox"/> 400-E-12 • GAS TURBINE	<input type="checkbox"/> NONE • ADDITIONAL INFORMATION SUBMITTED AS REQUESTED ON FORM 400-E-GI																						
<input checked="" type="checkbox"/> APPLICATION FOR TITLE V FACILITY PERMIT. PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS FORM.																							
I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT. SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: <i>[Signature]</i> TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Vice President																							
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER 973-993-1854 DATE SIGNED: 04/24/01																						
I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT. SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: _____ TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Vice President																							
TYPE OR PRINT NAME OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: Black & Veatch Corporation	PREPARER'S TELEPHONE NUMBER 913-458-4295 DATE: 04/24																						

TITLE V FACILITIES ONLY: COMPLETE OTHER SIDE

AQMD USE ONLY	APPLICATION/TRACKING # _____	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$ _____	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF SECT.	CHECK/MONEY ORDER # AMOUNT \$

TITLE V APPLICATION CERTIFICATION

- TO BE COMPLETED BY TITLE V FACILITIES ONLY -

Section IV - Title V Application

1. This is an application for a(n) (Check all applicable boxes and provide the requested information as appropriate):
- a. Initial Title V Permit
 - b. Permit Renewal: Provide current permit expiration date: _____
 - c. Administrative Permit Revision (Check all that apply)
 - Change of Ownership. (Complete and attach equipment-specific Form 400-E-xx series forms)
 - Change of Facility Information
 - Other, Please specify: Title V Permit Application is included
 - d. Other (Complete and attach equipment specific Form 400-E-XX series form(s) to this form if your application involves permit action for new construction, change of location, non-administrative permit revision, alternative operating scenario (AOS), permit shield, streamlined permit conditions, or temporary source permit.)
2. Is this facility required to prepare a Risk Management Plan (RMP) for another agency? Yes No

Section V - Title V Submittal Checklist

1. Enter the quantity of each type form submitted in the space provided:
- | | | | |
|----------|--------|----------|-------------------------------|
| <u>1</u> | 500-A2 | <u>1</u> | 500-F1 |
| _____ | 500-B | _____ | 500-F2 |
| <u>1</u> | 500-C1 | _____ | 500-F3 |
| _____ | 500-C2 | _____ | 500-F4 |
| <u>1</u> | 500-D | <u>1</u> | Other (specify): <u>500-E</u> |
2. Additional information referenced in this application submitted (Check ALL that apply):
- a. Existing Facility Permit
 - b. Preliminary Facility Permit
 - c. EFB Report for Year(s) _____
 - d. None
 - e. Other (Specify): _____
3. Supplemental information included with this application submittal (Check ALL that apply):
- a. Facility Plot Plan
 - b. MSDS Sheet(s)
 - c. None
 - d. Other (Specify): See Figure section of this package

	APPLICATION TYPE		30 DAY PUBLIC NOTICE		PUBLIC HEARING	45-DAY EPA REVIEW	
			START DATE	END DATE	DATE	START DATE	END DATE
AQMD	INITIAL, RENEWAL & SIGNIFICANT						
	MINOR & DE MINIMIS						
USE	ESTABLISH GENERAL PERMIT						
USE THE SECTIONS BELOW FOR TITLE V INITIAL AND RENEWAL APPLICATIONS ONLY:							
ONLY	APPLICATION/TRACKING #		TYPE		EQUIPMENT CATEGORY CODE:		FEE SCHEDULE:
			B C D				\$
ENG. A	R	ENG. A	R	CLASS		ASSIGNMENT	
DATE	DATE	DATE	DATE	I	II	III	IV
				UNIT		ENGINEER	
				ENF.		CHECK/MONEY ORDER	
				SECT.		#	AMOUNT
						\$	\$



**CALIFORNIA ENVIRONMENTAL QUALITY ACT
(CEQA) APPLICABILITY
FORM 400 - CEQA**

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project¹ has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].² Refer to the attached instructions for guidance in completing this form.³ For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Lori Inga at (909) 396-3109.

FACILITY INFORMATION

Facility Name: PEGASUS POWER PARTNERS, LLC **Facility ID (6-Digit):** _____

Project Description: A peaking power generating facility with four GE LM6000 Sprint Enhanced combustion turbines operating in simple cycle mode with a nominal output of 180 MW. Air pollution control equipment will be installed for each gas combustion turbine.

REVIEW FOR EXEMPTION FROM FURTHER CEQA ACTION

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
A.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A request for a change of permittee only (without equipment modifications)?
B.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment certification or equipment registration?
C.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, a permit cannot be issued until a Final CEQA document and Notice of Determination is submitted.
D.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment damaged as a result of a disaster during state of emergency?
E.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V permit renewal (without equipment modifications)?
F.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V administrative permit revision?
G.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The conversion of an existing permit into an initial Title V permit?
H.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A functionally identical permit unit replacement with no increase in rating or emissions?
I.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A change of daily VOC permit limit to a monthly VOC permit limit?

If "Yes" is checked for any question above, your application does not require additional evaluation for CEQA applicability. Skip to page 2, "SIGNATURES" and sign and date this form.

REVIEW OF IMPACTS WHICH MAY TRIGGER CEQA

Complete Sections I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	Section I - General
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is this project part of a larger project?
Section II - Air Quality			
3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

¹ A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

² To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

³ To download this form and the instructions, visit <http://www.aamd.oov/ceqa> or <http://www.aamd.oov/permit>

	Yes	No	
5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 - Nuisance.
6.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1?⁴
Section III - Water Resources			
8.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
Section IV - Transportation/Circulation			
10.	Will the project result in (Check all that apply):		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. the need for more than 350 new employees?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. increase customer traffic by more than 700 visits per day?
Section V - Noise			
11.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project include equipment with a noise specification GREATER THAN 90 decibels (dB)?
Section VI - Public Services			
12.	Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).
REMINDER: For each "Yes" checked in the sections above, attach all pertinent information including, but not limited to estimated quantities, volumes, weights, etc.			

SIGNATURES

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: 973-993-1855	DATE Signed: 04/24/01
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:		TITLE OF PREPARER:	
TYPE OR PRINT NAME OF PREPARER: Black & Veatch Corporation		PREPARER'S TELEPHONE NUMBER: 913-458-4295	DATE Signed: 01/24/01

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND THE ATTACHMENTS WITH FORM 400-A.

⁴ Table 1 - Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.



South Coast Air Quality Management District
 P. O. Box 4944
 Diamond Bar, CA 91765
 (909) 396-2000

Form 400-A and one or more 400-E-xx form(s)
 must accompany all submittals.

EXPRESS PERMIT PROCESSING REQUEST FORM FORM 400 - XPP

Section I - Facility/Application Information

- Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID:
- The requested application is for a(n): Date of Occurrence: June, 01, 2001
 - New Construction
 - Change of Location
 - Modification of Equipment/Process
 - Existing Equipment with Expired Permit
 - Existing Equipment Operating without a Permit; Initial Operation Date:
 - Change of Condition(s); Specify the change of condition(s) requested:
 - Change of Operator; List previous name of operator and Facility ID #:
- I hereby request Express Permit Processing for this application.
- I understand that this request will incur additional fees.
- This request is not cancelable once engineering review has been initiated.
- Express Permit Processing neither guarantees action by any specific date nor does I guarantee permit approval.

Section II - Equipment Information

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

		VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993-1854	DATE SIGNED: 4/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF PREPARER: TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION		PREPARER'S TELEPHONE NUMBER (913)-458-4295	DATE SIGNED:
---	--	---	--------------

AQMD USE ONLY		APPLICATION/TRACKING #	PROJECT #	TYPE		EQUIPMENT CATEGORY CODE:	FEE SCHEDULE:	VALIDATION
ENG. A R	ENG. A R			B	C	D	\$	
DATE	DATE	CLASS	ASSIGNMENT	UNIT		ENGINEER	ENF. SECT.	CHECK/MONEY ORDER AMOUNT
		I III IV						# \$

SELECTIVE CATALYTIC REDUCTION/OXIDATION CATALYST FORM 400 - E - SCR/OXCAT (1 of 4)

Form 400-A must accompany all submittals.

For:	Change of location, equipment w/expired permit, or change of operator:	ALL other application types: Submit all other information requested and:
Title V Facilities	Complete Sections I, IV, & V	Complete Sections I, II, III, IV, & V
All Other Facilities	Complete Sections I & IV	Complete Sections I, II, III, & IV

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID: _____
2. The requested application is for a(n): Date of Occurrence: 06/01/2001
 - a. New Construction
 - b. Change of Location
 - c. Modification of Equipment/Process
 - d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date: _____ / _____ / _____
 - f. Change of Condition(s); Specify the change of condition(s) requested: _____
 - g. Change of Operator; List previous name of operator and Facility ID #: _____
3. If equipment has previous written permit, list Permit Number or Device Number(s): _____
4. Are multiple applications being submitted for similar equipment (as defined in Rule 301) described below?
 - No Yes; If Yes, Number of Multiple Units: Four (4)
5. Have you been issued a Notice to Comply (NTC) or Notice of Violation (NOV) for this equipment?
 - No Yes; NTC #: _____ NOV #: _____ Issue Date: _____ / _____ / _____
6. For New Construction, Modification, or Change of Location:

Estimated Construction Start Date: 06/01/2001 Estimated Completion Date: 09/01/2001
7. For this project, has a California Environmental Quality Act (CEQA) document been required by another governmental agency? No Yes, for agency (Provide name): _____
 - a. Are you required by another governmental agency to have a permit? No Yes, for agency (Provide name) _____
 - b. Are any of these permits discretionary? No Yes; list: _____
8. Do you claim confidentiality of data? No Yes (attach explanation)
9. Is the equipment located within 1,000 feet from the outer boundary of a school? No Yes
(If Yes, complete a. for all public or private school, grade K-12, within a 1/4 mile radius of facility property)
 - a. School Name(s): _____ Telephone No(s): _____
School Address(s): _____

Section II - SCR Equipment Information

1. SCR Catalyst Type: High Temperature Zeolite SCR Catalyst
 - a. Centrifugal
 - b. Chemical
 - c. Packed Bed
 - d. Spray Chamber
 - e. Venturi
 - f. Other (specify): NOx-CAT™ VNX-HT Vanadia-titania
2. Equipment Manufacturer: Engelhard, Cormatech or equivalent Model No.: _____ Serial No.: _____
3. Dimensions: Diameter: _____ feet _____ inches; Height: 50 feet _____ inches
Length: 20 feet _____ inches; Width: 12 feet _____ inches
4. Catalyst Depth : 15 inches
5. Catalyst Volume : 800 cubic feet
6. Space Velocity : 30,000 per hour
7. Area Velocity : 0.025 feet per second
8. Pressure Drop : Approximately 4 inches w.g.
9. Ammonia Injection Rate : Approximately 100 lb per hour (19 % aqueous ammonia)
10. Maximum Ammonia Slip : 5 ppm 1-hour average at 15 % oxygen
11. Outlet NOx Emissions : 5 ppm 1-hour average at 15 % oxygen

TURN OVER AND COMPLETE

AQMD USE ONLY	APPLICATION/TRACKING # _____	PROJECT # _____	TYPE B C D	EQUIPMENT CATEGORY CODE: _____ / _____	FEE SCHEDULE: \$ _____	VALIDATION _____
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT \$

Section III - Oxidation Catalyst Equipment Information

1. Catalyst Type: Stainless Steel Foil Substrate with platinum impregnated alumina washcoat
 - a. Centrifugal
 - b. Chemical
 - c. Packed Bed
 - d. Spray Chamber
 - e. Venturi
 - f. Other (specify): See above
2. Equipment Manufacturer: Engelhard, Johnson Matthey or equivalent Model No.: _____ Serial No.: _____
3. Dimensions: Height: 50 feet Length: 20 feet Width: 12 feet (Located inside the SCR Housing)
4. Catalyst Depth : 3 inches
5. Catalyst Volume : 100-125 cubic feet (approximately 500 sq.ft cross section)
6. Space Velocity : 175,000 - 150,000 per hour
7. Pressure Drop : Approximately 1 inches w.g.
8. Outlet CO Concentration : <6 ppmdv 1-hour average at 15 % oxygen
9. Outlet VOC Concentration : <2 ppmdv 1-hour average at 15 % oxygen
10. Minimum Operating Temperature: 500 F
11. Maximum Operating Temperature: 1,200 F

Section IV - Applicant Certification Statement

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM:

TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM:

RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER

DATE SIGNED:

RICHARD G. VICENS**(973) 993-1854****04/24/01**

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER:

TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER:

PREPARER'S TELEPHONE NUMBER

DATE SIGNED:

BLACK & VEATCH COPORATION**(913) 458-4295****04/24/01**

The requested application involves a(n): (check all that apply)

- | | |
|--|--|
| a. <input type="checkbox"/> Minor Permit Revision | e. <input type="checkbox"/> Permit Shield (complete Form 500-D) |
| <input type="checkbox"/> Group Processing (check only if applicable) | f. <input type="checkbox"/> Streamlined Permit Conditions |
| b. <input type="checkbox"/> DeMinimis Significant Permit Revision | g. <input type="checkbox"/> Alternative Operating Scenario (AOS) |
| c. <input type="checkbox"/> Significant Permit Revision | h. <input type="checkbox"/> Other (specify): _____ |
| d. <input type="checkbox"/> Non-Title V Permit Processing (Available until initial Title V permit is issued) | |

Air Pollution Control (APC) Equipment Information

The APC equipment will be used to control the CO, VOC, and NO_x emissions from the gas turbines. The APC equipment will also reduce the emissions of toxic air contaminants (e.g., formaldehyde and acetaldehyde) from the gas turbines. There will be one APC system for each gas turbine. Each APC system will include the following air pollution control equipment: a Selective Catalytic Reduction (SCR) system and a CO Oxidation Catalyst.

Selective Catalyst Reduction (SCR) System Summary

The SCR catalyst will be used to control the NO_x emissions from the gas turbines. The catalyst will be located within a structural catalyst frame integral to the housing duct downstream from the oxidation catalyst housing. Since the operation of the turbines will be in simple cycle mode, a high temperature zeolite SCR catalyst is required due to higher exhaust temperature of the turbine. The following is a summary of the SCR system and performance information.

Catalyst Manufacturer:	Engelhard Corporation, Cormetech or Equivalent.
Catalyst Type:	NO _x -CAT™ VNX-HT vanadia-titania catalyst.
SCR Housing Dimensions:	12' wide x 20' long x 50' high
Catalyst Depth:	15 inches
Catalyst Volume:	800 cu. ft - approximately
Space Velocity:	Approximately 30,000 per hour
Area Velocity:	0.025 ft/sec
Pressure Drop:	Approximately 4 in.w.g.
Ammonia Injection Rate:	Approximately 126.4 lb/hr (19% ammonia)
Maximum Ammonia Slip:	5 ppm 1-hour average at 15 % oxygen
Outlet NO _x Emissions:	5 ppm 1-hour average at 15 % oxygen

Decision regarding the manufacturer of the SCR system has not yet been made at the present time. Therefore, manufacturer warranty and cost information is not currently available. As soon as a decision is made, the information will be obtained and will be provided to the agency.

CO Oxidation Catalyst Summary

The oxidation catalyst will be used to control the CO and (to a lesser extent) VOC emissions from the gas turbines. The oxidation catalyst will also control the formaldehyde and acetaldehyde emissions from the gas turbines. The catalyst will be located within a structural catalyst frame integral to the housing duct. The following is a summary of the oxidation catalyst and performance information.

Catalyst Manufacturer: Engelhard Corporation, Johnson Matthey or Equivalent.

Catalyst Type: Stainless steel foil substrate with platinum impregnated alumina washcoat.

SCR Housing Dimensions: 12' wide x 20' long x 50' high

Catalyst Depth: 3 inches

Catalyst Volume: 100 - 150 cu. ft - approximately 500 sq.ft cross section

Space Velocity: Approximately 175,000 to 150,000 per hour

Pressure Drop: Approximately 1 in.w.g.

Outlet CO: < 6 ppmdv (1-hour average @ 15 % oxygen)

Outlet VOC: < 2ppmdv (1-hour average @ 15 % oxygen)

Minimum Operating Temp: 500 F

Maximum Operating Temp: 1,200 F

Decision regarding the manufacturer of the CO system has not yet been made at the present time. Therefore, manufacturer warranty and cost information is not currently available. As soon as a decision is made, the information will be obtained and will be provided to the agency.

Non-Title V Facilities: This form must be accompanied by one or more 400-E-xx series form(s). Complete this side of form only.
Title V Facilities: Complete both sides of this form. Include additional forms as necessary.

NC/NOV NUMBER:

INSPECTOR _____ **SECTOR** _____
ISSUE DATE _____

Section I - Company Information

LEGAL NAME OF OPERATOR PEGASUS POWER PARTNERS, LLC - Pegasus Project IRS OR S. S. NUMBER
2 2 3 7 9 5 2 0 0

PERMIT TO BE ISSUED TO (SEE INSTRUCTIONS)
PEGASUS POWER PARTNERS, LLC

BUSINESS MAILING ADDRESS
89 Headquarters Plaza, North Tower 14th Floor, Morristown, New York 07960

PERMIT MAILING ADDRESS, IF DIFFERENT FROM BUSINESS MAILING ADDRESS
Same as Business Address

TYPE OF ORGANIZATION
 Corporation Limited Partnership Government Entity
 Individual General Partnership Other (Fill in): _____

ARE YOU A SMALL BUSINESS? (SEE INSTRUCTIONS) Yes No
 AVERAGE ANNUAL GROSS RECEIPTS \$-0 IS YOUR BUSINESS 51% OR MORE WOMAN/MINORITY OWNED?
 NUMBER OF EMPLOYEES Unknown Yes No

THIS SECTION IS REQUIRED FOR ALL APPLICATIONS FOR NEW CONSTRUCTION OR MAJOR MODIFICATIONS.
 ARE ALL MAJOR SOURCES UNDER SAME OWNERSHIP IN CALIFORNIA IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL AIR POLLUTION CONTROL RULES? Yes No

ARE YOU THE OWNER OF THE EQUIPMENT UNDER THIS APPLICATION? Yes No
 IF NO, ENTER THE LEGAL NAME OF OWNER _____ IRS OR S. S. NUMBER
2 2 3 7 9 5 2 0 0

Section II - Facility Information

EQUIPMENT ADDRESS/LOCATION
(Next door on Westside to) 5601, Eucalyptus Avenue
 NUMBER/STREET

Chino CA 91710
 CITY OR COMMUNITY ZIP CODE

FACILITY NAME SALMON ENERGY LLC - CHINO POWER PLANT

FACILITY ID NUMBER _____

PRINT NAME OF CONTACT PERSON
Jay Roland

TITLE OF CONTACT PERSON
Director of Business Development

TYPE OF BUSINESS AT THIS FACILITY
Peaking Power Generation

PRIMARY SIC CODE FOR THIS FACILITY
4 9 1 1

NUMBER OF EMPLOYEES AT THIS FACILITY

CONTACT PERSON'S TELEPHONE NUMBER 714-437-5036
 CONTACT PERSON'S FAX NUMBER 714-437-5051
 CONTACT PERSON'S E-MAIL ADDRESS jroland@deltapower.com

Section III - Application Type

DESCRIPTION OF EQUIPMENT: Three (3) GE LM6000 Sprint Enhanced gas turbines with SCR/OxCat PREVIOUS PERMIT #S: _____

APPLICATION FOR (SEE INSTRUCTIONS):
 NEW CONSTRUCTION CHANGE OF LOCATION
 EXISTING EQUIPMENT WITHOUT PERMIT MODIFICATION
 EXISTING EQUIPMENT WITH EXPIRED PERMIT CHANGE OF PERMITTEE
 CHANGE OF PERMIT CONDITION

ARE YOU SUBMITTING MULTIPLE APPLICATIONS FOR EQUIPMENT IDENTICAL TO THAT DESCRIBED ABOVE?
 Yes No

APPLICATION FOR NON-TITLE V EQUIPMENT PERMIT. CHECK THE SUPPLEMENTAL SERIES 400-E-xx FORM(S) SUBMITTED WITH THIS 400-A FORM:

<input type="checkbox"/> 400-E-1 • PARTICULATE MATTER (PM-10) CONTROL EQUIPMENT	<input type="checkbox"/> 400-E-13 • INTERNAL COMBUSTION EQUIPMENT
<input type="checkbox"/> 400-E-2 • VOLATILE ORGANIC COMPOUND (VOC) CONTROL EQUIPMENT	<input type="checkbox"/> 400-E-14 • OPEN PROCESS TANK
<input type="checkbox"/> 400-E-3 • SCRUBBER	<input type="checkbox"/> 400-E-14a • OPEN PROCESS TANK; PROCESS LINE
<input type="checkbox"/> 400-E-4 • ABRASIVE BLASTING EQUIPMENT	<input type="checkbox"/> 400-E-15 • PRINTING EQUIPMENT
<input type="checkbox"/> 400-E-6 • DEGREASER	<input type="checkbox"/> 400-E-16 • SOLID MATERIALS STORAGE EQUIPMENT
<input type="checkbox"/> 400-E-7 • DRY CLEANING EQUIPMENT	<input type="checkbox"/> 400-E-17 • SPRAY BOOTH/OPEN SPRAY
<input type="checkbox"/> 400-E-8 • ETHYLENE OXIDE STERILIZER	<input type="checkbox"/> 400-E-17a • POWDER SPRAY BOOTH
<input type="checkbox"/> 400-E-9 • EXTERNAL COMBUSTION EQUIPMENT	<input type="checkbox"/> 400-E-18 • STORAGE TANK (LIQUID & GASEOUS MATERIAL)
<input type="checkbox"/> 400-E-10 • FOOD BROILER/FRYER	<input type="checkbox"/> 400-E-19 • WAVE SOLDER MACHINE
<input type="checkbox"/> 400-E-11 • FUEL DISPENSING AND STORAGE EQUIPMENT	<input type="checkbox"/> 400-E-20 • ASBESTOS REMOVAL EQUIPMENT
<input checked="" type="checkbox"/> 400-E-12 • GAS TURBINE	<input type="checkbox"/> NONE • ADDITIONAL INFORMATION SUBMITTED AS REQUESTED ON FORM 400-E-G1

APPLICATION FOR TITLE V FACILITY PERMIT. PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS FORM.

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: [Signature] TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Vice President

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: 973-993-1854 DATE SIGNED: 04/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: _____ TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Vice President

TYPE OR PRINT NAME OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: Black & Veatch Corporation PREPARER'S TELEPHONE NUMBER: 913-458-4295 DATE: 04/24

TITLE V FACILITIES ONLY: COMPLETE OTHER SIDE

AOQD USE ONLY	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE:	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF SECT.	CHECK/MONEY ORDER # AMOUNT \$

TITLE V APPLICATION CERTIFICATION

- TO BE COMPLETED BY TITLE V FACILITIES ONLY -

Section IV - Title V Application

1. This is an application for a(n) (Check all applicable boxes and provide the requested information as appropriate):
- a. Initial Title V Permit
 - b. Permit Renewal: Provide current permit expiration date: _____
 - c. Administrative Permit Revision (Check all that apply)
 - Change of Ownership. (Complete and attach equipment-specific Form 400-E-xx series forms)
 - Change of Facility Information
 - Other, Please specify: Title V Permit Application is included
 - d. Other (Complete and attach equipment specific Form 400-E-XX series form(s) to this form if your application involves permit action for new construction, change of location, non-administrative permit revision, alternative operating scenario (AOS), permit shield, streamlined permit conditions, or temporary source permit.)
2. Is this facility required to prepare a Risk Management Plan (RMP) for another agency? Yes No

Section V - Title V Submittal Checklist

1. Enter the quantity of each type form submitted in the space provided:
- | | | | |
|----------|--------|----------|-------------------------------|
| <u>1</u> | 500-A2 | <u>1</u> | 500-F1 |
| | 500-B | | 500-F2 |
| <u>1</u> | 500-C1 | | 500-F3 |
| | 500-C2 | | 500-F4 |
| <u>1</u> | 500-D | <u>1</u> | Other (specify): <u>500-E</u> |
2. Additional information referenced in this application submitted (Check ALL that apply):
- a. Existing Facility Permit
 - b. Preliminary Facility Permit
 - c. EFB Report for Year(s) _____
 - d. None
 - e. Other (Specify): _____
3. Supplemental information included with this application submittal (Check ALL that apply):
- a. Facility Plot Plan
 - b. MSDS Sheet(s)
 - c. None
 - d. Other (Specify): See Figure section of this package

	APPLICATION TYPE		30 DAY PUBLIC NOTICE		PUBLIC HEARING	45-DAY EPA REVIEW	
			START DATE	END DATE	DATE	START DATE	END DATE
AQMD USE	INITIAL, RENEWAL & SIGNIFICANT						
	MINOR & DE MINIMIS						
ONLY	ESTABLISH GENERAL PERMIT						
USE THE SECTIONS BELOW FOR TITLE V INITIAL AND RENEWAL APPLICATIONS ONLY:							
APPLICATION/TRACKING #		TYPE B C D	EQUIPMENT CATEGORY CODE: _____ / _____		FEE SCHEDULE: \$	VALIDATION	
ENG. A DATE	R DATE	ENG. A DATE	R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF. SECT.	CHECK/MONEY ORDER # AMOUNT \$



**CALIFORNIA ENVIRONMENTAL QUALITY ACT
(CEQA) APPLICABILITY
FORM 400 - CEQA**

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project¹ has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].² Refer to the attached instructions for guidance in completing this form.³ For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Lori Inga at (909) 396-3109.

FACILITY INFORMATION	
Facility Name:	PEGASUS POWER PARTNERS, LLC Facility ID (6-Digit):
Project Description: A peaking power generating facility with four GE LM6000 Sprint Enhanced combustion turbines operating in simple cycle mode with a nominal output of 180 MW. Air pollution control equipment will be installed for each gas combustion turbine.	

REVIEW FOR EXEMPTION FROM FURTHER CEQA ACTION			
Check "Yes" or "No" as applicable			
	Yes	No	Is this application for:
A.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A request for a change of permittee only (without equipment modifications)?
B.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment certification or equipment registration?
C.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, a permit cannot be issued until a Final CEQA document and Notice of Determination is submitted.
D.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment damaged as a result of a disaster during state of emergency?
E.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V permit renewal (without equipment modifications)?
F.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V administrative permit revision?
G.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The conversion of an existing permit into an initial Title V permit?
H.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A functionally identical permit unit replacement with no increase in rating or emissions?
I.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A change of daily VOC permit limit to a monthly VOC permit limit?
If "Yes" is checked for any question above, your application does not require additional evaluation for CEQA applicability. Skip to page 2, "SIGNATURES" and sign and date this form.			

REVIEW OF IMPACTS WHICH MAY TRIGGER CEQA			
Complete Sections I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.			
	Yes	No	Section I - General
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is this project part of a larger project?
			Section II - Air Quality
3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

¹ A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.
² To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.
³ To download this form and the instructions, visit <http://www.aqmd.gov/ceqa> or <http://www.aqmd.gov/permit>

	Yes	No	
5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 - Nuisance.
6.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1?⁴

Section III - Water Resources

8.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.

Section IV - Transportation/Circulation

10.			Will the project result in (Check all that apply):
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. the need for more than 350 new employees?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. increase customer traffic by more than 700 visits per day?

Section V - Noise

11.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project include equipment with a noise specification GREATER THAN 90 decibels (dB)?
-----	--------------------------	-------------------------------------	---

Section VI - Public Services

12.			Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).

****REMINDER:** For each "Yes" checked in the sections above, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.

SIGNATURES

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: 973-993-1855	DATE Signed: 04/24/01	
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:		TITLE OF PREPARER:	
TYPE OR PRINT NAME OF PREPARER: Black & Veatch Corporation	PREPARER'S TELEPHONE NUMBER: 913-458-4295	DATE Signed: 01/24/01	

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND THE ATTACHMENTS WITH FORM 400-A.

⁴ Table 1 - Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.



South Coast Air Quality Management District
 P. O. Box 4944
 Diamond Bar, CA 91765
 (909) 396-2000

Form 400-A and one or more 400-E-xx form(s)
 must accompany all submittals.

EXPRESS PERMIT PROCESSING REQUEST FORM FORM 400 - XPP

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID:
2. The requested application is for a(n): Date of Occurrence: June, 01, 2001
 - a. New Construction
 - b. Change of Location
 - c. Modification of Equipment/Process
 - d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date:
 - f. Change of Condition(s); Specify the change of condition(s) requested:
 - g. Change of Operator; List previous name of operator and Facility ID #:
3. I hereby request Express Permit Processing for this application.
4. I understand that this request will incur additional fees.
5. This request is not cancelable once engineering review has been initiated.
6. Express Permit Processing neither guarantees action by any specific date nor does I guarantee permit approval.

Section II - Equipment Information

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM:

TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

Richard G. Vicens

VICE PRESIDENT

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM:

RICHARD G. VICENS

RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER

(973) 993-1854

DATE SIGNED:

4/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER:

TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER:

BLACK & VEATCH CORPORATION

PREPARER'S TELEPHONE NUMBER

(913)-458-4295

DATE SIGNED:

AQMD USE ONLY		APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT	ENGINEER	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT \$

SELECTIVE CATALYTIC REDUCTION/OXIDATION CATALYST FORM 400 - E - SCR/OXCAT (2 of 4)

Form 400-A must accompany all submittals.

FOR:	Change of location, equipment w/expired permit, or change of operator:	ALL other application types: Submit all other information requested and:
Title V Facilities	Complete Sections I, IV, & V	Complete Sections I, II, III, IV, & V
All Other Facilities	Complete Sections I & IV	Complete Sections I, II, III, & IV

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID: _____
2. The requested application is for a(n): Date of Occurrence: 06/01/2001
 - a. New Construction
 - b. Change of Location
 - c. Modification of Equipment/Process
 - d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date: _____ / _____ / _____
 - f. Change of Condition(s); Specify the change of condition(s) requested: _____
 - g. Change of Operator; List previous name of operator and Facility ID #: _____
3. If equipment has previous written permit, list Permit Number or Device Number(s): _____
4. Are multiple applications being submitted for similar equipment (as defined in Rule 301) described below?
 - No Yes; If Yes, Number of Multiple Units: Four (4)
5. Have you been issued a Notice to Comply (NTC) or Notice of Violation (NOV) for this equipment?
 - No Yes; NTC #: _____ NOV #: _____ Issue Date: _____ / _____ / _____
6. For New Construction, Modification, or Change of Location:

Estimated Construction Start Date: 06/01/2001 Estimated Completion Date: 09/01/2001
7. For this project, has a California Environmental Quality Act (CEQA) document been required by another governmental agency? No Yes, for agency (Provide name): _____
 - a. Are you required by another governmental agency to have a permit? No Yes, for agency (Provide name) _____
 - b. Are any of these permits discretionary? No Yes; list: _____
8. Do you claim confidentiality of data? No Yes (attach explanation)
9. Is the equipment located within 1,000 feet from the outer boundary of a school? No Yes (If Yes, complete a. for all public or private school, grade K-12, within a 1/4 mile radius of facility property)
 - a. School Name(s): _____ Telephone No(s): _____
 - School Address(s): _____

Section II - SCR Equipment Information

1. SCR Catalyst Type: High Temperature Zeolite SCR Catalyst
 - a. Centrifugal
 - b. Chemical
 - c. Packed Bed
 - d. Spray Chamber
 - e. Venturi
 - f. Other (specify): NOx-CAT™ VNX-HT Vanadia-titania
2. Equipment Manufacturer: Engelhard, Cormatech or equivalent Model No.: _____ Serial No.: _____
3. Dimensions: Diameter: _____ feet _____ inches; Height: 50 feet _____ inches
Length: 20 feet _____ inches; Width: 12 feet _____ inches
4. Catalyst Depth : 15 inches
5. Catalyst Volume : 800 cubic feet
6. Space Velocity : 30,000 per hour
7. Area Velocity : 0.025 feet per second
8. Pressure Drop : Approximately 4 inches w.g.
9. Ammonia Injection Rate : Approximately 100 lb per hour (19 % aqueous ammonia)
10. Maximum Ammonia Slip : 5 ppm 1-hour average at 15 % oxygen
11. Outlet NOx Emissions : 5 ppm 1-hour average at 15 % oxygen

TURN OVER AND COMPLETE

AQMD USE ONLY	APPLICATION/TRACKING # _____	PROJECT # _____	TYPE B C D	EQUIPMENT CATEGORY CODE: _____ / _____	FEE SCHEDULE: \$ _____	VALIDATION _____
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT \$

Section III - Oxidation Catalyst Equipment Information

1. Catalyst Type: Stainless Steel Foil Substrate with platinum impregnated alumina washcoat
 - a. Centrifugal
 - b. Chemical
 - c. Packed Bed
 - d. Spray Chamber
 - e. Venturi
 - f. Other (specify): See above
2. Equipment Manufacturer: Engelhard, Johnson Matthey or equivalent Model No.: _____ Serial No.: _____
3. Dimensions: Height: 50 feet Length: 20 feet Width: 12 feet (Located inside the SCR Housing)
4. Catalyst Depth : 3 inches
5. Catalyst Volume : 100-125 cubic feet (approximately 500 sq.ft cross section)
6. Space Velocity : 175,000 - 150,000 per hour
7. Pressure Drop : Approximately 1 inches w.g.
8. Outlet CO Concentration : <6 ppmdv 1-hour average at 15 % oxygen
9. Outlet VOC Concentration : <2 ppmdv 1-hour average at 15 % oxygen
10. Minimum Operating Temperature: 500 F
11. Maximum Operating Temperature: 1,200 F

Section IV - Applicant Certification Statement

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM:

TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

Richard Vicens

Vice President

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM:

RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER

DATE SIGNED:

RICHARD G. VICENS

(973) 993-1854

04/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER:

TITLE OF PREPARER:

Richard Vicens

VICE PRESIDENT

TYPE OR PRINT NAME OF PREPARER:

PREPARER'S TELEPHONE NUMBER

DATE SIGNED:

BLACK & VEATCH COPORATION

(913) 458-4295

04/24/01

The requested application involves a(n): (check all that apply)

- | | |
|--|--|
| a. <input type="checkbox"/> Minor Permit Revision | e. <input type="checkbox"/> Permit Shield (complete Form 500-D) |
| <input type="checkbox"/> Group Processing (check only if applicable) | f. <input type="checkbox"/> Streamlined Permit Conditions |
| b. <input type="checkbox"/> DeMinimis Significant Permit Revision | g. <input type="checkbox"/> Alternative Operating Scenario (AOS) |
| c. <input type="checkbox"/> Significant Permit Revision | h. <input type="checkbox"/> Other (specify): _____ |
| d. <input type="checkbox"/> Non-Title V Permit Processing (Available until initial Title V permit is issued) | |

Air Pollution Control (APC) Equipment Information

The APC equipment will be used to control the CO, VOC, and NO_x emissions from the gas turbines. The APC equipment will also reduce the emissions of toxic air contaminants (e.g., formaldehyde and acetaldehyde) from the gas turbines. There will be one APC system for each gas turbine. Each APC system will include the following air pollution control equipment: a Selective Catalytic Reduction (SCR) system and a CO Oxidation Catalyst.

Selective Catalyst Reduction (SCR) System Summary

The SCR catalyst will be used to control the NO_x emissions from the gas turbines. The catalyst will be located within a structural catalyst frame integral to the housing duct downstream from the oxidation catalyst housing. Since the operation of the turbines will be in simple cycle mode, a high temperature zeolite SCR catalyst is required due to higher exhaust temperature of the turbine. The following is a summary of the SCR system and performance information.

Catalyst Manufacturer: Engelhard Corporation, Cormetech or Equivalent.

Catalyst Type: NO_x-CAT™ VNX-HT vanadia-titania catalyst.

SCR Housing Dimensions: 12' wide x 20' long x 50' high

Catalyst Depth: 15 inches

Catalyst Volume: 800 cu. ft - approximately

Space Velocity: Approximately 30,000 per hour

Area Velocity: 0.025 ft/sec

Pressure Drop: Approximately 4 in.w.g.

Ammonia Injection Rate: Approximately 126.4 lb/hr (19% ammonia)

Maximum Ammonia Slip: 5 ppm 1-hour average at 15 % oxygen

Outlet NO_x Emissions: 5 ppm 1-hour average at 15 % oxygen

Decision regarding the manufacturer of the SCR system has not yet been made at the present time. Therefore, manufacturer warranty and cost information is not currently available. As soon as a decision is made, the information will be obtained and will be provided to the agency.

CO Oxidation Catalyst Summary

The oxidation catalyst will be used to control the CO and (to a lesser extent) VOC emissions from the gas turbines. The oxidation catalyst will also control the formaldehyde and acetaldehyde emissions from the gas turbines. The catalyst will be located within a structural catalyst frame integral to the housing duct. The following is a summary of the oxidation catalyst and performance information.

Catalyst Manufacturer:	Engelhard Corporation, Johnson Matthey or Equivalent.
Catalyst Type:	Stainless steel foil substrate with platinum impregnated alumina washcoat.
SCR Housing Dimensions:	12' wide x 20' long x 50' high
Catalyst Depth:	3 inches
Catalyst Volume:	100 - 150 cu. ft - approximately 500 sq.ft cross section
Space Velocity:	Approximately 175,000 to 150,000 per hour
Pressure Drop:	Approximately 1 in.w.g.
Outlet CO:	< 6 ppmdv (1-hour average @ 15 % oxygen)
Outlet VOC:	< 2ppmdv (1-hour average @ 15 % oxygen)
Minimum Operating Temp:	500 F
Maximum Operating Temp:	1,200 F

Decision regarding the manufacturer of the CO system has not yet been made at the present time. Therefore, manufacturer warranty and cost information is not currently available. As soon as a decision is made, the information will be obtained and will be provided to the agency.



PERMIT TO OPERATE FORM 400 - A

Non-Title V Facilities: This form must be accompanied by one or more 400-E-xx series form(s). Complete this side of form only.

Title V Facilities: Complete both sides of this form. Include additional forms as necessary.

NC/NOV NUMBER:

INSPECTOR _____ **SECTOR** _____

ISSUE DATE _____

Section I - Company Information

LEGAL NAME OF OPERATOR

PEGASUS POWER PARTNERS, LLC - Pegasus Project

IRS OR S. S. NUMBER

2 2 3 7 9 5 2 0 0

PERMIT TO BE ISSUED TO (SEE INSTRUCTIONS)

PEGASUS POWER PARTNERS, LLC

BUSINESS MAILING ADDRESS

89 Headquarters Plaza, North Tower 14th Floor, Morristown, New York 07960

PERMIT MAILING ADDRESS, IF DIFFERENT FROM BUSINESS MAILING ADDRESS

Same as Business Address

TYPE OF ORGANIZATION

Corporation

Limited Partnership

Government Entity

Individual

General Partnership

Other (Fill in): _____

ARE YOU A SMALL BUSINESS? (SEE INSTRUCTIONS)

Yes No

AVERAGE ANNUAL GROSS RECEIPTS

\$-0

NUMBER OF EMPLOYEES

Unknown

IS YOUR BUSINESS 51 % OR MORE WOMAN/MINORITY OWNED?

Yes No

THIS SECTION IS REQUIRED FOR ALL APPLICATIONS FOR NEW CONSTRUCTION OR MAJOR MODIFICATIONS.

ARE ALL MAJOR SOURCES UNDER SAME OWNERSHIP IN CALIFORNIA IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL AIR POLLUTION CONTROL RULES?

Yes No

ARE YOU THE OWNER OF THE EQUIPMENT UNDER THIS APPLICATION?

Yes No

IRS OR S. S. NUMBER

IF NO, ENTER THE LEGAL NAME OF OWNER _____

2 2 3 7 9 5 2 0 0

Section II - Facility Information

EQUIPMENT ADDRESS/LOCATION

(Next door on Westside to) 5601, Eucalyptus Avenue
NUMBER/STREET

FACILITY NAME

SALMON ENERGY LLC - CHINO POWER PLANT

Chino

CA

91710

CITY OR COMMUNITY

ZIP CODE

FACILITY ID NUMBER _____

PRINT NAME OF CONTACT PERSON

Jay Roland

TITLE OF CONTACT PERSON

Director of Business Development

TYPE OF BUSINESS AT THIS FACILITY

Peaking Power Generation

PRIMARY SIC CODE FOR THIS FACILITY

4 9 1 1

NUMBER OF EMPLOYEES AT THIS FACILITY

CONTACT PERSON'S TELEPHONE NUMBER

714-437-5036

CONTACT PERSON'S FAX NUMBER

714-437-5051

CONTACT PERSON'S E-MAIL ADDRESS

jroland@deltapower.com

Section III - Application Type

DESCRIPTION OF EQUIPMENT: Three (3) GE LM6000 Sprint Enhanced gas turbines with SCR/OxCat

PREVIOUS PERMIT #S: _____

APPLICATION FOR (SEE INSTRUCTIONS):

NEW CONSTRUCTION

EXISTING EQUIPMENT WITHOUT PERMIT

EXISTING EQUIPMENT WITH EXPIRED PERMIT

CHANGE OF LOCATION

MODIFICATION

CHANGE OF PERMITTEE

CHANGE OF PERMIT CONDITION

ARE YOU SUBMITTING MULTIPLE

APPLICATIONS FOR EQUIPMENT

IDENTICAL TO THAT DESCRIBED ABOVE?

Yes No

APPLICATION FOR NON-TITLE V EQUIPMENT PERMIT. CHECK THE SUPPLEMENTAL SERIES 400-E-xx FORM(S) SUBMITTED WITH THIS 400-A FORM:

- ____ 400-E-1 • PARTICULATE MATTER (PM-10) CONTROL EQUIPMENT
- ____ 400-E-2 • VOLATILE ORGANIC COMPOUND (VOC) CONTROL EQUIPMENT
- ____ 400-E-3 • SCRUBBER
- ____ 400-E-4 • ABRASIVE BLASTING EQUIPMENT
- ____ 400-E-6 • DEGREASER
- ____ 400-E-7 • DRY CLEANING EQUIPMENT
- ____ 400-E-8 • ETHYLENE OXIDE STERILIZER
- ____ 400-E-9 • EXTERNAL COMBUSTION EQUIPMENT
- ____ 400-E-10 • FOOD BROILER/FRYER
- ____ 400-E-11 • FUEL DISPENSING AND STORAGE EQUIPMENT
- 4 400-E-12 • GAS TURBINE

- ____ 400-E-13 • INTERNAL COMBUSTION EQUIPMENT
- ____ 400-E-14 • OPEN PROCESS TANK
- ____ 400-E-14a • OPEN PROCESS TANK; PROCESS LINE
- ____ 400-E-15 • PRINTING EQUIPMENT
- ____ 400-E-16 • SOLID MATERIALS STORAGE EQUIPMENT
- ____ 400-E-17 • SPRAY BOOTH/OPEN SPRAY
- ____ 400-E-17a • POWDER SPRAY BOOTH
- 1 400-E-18 • STORAGE TANK (LIQUID & GASEOUS MATERIAL)
- ____ 400-E-19 • WAVE SOLDER MACHINE
- ____ 400-E-20 • ASBESTOS REMOVAL EQUIPMENT
- ____ NONE • ADDITIONAL INFORMATION SUBMITTED AS REQUESTED ON FORM 400-E-GI

APPLICATION FOR TITLE V FACILITY PERMIT. PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS FORM.

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM:

TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM:

RICHARD G. VICENS

RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER

973-993-1854

DATE SIGNED:

04/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:

TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

TYPE OR PRINT NAME OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:

Black & Veatch Corporation

PREPARER'S TELEPHONE NUMBER

913-458-4295

DATE S

04/24

TITLE V FACILITIES ONLY: COMPLETE OTHER SIDE

AQMD USE ONLY	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF SECT.	CHECK/MONEY ORDER # AMOUNT \$

TITLE V APPLICATION CERTIFICATION

- TO BE COMPLETED BY TITLE V FACILITIES ONLY -

Section IV - Title V Application

1. This is an application for a(n) (Check all applicable boxes and provide the requested information as appropriate):
- a. Initial Title V Permit
 - b. Permit Renewal: Provide current permit expiration date: _____
 - c. Administrative Permit Revision (Check all that apply)
 - Change of Ownership. (Complete and attach equipment-specific Form 400-E-xx series forms)
 - Change of Facility Information
 - Other, Please specify: Title V Permit Application is included
 - d. Other (Complete and attach equipment specific Form 400-E-XX series form(s) to this form if your application involves permit action for new construction, change of location, non-administrative permit revision, alternative operating scenario (AOS), permit shield, streamlined permit conditions, or temporary source permit.)
2. Is this facility required to prepare a Risk Management Plan (RMP) for another agency? Yes No

Section V - Title V Submittal Checklist

1. Enter the quantity of each type form submitted in the space provided:
- | | | | |
|----------|--------|----------|-------------------------------|
| <u>1</u> | 500-A2 | <u>1</u> | 500-F1 |
| | 500-B | | 500-F2 |
| <u>1</u> | 500-C1 | | 500-F3 |
| | 500-C2 | | 500-F4 |
| <u>1</u> | 500-D | <u>1</u> | Other (specify): <u>500-E</u> |
2. Additional information referenced in this application submitted (Check ALL that apply):
- a. Existing Facility Permit
 - b. Preliminary Facility Permit
 - c. EFB Report for Year(s) _____
 - d. None
 - e. Other (Specify): _____
3. Supplemental information included with this application submittal (Check ALL that apply):
- a. Facility Plot Plan
 - b. MSDS Sheet(s)
 - c. None
 - d. Other (Specify): See Figure section of this package

AQMD USE ONLY	APPLICATION TYPE		30 DAY PUBLIC NOTICE		PUBLIC HEARING	45-DAY EPA REVIEW	
			START DATE	END DATE	DATE	START DATE	END DATE
		INITIAL, RENEWAL & SIGNIFICANT					
	MINOR & DE MINIMIS						
	ESTABLISH GENERAL PERMIT						
USE THE SECTIONS BELOW FOR TITLE V INITIAL AND RENEWAL APPLICATIONS ONLY:							
	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE:		FEE SCHEDULE:	VALIDATION	
					\$		
ENG. A DATE	R	ENG. A DATE	R	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF. SECT.	CHECK/MONEY ORDER # AMOUNT \$



**CALIFORNIA ENVIRONMENTAL QUALITY ACT
(CEQA) APPLICABILITY
FORM 400 - CEQA**

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project¹ has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].² Refer to the attached instructions for guidance in completing this form.³ For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Lori Inga at (909) 396-3109.

FACILITY INFORMATION

Facility Name: PEGASUS POWER PARTNERS, LLC **Facility ID (6-Digit):** _____

Project Description: A peaking power generating facility with four GE LM6000 Sprint Enhanced combustion turbines operating in simple cycle mode with a nominal output of 180 MW. Air pollution control equipment will be installed for each gas combustion turbine.

REVIEW FOR EXEMPTION FROM FURTHER CEQA ACTION

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
A.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A request for a change of permittee only (without equipment modifications)?
B.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment certification or equipment registration?
C.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, a permit cannot be issued until a Final CEQA document and Notice of Determination is submitted.
D.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment damaged as a result of a disaster during state of emergency?
E.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V permit renewal (without equipment modifications)?
F.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V administrative permit revision?
G.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The conversion of an existing permit into an initial Title V permit?
H.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A functionally identical permit unit replacement with no increase in rating or emissions?
I.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A change of daily VOC permit limit to a monthly VOC permit limit?

If "Yes" is checked for any question above, your application does not require additional evaluation for CEQA applicability. Skip to page 2, "SIGNATURES" and sign and date this form.

REVIEW OF IMPACTS WHICH MAY TRIGGER CEQA

Complete Sections I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	Section I - General
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is this project part of a larger project?
Section II - Air Quality			
3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

¹ A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

² To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

³ To download this form and the instructions, visit <http://www.aqmd.gov/ceqa> or <http://www.aqmd.gov/permit>

	Yes	No	
5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 – Nuisance.
6.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1?⁴
Section III – Water Resources			
8.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
Section IV – Transportation/Circulation			
10.	Will the project result in (Check all that apply):		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. the need for more than 350 new employees?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. increase customer traffic by more than 700 visits per day?
Section V – Noise			
11.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project include equipment with a noise specification GREATER THAN 90 decibels (dB)?
Section VI – Public Services			
12.	Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).
REMINDER: For each "Yes" checked in the sections above, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.			

SIGNATURES

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: 973-993-1855	DATE Signed: 04/24/01
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:		TITLE OF PREPARER:	
TYPE OR PRINT NAME OF PREPARER: Black & Veatch Corporation		PREPARER'S TELEPHONE NUMBER: 913-458-4295	DATE Signed: 01/24/01

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND THE ATTACHMENTS WITH FORM 400-A.

⁴ Table 1 – Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.



South Coast Air Quality Management District
 P. O. Box 4944
 Diamond Bar, CA 91765
 (909) 396-2000

EXPRESS PERMIT PROCESSING REQUEST FORM FORM 400 - XPP

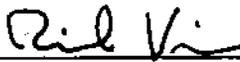
Form 400-A and one or more 400-E-xx form(s)
 must accompany all submittals.

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID:
2. The requested application is for a(n): Date of Occurrence: June, 01, 2001
 - a. New Construction b. Change of Location
 - c. Modification of Equipment/Process d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date:
 - f. Change of Condition(s); Specify the change of condition(s) requested:
 - g. Change of Operator; List previous name of operator and Facility ID #:
3. I hereby request Express Permit Processing for this application.
4. I understand that this request will incur additional fees.
5. This request is not cancelable once engineering review has been initiated.
6. Express Permit Processing neither guarantees action by any specific date nor does I guarantee permit approval.

Section II - Equipment Information

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

 TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	VICE PRESIDENT RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993-1854	DATE SIGNED: 4/24/01
---	---	--------------------------------

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF PREPARER: TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION	PREPARER'S TELEPHONE NUMBER (913)-458-4295	DATE SIGNED:
--	--	--------------

AQMD USE ONLY	APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R	ENG. A R	CLASS	ASSIGNMENT	ENF.	CHECK/MONEY ORDER	AMOUNT
DATE	DATE	I III IV	UNIT ENGINEER	SECT.	#	\$

SELECTIVE CATALYTIC REDUCTION/OXIDATION CATALYST FORM 400 - E - SCR/OXCAT (3 of 4)

Form 400-A must accompany all submittals.

For:	Change of location, equipment w/expired permit, or change of operator:	ALL other application types: Submit all other information requested and:
Title V Facilities	Complete Sections I, IV, & V	Complete Sections I, II, III, IV, & V
All Other Facilities	Complete Sections I & IV	Complete Sections I, II, III, & IV

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID: _____
2. The requested application is for a(n): Date of Occurrence: 06/01/2001
 - a. New Construction
 - b. Change of Location
 - c. Modification of Equipment/Process
 - d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date: _____ / _____ / _____
 - f. Change of Condition(s); Specify the change of condition(s) requested: _____
 - g. Change of Operator; List previous name of operator and Facility ID #: _____
3. If equipment has previous written permit, list Permit Number or Device Number(s): _____
- a. Write Rule 301 description of this equipment/process: _____
4. Are multiple applications being submitted for similar equipment (as defined in Rule 301) described below?
 No Yes; If Yes, Number of Multiple Units: Four (4)
5. Have you been issued a Notice to Comply (NTC) or Notice of Violation (NOV) for this equipment?
 No Yes; NTC #: _____ NOV #: _____ Issue Date: _____ / _____ / _____
6. For New Construction, Modification, or Change of Location:
Estimated Construction Start Date: 06/01/2001 Estimated Completion Date: 09/01/2001
7. For this project, has a California Environmental Quality Act (CEQA) document been required by another governmental agency? No Yes, for agency (Provide name): _____
 - a. Are you required by another governmental agency to have a permit? No Yes, for agency (Provide name) _____
 - b. Are any of these permits discretionary? No Yes; list: _____
8. Do you claim confidentiality of data? No Yes (attach explanation)
9. Is the equipment located within 1,000 feet from the outer boundary of a school? No Yes
(If Yes, complete a. for all public or private school, grade K-12, within a 1/4 mile radius of facility property)
 - a. School Name(s): _____ Telephone No(s): _____
School Address(s): _____

Section II - SCR Equipment Information

1. SCR Catalyst Type: High Temperature Zeolite SCR Catalyst
 - a. Centrifugal
 - b. Chemical
 - c. Packed Bed
 - d. Spray Chamber
 - e. Venturi
 - f. Other (specify): NOx-CAT™ VNX-HT Vanadia-titania
2. Equipment Manufacturer: Engelhard, Cormatech or equivalent Model No.: _____ Serial No.: _____
3. Dimensions: Diameter: _____ feet _____ inches; Height: 50 feet _____ inches
Length: 20 feet _____ inches; Width: 12 feet _____ inches
4. Catalyst Depth : 15 inches
5. Catalyst Volume : 800 cubic feet
6. Space Velocity : 30,000 per hour
7. Area Velocity : 0.025 feet per second
8. Pressure Drop : Approximately 4 inches w.g.
9. Ammonia Injection Rate : Approximately 100 lb per hour (19 % aqueous ammonia)
10. Maximum Ammonia Slip : 5 ppm 1-hour average at 15 % oxygen
11. Outlet NOx Emissions : 5 ppm 1-hour average at 15 % oxygen

TURN OVER AND COMPLETE

AQMD USE ONLY	APPLICATION/TRACKING # _____	PROJECT # _____	TYPE B C D	EQUIPMENT CATEGORY CODE: _____ / _____	FEE SCHEDULE: \$ _____	VALIDATION _____
ENG. A R	ENG. A R	CLASS	ASSIGNMENT	ENF.	CHECK/MONEY ORDER	AMOUNT
DATE	DATE	I III IV	UNIT ENGINEER	SECT.	#	\$

Section III - Oxidation Catalyst Equipment Information

1. Catalyst Type: Stainless Steel Foil Substrate with platinum impregnated alumina washcoat
 - a. Centrifugal
 - b. Chemical
 - c. Packed Bed
 - d. Spray Chamber
 - e. Venturi
 - f. Other (specify): See above
2. Equipment Manufacturer: Engelhard, Johnson Matthey or equivalent Model No.: _____ Serial No.: _____
3. Dimensions: Height: 50 feet Length: 20 feet Width: 12 feet (Located inside the SCR Housing)
4. Catalyst Depth : 3 inches
5. Catalyst Volume : 100-125 cubic feet (approximately 500 sq.ft cross section)
6. Space Velocity : 175,000 - 150,000 per hour
7. Pressure Drop : Approximately 1 inches w.g.
8. Outlet CO Concentration : <6 ppmdv 1-hour average at 15 % oxygen
9. Outlet VOC Concentration : <2 ppmdv 1-hour average at 15 % oxygen
10. Minimum Operating Temperature: 500 F
11. Maximum Operating Temperature: 1,200 F

Section IV - Applicant Certification Statement

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 	TITLE OF RESPONSIBLE OFFICIAL OF FIRM: <u>Vice President</u>	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: (973) 993-1854	DATE SIGNED: 04/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER: 	TITLE OF PREPARER: VICE PRESIDENT	
TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH COPORATION	PREPARER'S TELEPHONE NUMBER: (913) 458-4295	DATE SIGNED: 04/24/01

- The requested application involves a(n): (check all that apply)
- | | |
|---|--|
| a. <input type="checkbox"/> Minor Permit Revision
<input type="checkbox"/> Group Processing (check only if applicable)
b. <input type="checkbox"/> DeMinimis Significant Permit Revision
c. <input type="checkbox"/> Significant Permit Revision
d. <input type="checkbox"/> Non-Title V Permit Processing (Available until initial Title V permit is issued) | e. <input type="checkbox"/> Permit Shield (complete Form 500-D)
f. <input type="checkbox"/> Streamlined Permit Conditions
g. <input type="checkbox"/> Alternative Operating Scenario (AOS)
h. <input type="checkbox"/> Other (specify): _____ |
|---|--|

Air Pollution Control (APC) Equipment Information

The APC equipment will be used to control the CO, VOC, and NO_x emissions from the gas turbines. The APC equipment will also reduce the emissions of toxic air contaminants (e.g., formaldehyde and acetaldehyde) from the gas turbines. There will be one APC system for each gas turbine. Each APC system will include the following air pollution control equipment: a Selective Catalytic Reduction (SCR) system and a CO Oxidation Catalyst.

Selective Catalyst Reduction (SCR) System Summary

The SCR catalyst will be used to control the NO_x emissions from the gas turbines. The catalyst will be located within a structural catalyst frame integral to the housing duct downstream from the oxidation catalyst housing. Since the operation of the turbines will be in simple cycle mode, a high temperature zeolite SCR catalyst is required due to higher exhaust temperature of the turbine. The following is a summary of the SCR system and performance information.

Catalyst Manufacturer:	Engelhard Corporation, Cormetech or Equivalent.
Catalyst Type:	NO _x -CAT™ VNX-HT vanadia-titania catalyst.
SCR Housing Dimensions:	12' wide x 20' long x 50' high
Catalyst Depth:	15 inches
Catalyst Volume:	800 cu. ft - approximately
Space Velocity:	Approximately 30,000 per hour
Area Velocity:	0.025 ft/sec
Pressure Drop:	Approximately 4 in. w.g.
Ammonia Injection Rate:	Approximately 126.4 lb/hr (19% ammonia)
Maximum Ammonia Slip:	5 ppm 1-hour average at 15 % oxygen
Outlet NO _x Emissions:	5 ppm 1-hour average at 15 % oxygen

Decision regarding the manufacturer of the SCR system has not yet been made at the present time. Therefore, manufacturer warranty and cost information is not currently available. As soon as a decision is made, the information will be obtained and will be provided to the agency.

CO Oxidation Catalyst Summary

The oxidation catalyst will be used to control the CO and (to a lesser extent) VOC emissions from the gas turbines. The oxidation catalyst will also control the formaldehyde and acetaldehyde emissions from the gas turbines. The catalyst will be located within a structural catalyst frame integral to the housing duct. The following is a summary of the oxidation catalyst and performance information.

Catalyst Manufacturer:	Engelhard Corporation, Johnson Matthey or Equivalent.
Catalyst Type:	Stainless steel foil substrate with platinum impregnated alumina washcoat.
SCR Housing Dimensions:	12' wide x 20' long x 50' high
Catalyst Depth:	3 inches
Catalyst Volume:	100 - 150 cu. ft - approximately 500 sq.ft cross section
Space Velocity:	Approximately 175,000 to 150,000 per hour
Pressure Drop:	Approximately 1 in.w.g.
Outlet CO:	< 6 ppmdv (1-hour average @ 15 % oxygen)
Outlet VOC:	< 2ppmdv (1-hour average @ 15 % oxygen)
Minimum Operating Temp:	500 F
Maximum Operating Temp:	1,200 F

Decision regarding the manufacturer of the CO system has not yet been made at the present time. Therefore, manufacturer warranty and cost information is not currently available. As soon as a decision is made, the information will be obtained and will be provided to the agency.

PERMIT TO OPERATE FORM 400 - A

Non-Title V Facilities: This form must be accompanied by one or more 400-E-xx series form(s). Complete this side of form only.
Title V Facilities: Complete both sides of this form. Include additional forms as necessary.

NC/NOV NUMBER:

INSPECTOR _____ **SECTOR** _____

ISSUE DATE

Section I - Company Information

LEGAL NAME OF OPERATOR PEGASUS POWER PARTNERS, LLC - Pegasus Project		<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER <u>2</u> <u>2</u> <u>3</u> <u>7</u> <u>9</u> <u>5</u> <u>2</u> <u>0</u> <u>0</u>	
PERMIT TO BE ISSUED TO (SEE INSTRUCTIONS) PEGASUS POWER PARTNERS, LLC			
BUSINESS MAILING ADDRESS 89 Headquarters Plaza, North Tower 14th Floor, Morristown, New York 07960			
PERMIT MAILING ADDRESS, IF DIFFERENT FROM BUSINESS MAILING ADDRESS Same as Business Address			
TYPE OF ORGANIZATION <input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Limited Partnership <input type="checkbox"/> Government Entity <input type="checkbox"/> Individual <input type="checkbox"/> General Partnership <input type="checkbox"/> Other (Fill in): _____			
ARE YOU A SMALL BUSINESS? (SEE INSTRUCTIONS) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		AVERAGE ANNUAL GROSS RECEIPTS \$-0 NUMBER OF EMPLOYEES Unknown	
IS YOUR BUSINESS 51% OR MORE WOMAN/MINORITY OWNED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No			
THIS SECTION IS REQUIRED FOR ALL APPLICATIONS FOR NEW CONSTRUCTION OR MAJOR MODIFICATIONS.			
ARE ALL MAJOR SOURCES UNDER SAME OWNERSHIP IN CALIFORNIA IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL AIR POLLUTION CONTROL RULES? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No			
ARE YOU THE OWNER OF THE EQUIPMENT UNDER THIS APPLICATION? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER <u>2</u> <u>2</u> <u>3</u> <u>7</u> <u>9</u> <u>5</u> <u>2</u> <u>0</u> <u>0</u>	
IF NO, ENTER THE LEGAL NAME OF OWNER _____			

Section II - Facility Information

EQUIPMENT ADDRESS/LOCATION (Next door on Westside to) 5601, Eucalyptus Avenue		FACILITY NAME SALMON ENERGY LLC - CHINO POWER PLANT	
Chino CA 91710		FACILITY ID NUMBER _____	
CITY OR COMMUNITY Chino		ZIP CODE 91710	
PRINT NAME OF CONTACT PERSON Jay Roland		TITLE OF CONTACT PERSON Director of Business Development	
TYPE OF BUSINESS AT THIS FACILITY Peaking Power Generation		PRIMARY SIC CODE FOR THIS FACILITY 4 9 1 1	
NUMBER OF EMPLOYEES AT THIS FACILITY _____		CONTACT PERSON'S TELEPHONE NUMBER 714-437-5036	
CONTACT PERSON'S FAX NUMBER 714-437-5051		CONTACT PERSON'S E-MAIL ADDRESS jroland@deltapower.com	

Section III - Application Type

DESCRIPTION OF EQUIPMENT: Three (3) GE LM6000 Sprint Enhanced gas turbines with SCR/OxCat		PREVIOUS PERMIT #S: _____	
APPLICATION FOR (SEE INSTRUCTIONS): <input checked="" type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> EXISTING EQUIPMENT WITHOUT PERMIT <input type="checkbox"/> EXISTING EQUIPMENT WITH EXPIRED PERMIT		<input type="checkbox"/> CHANGE OF LOCATION <input type="checkbox"/> MODIFICATION <input type="checkbox"/> CHANGE OF PERMITTEE <input type="checkbox"/> CHANGE OF PERMIT CONDITION	
<input checked="" type="checkbox"/> APPLICATION FOR NON-TITLE V EQUIPMENT PERMIT. CHECK THE SUPPLEMENTAL SERIES 400-E-xx FORM(S) SUBMITTED WITH THIS 400-A FORM: _____ 400-E-1 • PARTICULATE MATTER (PM-10) CONTROL EQUIPMENT _____ 400-E-2 • VOLATILE ORGANIC COMPOUND (VOC) CONTROL EQUIPMENT _____ 400-E-3 • SCRUBBER _____ 400-E-4 • ABRASIVE BLASTING EQUIPMENT _____ 400-E-6 • DEGREASER _____ 400-E-7 • DRY CLEANING EQUIPMENT _____ 400-E-8 • ETHYLENE OXIDE STERILIZER _____ 400-E-9 • EXTERNAL COMBUSTION EQUIPMENT _____ 400-E-10 • FOOD BROILER/FRYER _____ 400-E-11 • FUEL DISPENSING AND STORAGE EQUIPMENT <u>4</u> 400-E-12 • GAS TURBINE		<input type="checkbox"/> CHANGE OF LOCATION <input type="checkbox"/> MODIFICATION <input type="checkbox"/> CHANGE OF PERMITTEE <input type="checkbox"/> CHANGE OF PERMIT CONDITION	
<input checked="" type="checkbox"/> APPLICATION FOR TITLE V FACILITY PERMIT. PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS FORM.		ARE YOU SUBMITTING MULTIPLE APPLICATIONS FOR EQUIPMENT IDENTICAL TO THAT DESCRIBED ABOVE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
_____ 400-E-13 • INTERNAL COMBUSTION EQUIPMENT _____ 400-E-14 • OPEN PROCESS TANK _____ 400-E-14a • OPEN PROCESS TANK; PROCESS LINE _____ 400-E-15 • PRINTING EQUIPMENT _____ 400-E-16 • SOLID MATERIALS STORAGE EQUIPMENT _____ 400-E-17 • SPRAY BOOTH/OPEN SPRAY _____ 400-E-17a • POWDER SPRAY BOOTH _____ 1 400-E-18 • STORAGE TANK (LIQUID & GASEOUS MATERIAL) _____ 400-E-19 • WAVE SOLDER MACHINE _____ 400-E-20 • ASBESTOS REMOVAL EQUIPMENT _____ NONE • ADDITIONAL INFORMATION SUBMITTED AS REQUESTED ON FORM 400-E-GI			

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: *[Signature]* TITLE OF RESPONSIBLE OFFICIAL OF FIRM: **Vice President**

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER 973-993-1854	DATE SIGNED: 04/24/01
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I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: _____ TITLE OF RESPONSIBLE OFFICIAL OF FIRM: **Vice President**

TYPE OR PRINT NAME OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: Black & Veatch Corporation	PREPARER'S TELEPHONE NUMBER 913-458-4295	DATE SIGNED: 04/24
---	--	------------------------------

TITLE V FACILITIES ONLY: COMPLETE OTHER SIDE

AQMD USE ONLY	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF SECT.	CHECK/MONEY ORDER # AMOUNT \$

TITLE V APPLICATION CERTIFICATION

- TO BE COMPLETED BY TITLE V FACILITIES ONLY -

Section IV - Title V Application

1. This is an application for a(n) (Check all applicable boxes and provide the requested information as appropriate):
- a. Initial Title V Permit
 - b. Permit Renewal: Provide current permit expiration date: _____
 - c. Administrative Permit Revision (Check all that apply)
 - Change of Ownership. (Complete and attach equipment-specific Form 400-E-xx series forms)
 - Change of Facility Information
 - Other, Please specify: Title V Permit Application is included
 - d. Other (Complete and attach equipment specific Form 400-E-XX series form(s) to this form if your application involves permit action for new construction, change of location, non-administrative permit revision, alternative operating scenario (AOS), permit shield, streamlined permit conditions, or temporary source permit.)
2. Is this facility required to prepare a Risk Management Plan (RMP) for another agency? Yes No

Section V - Title V Submittal Checklist

1. Enter the quantity of each type form submitted in the space provided:
- | | | | |
|---|--------|---|-------------------------------|
| 1 | 500-A2 | 1 | 500-F1 |
| | 500-B | | 500-F2 |
| 1 | 500-C1 | | 500-F3 |
| | 500-C2 | | 500-F4 |
| 1 | 500-D | 1 | Other (specify): <u>500-E</u> |
2. Additional information referenced in this application submitted (Check ALL that apply):
- a. Existing Facility Permit
 - b. Preliminary Facility Permit
 - c. EFB Report for Year(s) _____
 - d. None
 - e. Other (Specify): _____
3. Supplemental information included with this application submittal (Check ALL that apply):
- a. Facility Plot Plan
 - b. MSDS Sheet(s)
 - c. None
 - d. Other (Specify): See Figure section of this package

AQMD USE ONLY	APPLICATION TYPE		30 DAY PUBLIC NOTICE		PUBLIC HEARING	45-DAY EPA REVIEW	
			START DATE	END DATE	DATE	START DATE	END DATE
		INITIAL, RENEWAL & SIGNIFICANT					
	MINOR & DE MINIMIS						
	ESTABLISH GENERAL PERMIT						
USE THE SECTIONS BELOW FOR TITLE V INITIAL AND RENEWAL APPLICATIONS ONLY:							
	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____ / _____		FEE SCHEDULE: \$	VALIDATION	
ENG. A DATE	R	ENG. A DATE	R	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF. SECT.	CHECK/MONEY ORDER # AMOUNT \$



**CALIFORNIA ENVIRONMENTAL QUALITY ACT
(CEQA) APPLICABILITY
FORM 400 - CEQA**

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project¹ has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].² Refer to the attached instructions for guidance in completing this form.³ For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Lori Inga at (909) 396-3109.

FACILITY INFORMATION

Facility Name: PEGASUS POWER PARTNERS, LLC **Facility ID (6-Digit):** _____

Project Description: A peaking power generating facility with four GE LM6000 Sprint Enhanced combustion turbines operating in simple cycle mode with a nominal output of 180 MW. Air pollution control equipment will be installed for each gas combustion turbine.

REVIEW FOR EXEMPTION FROM FURTHER CEQA ACTION

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
A.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A request for a change of permittee only (without equipment modifications)?
B.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment certification or equipment registration?
C.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, a permit cannot be issued until a Final CEQA document and Notice of Determination is submitted.
D.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment damaged as a result of a disaster during state of emergency?
E.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V permit renewal (without equipment modifications)?
F.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V administrative permit revision?
G.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The conversion of an existing permit into an initial Title V permit?
H.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A functionally identical permit unit replacement with no increase in rating or emissions?
I.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A change of daily VOC permit limit to a monthly VOC permit limit?

If "Yes" is checked for any question above, your application does not require additional evaluation for CEQA applicability. Skip to page 2, "SIGNATURES" and sign and date this form.

REVIEW OF IMPACTS WHICH MAY TRIGGER CEQA

Complete Sections I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	Section I - General
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is this project part of a larger project?
Section II - Air Quality			
3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

¹ A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

² To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

³ To download this form and the instructions, visit <http://www.aqmd.gov/ceqa> or <http://www.aqmd.gov/permit>

	Yes	No	
5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 - Nuisance.
6.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1?⁴
Section III - Water Resources			
8.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
Section IV - Transportation/Circulation			
10.	Will the project result in (Check all that apply):		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. the need for more than 350 new employees?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. increase customer traffic by more than 700 visits per day?
Section V - Noise			
11.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project include equipment with a noise specification GREATER THAN 90 decibels (dB)?
Section VI - Public Services			
12.	Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):		
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).
REMINDER: For each "Yes" checked in the sections above, attach all pertinent information including but not limited to estimated quantities, volumes, weights, etc.			

SIGNATURES

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: 973-993-1855	DATE Signed: 04/24/01
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:		TITLE OF PREPARER:	
TYPE OR PRINT NAME OF PREPARER: Black & Veatch Corporation		PREPARER'S TELEPHONE NUMBER: 913-458-4295	DATE Signed: 01/24/01

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND THE ATTACHMENTS WITH FORM 400-A.

⁴ Table 1 - Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.



South Coast Air Quality Management District
 P. O. Box 4944
 Diamond Bar, CA 91765
 (909) 396-2000

Form 400-A and one or more 400-E-xx form(s)
 must accompany all submittals.

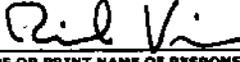
EXPRESS PERMIT PROCESSING REQUEST FORM FORM 400 - XPP

Section I - Facility/Application Information

- Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID:
- The requested application is for a(n): Date of Occurrence: June, 01, 2001
 - New Construction
 - Change of Location
 - Modification of Equipment/Process
 - Existing Equipment with Expired Permit
 - Existing Equipment Operating without a Permit; Initial Operation Date:
 - Change of Condition(s); Specify the change of condition(s) requested:
 - Change of Operator; List previous name of operator and Facility ID #:
- I hereby request Express Permit Processing for this application.
- I understand that this request will incur additional fees.
- This request is not cancelable once engineering review has been initiated.
- Express Permit Processing neither guarantees action by any specific date nor does I guarantee permit approval.

Section II - Equipment Information

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

 TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		VICE PRESIDENT RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993-1854	DATE SIGNED: 4/24/01
---	--	---	--------------------------------

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF PREPARER: TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION		PREPARER'S TELEPHONE NUMBER (913)-458-4295	DATE SIGNED:
--	--	--	--------------

AQMD USE ONLY		APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT	ENGINEER	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT \$

SELECTIVE CATALYTIC REDUCTION/OXIDATION CATALYST FORM 400 - E - SCR/OXCAT (4 of 4)

Form 400-A must accompany all submittals.

FOR:	Change of location, equipment w/ expired permit, or change of operator:	ALL other application types: Submit all other information requested and:
Title V Facilities	Complete Sections I, IV, & V	Complete Sections I, II, III, IV, & V
All Other Facilities	Complete Sections I & IV	Complete Sections I, II, III, & IV

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID: _____
2. The requested application is for a(n): Date of Occurrence: 06/01/2001
 - a. New Construction
 - b. Change of Location
 - c. Modification of Equipment/Process
 - d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date: _____ / _____ / _____
 - f. Change of Condition(s); Specify the change of condition(s) requested: _____
 - g. Change of Operator; List previous name of operator and Facility ID #: _____
3. If equipment has previous written permit, list Permit Number or Device Number(s): _____
4. Are multiple applications being submitted for similar equipment (as defined in Rule 301) described below?
 - No Yes; If Yes, Number of Multiple Units: **Four (4)**
5. Have you been issued a Notice to Comply (NTC) or Notice of Violation (NOV) for this equipment?
 - No Yes; NTC #: _____ NOV #: _____ Issue Date: _____ / _____ / _____
6. For New Construction, Modification, or Change of Location:

Estimated Construction Start Date: 06/01/2001 Estimated Completion Date: 09/01/2001
7. For this project, has a California Environmental Quality Act (CEQA) document been required by another governmental agency? No Yes, for agency (Provide name): _____
 - a. Are you required by another governmental agency to have a permit? No Yes, for agency (Provide name) _____
 - b. Are any of these permits discretionary? No Yes; list: _____
8. Do you claim confidentiality of data? No Yes (attach explanation)
9. Is the equipment located within 1,000 feet from the outer boundary of a school? No Yes
(If Yes, complete a. for all public or private school, grade K-12, within a 1/4 mile radius of facility property)
 - a. School Name(s): _____ Telephone No(s): _____
School Address(s): _____

Section II - SCR Equipment Information

1. SCR Catalyst Type: High Temperature Zeolite SCR Catalyst
 - a. Centrifugal
 - b. Chemical
 - c. Packed Bed
 - d. Spray Chamber
 - e. Venturi
 - f. Other (specify): NOx-CAT™ VNX-HT Vanadia-titania
2. Equipment Manufacturer: Engelhard, Cormatech or equivalent Model No.: _____ Serial No.: _____
3. Dimensions: Diameter: _____ feet _____ inches; Height: 50 feet _____ inches
Length: 20 feet _____ inches; Width: 12 feet _____ inches
4. Catalyst Depth : 15 inches
5. Catalyst Volume : 800 cubic feet
6. Space Velocity : 30,000 per hour
7. Area Velocity : 0.025 feet per second
8. Pressure Drop : Approximately 4 inches w.g.
9. Ammonia Injection Rate : Approximately 100 lb per hour (19 % aqueous ammonia)
10. Maximum Ammonia Slip : 5 ppm 1-hour average at 15 % oxygen
11. Outlet NOx Emissions : 5 ppm 1-hour average at 15 % oxygen

TURN OVER AND COMPLETE

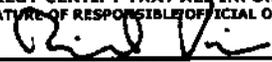
AQMD USE ONLY	APPLICATION/TRACKING # _____	PROJECT # _____	TYPE B C D	EQUIPMENT CATEGORY CODE: _____ / _____	FEE SCHEDULE: \$ _____	VALIDATION
ENG. A R	ENG. A R	CLASS I III IV	ASSIGNMENT UNIT	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT \$
DATE	DATE		ENGINEER			

Section III - Oxidation Catalyst Equipment Information

1. Catalyst Type: Stainless Steel Foil Substrate with platinum impregnated alumina washcoat
 - a. Centrifugal
 - b. Chemical
 - c. Packed Bed
 - d. Spray Chamber
 - e. Venturi
 - f. Other (specify): See above
2. Equipment Manufacturer: Engelhard, Johnson Matthey or equivalent Model No.: _____ Serial No.: _____
3. Dimensions: Height: 50 feet Length: 20 feet Width: 12 feet (Located inside the SCR Housing)
4. Catalyst Depth : 3 inches
5. Catalyst Volume : 100-125 cubic feet (approximately 500 sq.ft cross section)
6. Space Velocity : 175,000 - 150,000 per hour
7. Pressure Drop : Approximately 1 inches w.g.
8. Outlet CO Concentration : <6 ppmv 1-hour average at 15 % oxygen
9. Outlet VOC Concentration : <2 ppmv 1-hour average at 15 % oxygen
10. Minimum Operating Temperature: 500 F
11. Maximum Operating Temperature: 1,200 F

Section IV - Applicant Certification Statement

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: _____ TITLE OF RESPONSIBLE OFFICIAL OF FIRM: _____

	<u>Vice President</u>	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993-1854	DATE SIGNED: 04/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
SIGNATURE OF PREPARER: _____ TITLE OF PREPARER: _____

BLACK & VEATCH COPORATION	VICE PRESIDENT	
TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH COPORATION	PREPARER'S TELEPHONE NUMBER (913) 458-4295	DATE SIGNED: 04/24/01

The requested application involves a(n): (check all that apply)

- | | |
|--|--|
| a. <input type="checkbox"/> Minor Permit Revision | e. <input type="checkbox"/> Permit Shield (complete Form 500-D) |
| <input type="checkbox"/> Group Processing (check only if applicable) | f. <input type="checkbox"/> Streamlined Permit Conditions |
| b. <input type="checkbox"/> DeMinimis Significant Permit Revision | g. <input type="checkbox"/> Alternative Operating Scenario (AOS) |
| c. <input type="checkbox"/> Significant Permit Revision | h. <input type="checkbox"/> Other (specify): _____ |
| d. <input type="checkbox"/> Non-Title V Permit Processing (Available until initial Title V permit is issued) | |

Air Pollution Control (APC) Equipment Information

The APC equipment will be used to control the CO, VOC, and NO_x emissions from the gas turbines. The APC equipment will also reduce the emissions of toxic air contaminants (e.g., formaldehyde and acetaldehyde) from the gas turbines. There will be one APC system for each gas turbine. Each APC system will include the following air pollution control equipment: a Selective Catalytic Reduction (SCR) system and a CO Oxidation Catalyst.

Selective Catalyst Reduction (SCR) System Summary

The SCR catalyst will be used to control the NO_x emissions from the gas turbines. The catalyst will be located within a structural catalyst frame integral to the housing duct downstream from the oxidation catalyst housing. Since the operation of the turbines will be in simple cycle mode, a high temperature zeolite SCR catalyst is required due to higher exhaust temperature of the turbine. The following is a summary of the SCR system and performance information.

Catalyst Manufacturer:	Engelhard Corporation, Cormetech or Equivalent.
Catalyst Type:	NO _x -CAT™ VNX-HT vanadia-titania catalyst.
SCR Housing Dimensions:	12' wide x 20' long x 50' high
Catalyst Depth:	15 inches
Catalyst Volume:	800 cu. ft - approximately
Space Velocity:	Approximately 30,000 per hour
Area Velocity:	0.025 ft/sec
Pressure Drop:	Approximately 4 in.w.g.
Ammonia Injection Rate:	Approximately 126.4 lb/hr (19% ammonia)
Maximum Ammonia Slip:	5 ppm 1-hour average at 15 % oxygen
Outlet NO _x Emissions:	5 ppm 1-hour average at 15 % oxygen

Decision regarding the manufacturer of the SCR system has not yet been made at the present time. Therefore, manufacturer warranty and cost information is not currently available. As soon as a decision is made, the information will be obtained and will be provided to the agency.

CO Oxidation Catalyst Summary

The oxidation catalyst will be used to control the CO and (to a lesser extent) VOC emissions from the gas turbines. The oxidation catalyst will also control the formaldehyde and acetaldehyde emissions from the gas turbines. The catalyst will be located within a structural catalyst frame integral to the housing duct. The following is a summary of the oxidation catalyst and performance information.

Catalyst Manufacturer:	Engelhard Corporation, Johnson Matthey or Equivalent.
Catalyst Type:	Stainless steel foil substrate with platinum impregnated alumina washcoat.
SCR Housing Dimensions:	12' wide x 20' long x 50' high
Catalyst Depth:	3 inches
Catalyst Volume:	100 - 150 cu. ft - approximately 500 sq.ft cross section
Space Velocity:	Approximately 175,000 to 150,000 per hour
Pressure Drop:	Approximately 1 in.w.g.
Outlet CO:	< 6 ppmdv (1-hour average @ 15 % oxygen)
Outlet VOC:	< 2ppmdv (1-hour average @ 15 % oxygen)
Minimum Operating Temp:	500 F
Maximum Operating Temp:	1,200 F

Decision regarding the manufacturer of the CO system has not yet been made at the present time. Therefore, manufacturer warranty and cost information is not currently available. As soon as a decision is made, the information will be obtained and will be provided to the agency.

PERMIT TO OPERATE FORM 400 - A

Non-Title V Facilities: This form must be accompanied by one or more 400-E-xx series form(s). Complete this side of form only. Title V Facilities: Complete both sides of this form. Include additional forms as necessary.	NC/NOV NUMBER: <hr/> INSPECTOR _____ SECTOR _____ ISSUE DATE _____
--	--

Section I - Company Information

LEGAL NAME OF OPERATOR PEGASUS POWER PARTNERS, LLC - Pegasus Project		<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER <u>2</u> <u>2</u> <u>3</u> <u>7</u> <u>9</u> <u>5</u> <u>2</u> <u>0</u> <u>0</u>
PERMIT TO BE ISSUED TO (SEE INSTRUCTIONS) PEGASUS POWER PARTNERS, LLC		
BUSINESS MAILING ADDRESS 89 Headquarters Plaza, North Tower 14th Floor, Morristown, New York 07960		
PERMIT MAILING ADDRESS, IF DIFFERENT FROM BUSINESS MAILING ADDRESS Same as Business Address		
TYPE OF ORGANIZATION <input type="checkbox"/> Corporation <input checked="" type="checkbox"/> Limited Partnership <input type="checkbox"/> Government Entity <input type="checkbox"/> Individual <input type="checkbox"/> General Partnership <input type="checkbox"/> Other (Fill in): _____		
ARE YOU A SMALL BUSINESS? (SEE INSTRUCTIONS) <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	AVERAGE ANNUAL GROSS RECEIPTS <u>\$-0</u> NUMBER OF EMPLOYEES <u>Unknown</u>	IS YOUR BUSINESS 51% OR MORE WOMAN/MINORITY OWNED? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
THIS SECTION IS REQUIRED FOR ALL APPLICATIONS FOR NEW CONSTRUCTION OR MAJOR MODIFICATIONS.		
ARE ALL MAJOR SOURCES UNDER SAME OWNERSHIP IN CALIFORNIA IN COMPLIANCE WITH FEDERAL, STATE, AND LOCAL AIR POLLUTION CONTROL RULES? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		
ARE YOU THE OWNER OF THE EQUIPMENT UNDER THIS APPLICATION? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input checked="" type="checkbox"/> IRS OR <input type="checkbox"/> S. S. NUMBER <u>2</u> <u>2</u> <u>3</u> <u>7</u> <u>9</u> <u>5</u> <u>2</u> <u>0</u> <u>0</u>
IF NO, ENTER THE LEGAL NAME OF OWNER _____		

Section II - Facility Information

EQUIPMENT ADDRESS/LOCATION (Next door on Westside to) 5601, Eucalyptus Avenue NUMBER/STREET	FACILITY NAME SALMON ENERGY LLC - CHINO POWER PLANT
Chino CA 91710 CITY OR COMMUNITY ZIP CODE	FACILITY ID NUMBER _____
PRINT NAME OF CONTACT PERSON Jay Roland	
TITLE OF CONTACT PERSON Director of Business Development	
TYPE OF BUSINESS AT THIS FACILITY Peaking Power Generation	PRIMARY SIC CODE FOR THIS FACILITY NUMBER OF EMPLOYEES AT THIS FACILITY 4 9 1 1
CONTACT PERSON'S TELEPHONE NUMBER 714-437-5036	CONTACT PERSON'S FAX NUMBER CONTACT PERSON'S E-MAIL ADDRESS 714-437-5051 jroland@deltapower.com

Section III - Application Type

DESCRIPTION OF EQUIPMENT: Three (3) GE LM6000 Sprint Enhanced gas turbines with SCR/OxCat		PREVIOUS PERMIT #S: _____
APPLICATION FOR (SEE INSTRUCTIONS): <input checked="" type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> EXISTING EQUIPMENT WITHOUT PERMIT <input type="checkbox"/> EXISTING EQUIPMENT WITH EXPIRED PERMIT	<input type="checkbox"/> CHANGE OF LOCATION <input type="checkbox"/> MODIFICATION <input type="checkbox"/> CHANGE OF PERMITTEE <input type="checkbox"/> CHANGE OF PERMIT CONDITION	ARE YOU SUBMITTING MULTIPLE APPLICATIONS FOR EQUIPMENT IDENTICAL TO THAT DESCRIBED ABOVE? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input checked="" type="checkbox"/> APPLICATION FOR NON-TITLE V EQUIPMENT PERMIT. CHECK THE SUPPLEMENTAL SERIES 400-E-xx FORM(S) SUBMITTED WITH THIS 400-A FORM:		
<input type="checkbox"/> 400-E-1 • PARTICULATE MATTER (PM-10) CONTROL EQUIPMENT <input type="checkbox"/> 400-E-2 • VOLATILE ORGANIC COMPOUND (VOC) CONTROL EQUIPMENT <input type="checkbox"/> 400-E-3 • SCRUBBER <input type="checkbox"/> 400-E-4 • ABRASIVE BLASTING EQUIPMENT <input type="checkbox"/> 400-E-6 • DEGREASER <input type="checkbox"/> 400-E-7 • DRY CLEANING EQUIPMENT <input type="checkbox"/> 400-E-8 • ETHYLENE OXIDE STERILIZER <input type="checkbox"/> 400-E-9 • EXTERNAL COMBUSTION EQUIPMENT <input type="checkbox"/> 400-E-10 • FOOD BROILER/FRYER <input type="checkbox"/> 400-E-11 • FUEL DISPENSING AND STORAGE EQUIPMENT <input type="checkbox"/> 400-E-12 • GAS TURBINE	<input type="checkbox"/> 400-E-13 • INTERNAL COMBUSTION EQUIPMENT <input type="checkbox"/> 400-E-14 • OPEN PROCESS TANK <input type="checkbox"/> 400-E-14a • OPEN PROCESS TANK; PROCESS LINE <input type="checkbox"/> 400-E-15 • PRINTING EQUIPMENT <input type="checkbox"/> 400-E-16 • SOLID MATERIALS STORAGE EQUIPMENT <input type="checkbox"/> 400-E-17 • SPRAY BOOTH/OPEN SPRAY <input type="checkbox"/> 400-E-17a • POWDER SPRAY BOOTH <input checked="" type="checkbox"/> 1 400-E-18 • STORAGE TANK (LIQUID & GASEOUS MATERIAL) <input type="checkbox"/> 400-E-19 • WAVE SOLDER MACHINE <input type="checkbox"/> 400-E-20 • ASBESTOS REMOVAL EQUIPMENT <input type="checkbox"/> NONE • ADDITIONAL INFORMATION SUBMITTED AS REQUESTED ON FORM 400-E-GI	

<input checked="" type="checkbox"/> APPLICATION FOR TITLE V FACILITY PERMIT. PROVIDE INFORMATION REQUESTED ON REVERSE SIDE OF THIS FORM.		
I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.		
SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 	TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Vice President	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER 973-993-1854	DATE SIGNED: 04/24/01

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.		
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:		
TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Vice President		
TYPE OR PRINT NAME OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM: Black & Veatch Corporation	PREPARER'S TELEPHONE NUMBER 913-458-4295	DATE: 04/24

TITLE V FACILITIES ONLY: COMPLETE OTHER SIDE

AQMD USE ONLY	APPLICATION/TRACKING # _____	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$ _____	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF SECT.	CHECK/MONEY ORDER # AMOUNT \$

TITLE V APPLICATION CERTIFICATION

- TO BE COMPLETED BY TITLE V FACILITIES ONLY -

Section IV - Title V Application

1. This is an application for a(n) (Check all applicable boxes and provide the requested information as appropriate):
- a. Initial Title V Permit
 - b. Permit Renewal: Provide current permit expiration date: _____
 - c. Administrative Permit Revision (Check all that apply)
 - Change of Ownership. (Complete and attach equipment-specific Form 400-E-xx series forms)
 - Change of Facility Information
 - Other, Please specify: Title V Permit Application is included
 - d. Other (Complete and attach equipment specific Form 400-E-XX series form(s) to this form if your application involves permit action for new construction, change of location, non-administrative permit revision, alternative operating scenario (AOS), permit shield, streamlined permit conditions, or temporary source permit.)
2. Is this facility required to prepare a Risk Management Plan (RMP) for another agency? Yes No

Section V - Title V Submittal Checklist

1. Enter the quantity of each type form submitted in the space provided:
- | | | | |
|---|--------|---|-------------------------------|
| 1 | 500-A2 | 1 | 500-F1 |
| | 500-B | | 500-F2 |
| 1 | 500-C1 | | 500-F3 |
| | 500-C2 | | 500-F4 |
| 1 | 500-D | 1 | Other (specify): <u>500-E</u> |
2. Additional information referenced in this application submitted (Check ALL that apply):
- a. Existing Facility Permit
 - b. Preliminary Facility Permit
 - c. EFB Report for Year(s) _____
 - d. None
 - e. Other (Specify): _____
3. Supplemental information included with this application submittal (Check ALL that apply):
- a. Facility Plot Plan
 - b. MSDS Sheet(s)
 - c. None
 - d. Other (Specify): See Figure section of this package

AQMD USE ONLY	APPLICATION TYPE		30 DAY PUBLIC NOTICE		PUBLIC HEARING	45-DAY EPA REVIEW	
			START DATE	END DATE	DATE	START DATE	END DATE
		INITIAL, RENEWAL & SIGNIFICANT					
	MINOR & DE MINIMIS						
	ESTABLISH GENERAL PERMIT						
USE THE SECTIONS BELOW FOR TITLE V INITIAL AND RENEWAL APPLICATIONS ONLY:							
	APPLICATION/TRACKING #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____ / _____		FEE SCHEDULE: \$	VALIDATION	
ENG. A DATE	R	ENG. A DATE	R	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF. SECT.	CHECK/MONEY ORDER * AMOUNT \$



South Coast Air Quality
Management District
21865 East Copley Drive
Diamond Bar, CA 91765
(909) 396- 2000

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) APPLICABILITY FORM 400 - CEQA

The SCAQMD is required by state law, the California Environmental Quality Act (CEQA), to review discretionary permit project applications for potential air quality and other environmental impacts. This form is a screening tool to assist the SCAQMD in clarifying whether or not the project¹ has the potential to generate significant adverse environmental impacts that might require preparation of a CEQA document [CEQA Guidelines §15060(a)].² Refer to the attached instructions for guidance in completing this form.³ For each Form 400-A application, also complete and submit one Form 400-CEQA. If submitting multiple Form 400-A applications for the same project at the same time, only one 400-CEQA form is necessary for the entire project. If you need assistance completing this form, contact Lori Inga at (909) 396-3109.

FACILITY INFORMATION

Facility Name: PEGASUS POWER PARTNERS, LLC	Facility ID (6-Digit): _____
Project Description: A peaking power generating facility with four GE LM6000 Sprint Enhanced combustion turbines operating in simple cycle mode with a nominal output of 180 MW. Air pollution control equipment will be installed for each gas combustion turbine.	

REVIEW FOR EXEMPTION FROM FURTHER CEQA ACTION

Check "Yes" or "No" as applicable

	Yes	No	Is this application for:
A.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A request for a change of permittee only (without equipment modifications)?
B.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment certification or equipment registration?
C.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A CEQA and/or NEPA document previously or currently prepared that specifically evaluates this project? If yes, a permit cannot be issued until a Final CEQA document and Notice of Determination is submitted.
D.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Equipment damaged as a result of a disaster during state of emergency?
E.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V permit renewal (without equipment modifications)?
F.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A Title V administrative permit revision?
G.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	The conversion of an existing permit into an initial Title V permit?
H.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A functionally identical permit unit replacement with no increase in rating or emissions?
I.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	A change of daily VOC permit limit to a monthly VOC permit limit?

If "Yes" is checked for any question above, your application does not require additional evaluation for CEQA applicability. Skip to page 2, "SIGNATURES" and sign and date this form.

REVIEW OF IMPACTS WHICH MAY TRIGGER CEQA

Complete Sections I-VI by checking "Yes" or "No" as applicable. To avoid delays in processing your application(s), explain all "Yes" responses on a separate sheet and attach it to this form.

	Yes	No	Section I - General
1.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Has this project generated any known public controversy regarding potential adverse impacts that may be generated by the project? Controversy may be construed as concerns raised by local groups at public meetings; adverse media attention such as negative articles in newspapers or other periodical publications, local news programs, environmental justice issues, etc.
2.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Is this project part of a larger project?
Section II - Air Quality			
3.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Will there be any demolition, excavating, and/or grading construction activities that encompass an area exceeding 20,000 square feet?
4.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project include the open outdoor storage of dry bulk solid materials that could generate dust? If Yes, include a plot plan with the application package.

¹ A "project" means the whole of an action which has a potential for resulting in physical change to the environment, including construction activities, clearing or grading of land, improvements to existing structures, and activities or equipment involving the issuance of a permit. For example, a project might include installation of a new, or modification of an existing internal combustion engine, dry-cleaning facility, boiler, gas turbine, spray coating booth, solvent cleaning tank, etc.

² To download the CEQA guidelines, visit http://ceres.ca.gov/env_law/state.html.

³ To download this form and the instructions, visit <http://www.aqmd.gov/ceqa> or <http://www.aqmd.gov/permit>

	Yes	No	
5.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Would this project result in noticeable off-site odors from activities that may not be subject to SCAQMD permit requirements? For example, compost materials or other types of greenwaste (i.e., lawn clippings, tree trimmings, etc.) have the potential to generate odor complaints subject to Rule 402 - Nuisance.
6.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Does this project cause an increase of emissions from marine vessels, trains and/or airplanes?
7.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the proposed project increase the QUANTITY of hazardous materials stored aboveground onsite or transported by mobile vehicle to or from the site by greater than or equal to the amounts associated with each compound on the attached Table 1?*
Section III - Water Resources			
8.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project increase demand for water at the facility by more than 5,000,000 gallons per day? The following examples identify some, but not all, types of projects that may result in a "yes" answer to this question: 1) projects that generate steam; 2) projects that use water as part of the air pollution control equipment; 3) projects that require water as part of the production process; 4) projects that require new or expansion of existing sewage treatment facilities; 5) projects where water demand exceeds the capacity of the local water purveyor to supply sufficient water for the project; and 6) projects that require new or expansion of existing water supply facilities.
9.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project require construction of new water conveyance infrastructure? Examples of such projects are when water demands exceed the capacity of the local water purveyor to supply sufficient water for the project, or require new or modified sewage treatment facilities such that the project requires new water lines, sewage lines, sewage hook-ups, etc.
Section IV - Transportation/Circulation			
10.			Will the project result in (Check all that apply):
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. the need for more than 350 new employees?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. an increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round-trips per day?
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	c. increase customer traffic by more than 700 visits per day?
Section V - Noise			
11.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Will the project include equipment with a noise specification GREATER THAN 90 decibels (dB)?
Section VI - Public Services			
12.			Will the project create a permanent need for new or additional public services in any of the following areas (Check all that apply):
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	a. Solid waste disposal? Check "No" if the projected potential amount of wastes generated by the project is less than five tons per day.
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	b. Hazardous waste disposal? Check "No" if the projected potential amount of hazardous wastes generated by the project is less than 42 cubic yards per day (or equivalent in pounds).
REMINDER: For each "Yes" checked in the sections above, attach all pertinent information including, but not limited to estimated quantities, volumes, weights, etc.			

SIGNATURES

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE. I UNDERSTAND THAT THIS FORM IS A SCREENING TOOL AND THAT THE SCAQMD RESERVES THE RIGHT TO CONSIDER OTHER PERTINENT INFORMATION IN DETERMINING CEQA APPLICABILITY.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: 		TITLE OF RESPONSIBLE OFFICIAL OF FIRM: VICE PRESIDENT	
TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS		RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER: 973-993-1855	DATE Signed: 04/24/01
SIGNATURE OF PREPARER, IF PREPARED BY PERSON OTHER THAN RESPONSIBLE OFFICIAL OF FIRM:		TITLE OF PREPARER:	
TYPE OR PRINT NAME OF PREPARER: Black & Veatch Corporation		PREPARER'S TELEPHONE NUMBER: 913-458-4295	DATE Signed: 01/24/01

THIS CONCLUDES FORM 400-CEQA. INCLUDE THIS FORM AND THE ATTACHMENTS WITH FORM 400-A.

* Table 1 - Regulated Substances List and Threshold Quantities for Accidental Release Prevention can be found in the Instructions for Form 400-CEQA.



South Coast Air Quality Management District
 P. O. Box 4944
 Diamond Bar, CA 91765
 (909) 396-2000

Form 400-A and one or more 400-E-xx form(s)
 must accompany all submittals.

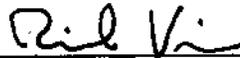
EXPRESS PERMIT PROCESSING REQUEST FORM FORM 400 - XPP

Section I - Facility/Application Information

1. Business Name: PEGASUS POWER PARTNERS, LLC - Pegasus Project Facility ID:
2. The requested application is for a(n): Date of Occurrence: June, 01, 2001
 - a. New Construction
 - b. Change of Location
 - c. Modification of Equipment/Process
 - d. Existing Equipment with Expired Permit
 - e. Existing Equipment Operating without a Permit; Initial Operation Date:
 - f. Change of Condition(s); Specify the change of condition(s) requested:
 - g. Change of Operator; List previous name of operator and Facility ID #:
3. I hereby request Express Permit Processing for this application.
4. I understand that this request will incur additional fees.
5. This request is not cancelable once engineering review has been initiated.
6. Express Permit Processing neither guarantees action by any specific date nor does I guarantee permit approval.

Section II - Equipment Information

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: TITLE OF RESPONSIBLE OFFICIAL OF FIRM:

 TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	VICE PRESIDENT RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993-1854	DATE SIGNED: 4/24/01
---	---	--------------------------------

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.
 SIGNATURE OF PREPARER: TITLE OF PREPARER:

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION	PREPARER'S TELEPHONE NUMBER (913)-458-4295	DATE SIGNED:
--	--	--------------

AQMD USE ONLY	APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R DATE	ENG. A R DATE	CLASS I III IV	ASSIGNMENT UNIT ENGINEER	ENF. SECT.	CHECK/MONEY ORDER #	AMOUNT \$



Form 400-A must accompany all submittals:

STORAGE TANK (Ammonia Tank) FORM 400 - E - 18 (LIQUID & GASEOUS MATERIAL)

For:	change of location, equipment w/expired permit, or change of operator:	ALL other application types: Submit all other information requested and:
Title V Facilities	Complete Sections I, IV, & V	Complete Sections I, II, III, IV, & V
All Other Facilities	Complete Sections I & IV	Complete Sections I, II, III, & IV

Section I - Facility/Application Information

- Business Name: PEGASUS POWER PARTNERS, LLC - CHINO POWER PLANT Facility ID: _____
- The requested application is for a(n): Date of Occurrence: ____/____/____
 - New Construction
 - Change of Location
 - Modification of Equipment/Process
 - Existing Equipment with Expired Permit
 - Existing Equipment Operating without a Permit; Initial Operation Date: ____/____/____
 - Change of Condition(s); Specify the change of condition(s) requested: _____
 - Change of Operator; List previous name of operator and Facility ID #: _____
- If equipment has previous written permit, list Permit Number or Device Number(s): _____
 - Write Rule 301 description of this equipment/process: _____
- Are multiple applications being submitted for similar equipment (as defined in Rule 301) described below?
 No Yes; If Yes, Number of Multiple Units: _____
- Have you been issued a Notice to Comply (NTC) or Notice of Violation (NOV) for this equipment?
 No Yes; NTC #: _____ NOV #: _____ Issue Date: ____/____/____
- For New Construction, Modification, or Change of Location:
Estimated Construction Start Date: ____/____/____ Estimated Completion Date: ____/____/____
- For this project, has a California Environmental Quality Act (CEQA) document been required by another governmental agency? No Yes, for agency (Provide name): California Energy Commission (CEC)
 - Are you required by another governmental agency to have a permit? No Yes, for agency (Provide name) California Energy Commission (CEC)
 - Are any of these permits discretionary? No Yes; list: _____
- Do you claim confidentiality of data? No Yes (attach explanation)
- Is the equipment located within 1,000 feet from the outer boundary of a school? No Yes (If Yes, complete a. for all public or private school, grade K-12, within a 1/4 mile radius of facility property)
 - School Name(s): _____ Telephone No(s): _____
 - School Address(s): _____

Section II - Equipment Information

- Tank Identification (Number or Name): TANK 1 (15,000 Gals Ammonia Storage Tank)
- Tank Capacity: _____ Barrels or 15,000 Gallons
- Tank Dimensions:
Diameter: 18 feet - 0 inches; Height: 18 feet - 0 inches
Width: _____ feet - _____ inches; Length: _____ feet - _____ inches
- Tank Shape:
 - Cylindrical
 - Spherical
 - Rectangular
 - Other (specify) _____
- Tank Materials of Construction (only if subject to Rule 463):
 - Aluminum
 - Metal
 - Plastic
 - Wood
 - Other (specify) _____
- Type of Tank (check all that apply):
 - Fixed Roof
 - Floating Roof
 - Pressurized
 - Open Top
 - Internally Heated
 - Underground
 - Unheated
 - Other (specify) _____
- Tank Condition:
 - Good
 - Poor
- Tank Paint:
 - Chalking White
 - Light Gray or Blue
 - Dark Color or No Paint

AQMD USE ONLY	APPLICATION/TRACKING #	PROJECT #	TYPE	EQUIPMENT CATEGORY CODE:	FEE SCHEDULE:	VALIDATION
ENG. A R	ENG. A R	CLASS	ASSIGNMENT	ENF.	CHECK/MONEY ORDER	AMOUNT
DATE	DATE	I III IV	UNIT ENGINEER	SECT.	#	\$

9. If tank has a floating roof:
- a. Type of roof: Double Deck Pontoon Other (specify): _____
 - b. Type of seal: Primary Secondary Other (specify): _____
 - Shoe Mechanical
 - c. Type of shell construction: Riveted Welded Other (specify): _____
10. If tank is to have any other type of roof or cover (or none at all), describe: _____

Section III - Operation Information

1. Vapor Control During Loading or Unloading:
- a. Sparger
 - b. Vapor Balance System
 - c. Vapor Return Line
 - d. Vented to Air Pollution Control Equipment¹
- ¹ If yes, a separate permit is required. If APC equipment is already permitted, provide Permit Number or Device Number _____, If not permitted, please see Form 400-E-GEN.
2. Vent Valve Data: Indicate type of settings and vapor disposal:
- | | Number | Pressure Setting | Vacuum Setting | Discharging to (Check) <input checked="" type="checkbox"/> | | |
|----------------|--------|------------------|----------------|--|--------------------------|--------------------------|
| | | | | Atmosphere | Vapor Control | Flare |
| a. Combination | _____ | _____ | _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b. Pressure | _____ | _____ | _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c. Vacuum | _____ | _____ | _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d. Open | _____ | _____ | _____ | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
3. Name all liquids, vapors, gases, or mixtures of such materials to be stored in this tank: 19 percent aqueous ammonia for use in the SCR System
- Density: _____ lbs/gal
4. Temperatures at which the above listed materials are to be stored in this tank:
 Minimum temperature: 24 °F Maximum temperature: 114 °F
5. If material stored is a petroleum product or any other type of organic material, supply the following information for each material: (Attach additional sheets, if necessary)
- Vapor pressure: _____ lbs REID or 45 lbs. per sq. in. Absolute at 68°F
 Working pressure (for fixed roof tanks only): _____ (Indicate units)
 Initial boiling point: _____ °F For heavy petroleum products only: Flash Point: _____ °F
- Operation Data:
- a. Maximum filling rate: _____ bbls per hour or _____ gals per hour
 - b. Average outage: (Average distance from top of tank shell to liquid surface) _____ feet
 - c. Throughput: _____ Average _____ Maximum _____
 _____ bbls/day, gals/day, or gal/batch (circle units)
 _____ batches/day or batches/month (circle units)
 - d. Tank turnovers per year: _____
7. If material is stored in a solution, supply the following information:
 Name of solvent: _____ Name of materials dissolved _____
 Concentration of Materials dissolved: _____ % by weight or _____ % by volume or _____ lbs/gal

Section IV - Applicant Certification Statement

I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF RESPONSIBLE OFFICIAL OF FIRM: [Signature] TITLE OF RESPONSIBLE OFFICIAL OF FIRM: Vice President

TYPE OR PRINT NAME OF RESPONSIBLE OFFICIAL OF FIRM: RICHARD G. VICENS	RESPONSIBLE OFFICIAL'S TELEPHONE NUMBER (973) 993-1854	DATE SIGNED: 04/19/01
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I HEREBY CERTIFY THAT ALL INFORMATION CONTAINED HEREIN AND INFORMATION SUBMITTED WITH THIS APPLICATION IS TRUE AND CORRECT.

SIGNATURE OF PREPARER: _____ TITLE OF PREPARER: _____

TYPE OR PRINT NAME OF PREPARER: BLACK & VEATCH CORPORATION	PREPARER'S TELEPHONE NUMBER (913) 458-4295	DATE SIGNED: 04/19/01
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Section V - Title V Information: Fill out if AQMD has identified your facility as a Title V facility

The requested application involves a(n): (check all that apply)

- a. Minor Permit Revision
- b. DeMinimis Significant Permit Revision
- c. Significant Permit Revision
- d. Non-Title V Permit Processing (Available until Initial Title V permit is issued)
- e. Permit Shield (complete Form 500-D)
- f. Streamlined Permit Conditions
- g. Alternative Operating Scenario (AOS)
- h. Other (specify): Title V app. Will follow

AQMD USE ONLY	APPLICATION/TRACKING #	PROJECT #	TYPE B C D	EQUIPMENT CATEGORY CODE: _____/____	FEE SCHEDULE: \$	VALIDATION
ENG. A R	ENG. A R	CLASS	ASSIGNMENT	ENF.	CHECK/MONEY ORDER	AMOUNT
DATE	DATE	I III IV	UNIT ENGINEER	SECT.	#	\$

Section I - Facility Information

1. Facility Name: PEGASUS PROJECT Facility ID (6-Digit): _____

2. This Certification is submitted with a (Check one):
 a. Title V Application
 b. Supplement/Correction to a Title V Application

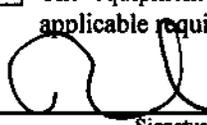
3. Is Form 500-C2 included with this Certification? a. Yes b. No

Section II - Responsible Official Certification Statement

I certify under penalty of law that I am the responsible official for this facility as defined in AQMD Regulation XXX and that based on information and belief formed after reasonable inquiry, the statements and information in this document and in all attached application forms and other materials are true, accurate, and complete.

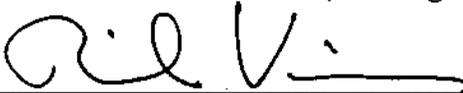
Read each statement carefully and check each that applies.

- 1. For Initial & Permit Renewal Application Certifications:**
- a. The facility, including equipment that are exempt from written permit per Rule 219, is currently operating and will continue to operate in compliance with all applicable requirement(s) identified in Section II and Section III of Form 500-C1,
 - i. except for those requirements that do not specifically pertain to such devices or equipment and that have been identified as "Remove" on Section III of Form 500-C1.
 - ii. except for those devices or equipment that have been identified on the completed and attached Form 500-C2 that will not be operating in compliance with the specified applicable requirement(s).
 - b. The facility, including equipment that are exempt from written permit per Rule 219, will meet in a timely manner, all applicable requirements with future effective dates.
- 2. For Permit Revision Application Certifications:**
- a. The equipment or devices to which this permit revision applies, will in a timely manner comply with all applicable requirements identified in Section II and Section III of Form 500-C1.

	4/24/01
Signature of Responsible Official	Date
Richard G. Vicens	(973) 993-1854
Type or Print Name of Responsible Official	Phone
Vice President	(973) 326-1821
Title of Responsible Official	Fax
89 Headquarters Plaza North Tower 14 th Floor	Morristown NJ 07960
Address of Responsible Official	City State Zip Code

Acid Rain Facilities Only: Turn page over & complete Section III

Acid Rain facilities must certify their compliance status of the devices subject to applicable requirements under Title IV by an individual who meets the definition of Designated (or Alternate) Representative in 40 CFR Part 72.

Section III - Designated Representative Certification Statement			
<p>1. <i>For Acid Rain Facilities Only:</i> I am authorized to make this submission on behalf of the owners and operators of the affected source or affected units for which the submission is made. I certify under penalty of law that I have personally examined, and am familiar with, the statements and information submitted in this document and all its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statements and information, including the possibility of fine or imprisonment.</p>			
			04/24/01
Signature of Designated Representative or Alternate			Date
Richard G. Vicens			(973) 993-1854
Type or Print Name of Designated Representative or Alternate			Phone
Vice President			(973) 326-1821
Title of Designated Representative or Alternate			Fax
89 Headquarters Plaza North Tower 14 th Floor		Morristown	NJ 07960
Address of Designated Representative or Alternate		City	State Zip Code

Title V
SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
Form 500-C1
Compliance Status Report

To provide the compliance status of your facility with applicable federally-enforceable requirements and identify other local-only requirements, complete this form and attach it to a completed compliance certification Form 500-A2. As appropriate, all submittals of Form 500-C2 as appropriate should also be attached to this form.

1. Facility Name: **PEGASUS PROJECT**

Facility ID (6-Digit):

PROCEDURES FOR DETERMINING COMPLIANCE STATUS

- Equipment verification:** Review the list of pending applications, and either the preliminary Title V facility permit or the list of current permits to operate that the AQMD provided you, to determine if they completely and accurately describe all equipment operating at the facility. Attach a statement to describe any discrepancies.
- Identify applicable requirements*:** Use the checklist in Section II to identify all applicable and federally-enforceable local, state, and federal rules and regulations, test methods, and monitoring, recordkeeping and reporting (MRR) requirements that apply to any equipment or process (including equipment exempt from a permit by Rule 219) at your facility. The potential applicable requirements and MRR requirements are identified and listed adjacent to each given equipment/process description. Check off each box adjacent to the corresponding requirement as it applies to your particular equipment/process.
Note: Even if there is only one piece of equipment that is subject to a particular requirement, the appropriate box should be checked.
- Identify additional applicable requirements*:** Use Section III to identify any additional requirements not found in Section II. Section II is not a complete list of all applicable requirements. It does not include recently adopted NESHAP regulations by EPA or recent amendments to AQMD rules. Do not add rules listed in Section V here.
- Identify any requirements that do not apply to a specific piece of equipment or process:** Also use Section III to identify any requirements that are listed in Section II but that do not apply to a specific piece of equipment or process. Fill out Section III of this form and attach a separate sheet to explain the reason(s) why the identified rules do not apply.
Note: Listing any requirement that does not apply to a specific piece of equipment will not provide the facility with a permit shield unless one is specifically requested by completing Form 500-D and is approved by AQMD.
- Identify SIP-approved rules that are not current AQMD rules:** Use Section IV to identify older versions of current AQMD rules that are the EPA-approved versions in the State Implementation Plan (SIP), and that are still applicable requirements as defined by EPA. The facility is not required to certify compliance with the items checked in Section IV.
- Identify Local-Only Enforceable Regulatory Requirements:** Use Section V to identify AQMD rules that are not SIP-approved and are not federally enforceable.
- Determine compliance:** Determine if all equipment and processes are complying with all requirements identified in Sections II and III. If each piece of equipment complies with all applicable requirements, complete and attach Form 500-A2 to certify the compliance status of the facility. If any piece of equipment is not in compliance with any of the applicable requirements, complete and attach Form 500-C2 in addition to Form 500-A2.

* The following AQMD rules and regulations are not required to be included in Section II and do not have to be added to Section III: Regulation I, List and Criteria in Regulation II, Rule 201, Rule 201.1, Rule 202, Rule 203, Rule 205, Rule 206, Rule 207, Rule 208, Rule 209, Rule 210, Rule 212, Rule 214, Rule 215, Rule 216, Rule 217, Rule 219, Rule 220, Rule 221, Regulation III, Regulation V, Regulation VIII, Regulation XII, Regulation XV, Regulation XVI, Regulation XIX, Regulation XXI, Regulation XXII, and Regulation XXX.

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
<input type="checkbox"/> All Air Pollution Control Equipment Using Combustion (RECLAIM & non-RECLAIM sources)	<input type="checkbox"/> Rule 480 (10/07/77)	N/A	N/A
<input type="checkbox"/> All Coating Operations	<input type="checkbox"/> Rule 442 (03/05/82)	<input type="checkbox"/> AQMD TM 25.1	
<input type="checkbox"/> All Combustion Equipment, ≥ 555 Mmbtu/Hr (except for NOx RECLAIM sources)	<input type="checkbox"/> Rule 474 (12/04/81)	<input type="checkbox"/> AQMD TM 7.1 or 100.1	
<input type="checkbox"/> All Combustion Equipment Except Internal Combustion Engines (RECLAIM & non-RECLAIM sources)	<input type="checkbox"/> Rule 407 (04/02/82)	<input type="checkbox"/> AQMD TM 100.1 or 10.1, 307-91	
<input type="checkbox"/> All Combustion Equipment Using Gaseous Fuel (except SOx RECLAIM sources)	<input type="checkbox"/> Rule 409 (08/07/81)	<input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3	
<input checked="" type="checkbox"/> All Combustion Equipment Using Liquid Fuel (except SOx RECLAIM sources)	<input checked="" type="checkbox"/> Rule 431.1 (06/12/98)	<input type="checkbox"/> Rule 431.1 (f)	<input type="checkbox"/> Rule 431.1 (d) & (e)
<input type="checkbox"/> All Combustion Equipment Using Fossil Fuel (except SOx RECLAIM sources)	<input type="checkbox"/> Rule 431.2 (05/04/90)	<input type="checkbox"/> Rule 431.2(d)	<input type="checkbox"/> Rule 431.2(c)
<input type="checkbox"/> All Combustion Equipment Using Fossil Fuel (except SOx RECLAIM sources)	<input type="checkbox"/> Rule 431.3 (05/07/76)		
<input checked="" type="checkbox"/> All Equipment	<input checked="" type="checkbox"/> Rule 401 (09/11/98)	<input type="checkbox"/> California Air Resources Board Visible Emission Evaluation	
<input checked="" type="checkbox"/> Rule 405 (02/07/86)	<input checked="" type="checkbox"/> Rule 405 (02/07/86)	<input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3	
<input checked="" type="checkbox"/> Rule 408 (05/07/76)	<input checked="" type="checkbox"/> Rule 408 (05/07/76)	N/A	<input type="checkbox"/> Rule 430(b)
<input checked="" type="checkbox"/> Rule 430 (07/12/96)	<input checked="" type="checkbox"/> Rule 430 (07/12/96)		
<input checked="" type="checkbox"/> Rule 701 (06/13/97)	<input checked="" type="checkbox"/> Rule 701 (06/13/97)		
<input checked="" type="checkbox"/> New Source Review, BACT	<input checked="" type="checkbox"/> New Source Review, BACT		
<input checked="" type="checkbox"/> Rule 1703 (10/07/88)	<input checked="" type="checkbox"/> Rule 1703 (10/07/88)		
<input type="checkbox"/> 40 CFR68 - Accidental Release Prevention	<input type="checkbox"/> 40 CFR68 - Accidental Release Prevention		See Applicable Subpart
<input type="checkbox"/> All Equipment Processing Solid Materials	<input type="checkbox"/> Rule 403 (12/11/98)	<input type="checkbox"/> Rule 403(d)(4)	<input type="checkbox"/> Rule 403(f)
<input checked="" type="checkbox"/> All Equipment With Exhaust Stack (except cement kilns subject to Rule 1112.1)	<input checked="" type="checkbox"/> Rule 404 (02/07/86)	<input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3	
<input type="checkbox"/> All Facilities Using Solvents to Clean Various Items or Equipment	<input type="checkbox"/> Rule 1171 (10/08/99)	<input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 1171(c)(7)
<input type="checkbox"/> All RECLAIM Equipment (NOx & SOx)	<input type="checkbox"/> 40 CFR63 SUBPART T	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Abrasive Blasting	<input type="checkbox"/> Reg. XX - RECLAIM	<input type="checkbox"/> Rule 2011, App. A (04/09/99)	<input type="checkbox"/> Rule 2011, App. A (04/09/99)
<input type="checkbox"/> Appliances Containing Ozone Depleting Substances (except Motor Vehicle Air Conditioners): Manufacturing, Repair, Maintenance, Service, & Disposal	<input type="checkbox"/> Rule 1140 (08/02/85)	<input type="checkbox"/> Rule 1140(d), AQMD Visible Emission Method	<input type="checkbox"/> Rule 2012, App. A (04/09/99)
<input type="checkbox"/> Asphalt	<input type="checkbox"/> 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Asphalt Concrete/Batch Plants	See Manufacturing, Asphalt Processing & Asphalt Roofing	See Applicable Subpart	See Applicable Subpart

Section II

Methods

Methods

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
<input type="checkbox"/> Benzene Emissions, Maleic Anhydride Plants, Ethylbenzene/Styrene Plants, Benzene Storage Vessels, Benzene Equipment Leaks, & Coke By-Product Recovery Plants	<input type="checkbox"/> Rule 1173 (05/13/94) <input type="checkbox"/> Rule 1176 (09/13/96) <input type="checkbox"/> 40 CFR61 SUBPART L <input type="checkbox"/> 40 CFR61 SUBPART Y <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1173(h) <input type="checkbox"/> Rule 1176(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1173(g) <input type="checkbox"/> Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Benzene Transfer Operations	<input type="checkbox"/> Rule 1142 (07/19/91) <input type="checkbox"/> 40 CFR61 SUBPART BB <input type="checkbox"/> 40 CFR63 SUBPART Y	<input type="checkbox"/> Rule 1142 (e) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1142(h) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Benzene Waste Operations	<input type="checkbox"/> Rule 1176 (09/13/96) <input type="checkbox"/> 40 CFR61 SUBPART FF <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1176(h) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Beryllium Emissions	<input type="checkbox"/> 40 CFR61 SUBPART C	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Beryllium Emissions, Rocket Motor Firing	<input type="checkbox"/> 40 CFR61 SUBPART D	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Boiler, < 5 Mmbtu/Hr (non-RECLAIM sources)	<input type="checkbox"/> Rule 1146.1 (05/13/94)	<input type="checkbox"/> Rule 1146.1(d)	<input type="checkbox"/> Rule 1146.1(c)(2) & (c)(3)
<input type="checkbox"/> Boiler, < 5 Mmbtu/Hr (RECLAIM sources)	<input type="checkbox"/> Rule 1146.1 (05/13/94) - excluding NOx requirements	<input type="checkbox"/> Rule 1146.1(d)	<input type="checkbox"/> Rule 1146.1(c)(2) & (c)(3)
<input type="checkbox"/> Boiler, ≥ 5 Mmbtu/Hr (non-RECLAIM sources)	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 475 (08/07/78) <input type="checkbox"/> Rule 476 (10/08/76) <input type="checkbox"/> Rule 1146 (11/17/00) <input type="checkbox"/> 40 CFR60 SUBPART D <input type="checkbox"/> 40 CFR60 SUBPART Da <input type="checkbox"/> 40 CFR60 SUBPART Dc	<input type="checkbox"/> AQMD TM 100.1 N/A <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> AQMD TM 7.1, 100.1, 5.1, 5.2, or 5.3 <input type="checkbox"/> Rule 1146(d) See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 218(e) <input type="checkbox"/> Rule 429(d) <input type="checkbox"/> Rule 1146(c)(2) & (c)(3) See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Boiler, ≥ 5 Mmbtu/Hr (RECLAIM sources)	<input type="checkbox"/> Rule 2011 (04/09/99) or Rule 2012 (04/09/99) <input type="checkbox"/> Rule 475 (08/07/78) <input type="checkbox"/> Rule 476 (10/08/76) - excluding NOx requirements <input type="checkbox"/> Rule 1146 (11/17/00) - excluding NOx requirements <input type="checkbox"/> 40 CFR60 SUBPART D <input type="checkbox"/> 40 CFR60 SUBPART Da <input type="checkbox"/> 40 CFR60 SUBPART Dc	<input type="checkbox"/> Rule 2011, App. A (04/09/99) or Rule 2012, App. A (04/09/99) <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> AQMD TM 7.1, 100.1, 5.1, 5.2, or 5.3 <input type="checkbox"/> Rule 1146(d)	<input type="checkbox"/> Rule 2011, App. A (04/09/99) or Rule 2012, App. A (04/09/99) <input type="checkbox"/> Rule 1146(c)(2) & (c)(3)
<input type="checkbox"/> Boiler, Petroleum Refining (non-RECLAIM sources)	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 431.1 (06/12/98) <input type="checkbox"/> Rule 475 (08/07/78) <input type="checkbox"/> Rule 1146 (11/17/00) <input type="checkbox"/> 40 CFR60 SUBPART J	<input type="checkbox"/> AQMD TM 100.1 N/A <input type="checkbox"/> Rule 431.1 (f) <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> Rule 1146(d) See Applicable Subpart	<input type="checkbox"/> Rule 218(e) <input type="checkbox"/> Rule 429(d) <input type="checkbox"/> Rule 431.1 (d) & (e) <input type="checkbox"/> Rule 1146(c)(2) & (c)(3) See Applicable Subpart

Section II

EQUIPMENT/PROCESS

APPLICABLE REQUIREMENT

TEST METHOD

MRR REQUIREMENT

<input type="checkbox"/> Boiler, Petroleum Refining (RECLAIM sources)	<input type="checkbox"/> Rule 2011 (04/09/99) or Rule 2012 (04/09/99) <input type="checkbox"/> Rule 1146 (11/17/00) - excluding NOx requirements <input type="checkbox"/> 40 CFR60 SUBPART J	<input type="checkbox"/> Rule 2011, App. A (04/09/99) or Rule 2012, App. A (04/09/99) <input type="checkbox"/> Rule 1146(d)	<input type="checkbox"/> Rule 2011, App. A (04/09/99) or Rule 2012, App. A (04/09/99) <input type="checkbox"/> Rule 1146(c)(2) & (c)(3)
<input type="checkbox"/> Boilers, Electric Utility (non-RECLAIM sources)	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 1135 (07/19/91) <input type="checkbox"/> 40 CFR60 SUBPART Db	See Applicable Subpart <input type="checkbox"/> AQMD TM 100.1 N/A <input type="checkbox"/> Rule 1135(e) See Applicable Subpart	See Applicable Subpart <input type="checkbox"/> Rule 218(e) <input type="checkbox"/> Rule 429(d) <input type="checkbox"/> Rule 1135(e) See Applicable Subpart
<input type="checkbox"/> Boilers, Electric Utility (RECLAIM sources)	<input type="checkbox"/> Rule 2012 (04/11/97) <input type="checkbox"/> 40 CFR60 SUBPART Db	<input type="checkbox"/> Rule 2012, App. A (04/11/97) See Applicable Subpart	<input type="checkbox"/> Rule 2012, App. A (04/11/97) See Applicable Subpart
<input type="checkbox"/> Bulk Loading Of Organic Liquids	<input type="checkbox"/> Rule 462 (05/14/99) <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR60 SUBPART XX	<input type="checkbox"/> Rule 462(f) See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 462(g) See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Calciner, Mineral Industries <input type="checkbox"/> Calciner, Petroleum Coke	<input type="checkbox"/> 40 CFR60 SUBPART UUU <input type="checkbox"/> Rule 477 (04/03/81)	<input type="checkbox"/> AQMD Visible Emissions, AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> AQMD TM 6.1 or 100.1 See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Charbroilers	<input type="checkbox"/> Rule 1174 (10/05/90)	<input type="checkbox"/> AQMD Test Protocol	See Applicable Subpart
<input type="checkbox"/> Chrome Plating & Chromic Acid Anodizing Operation	<input type="checkbox"/> 40 CFR63 SUBPART N	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Coating Operation, Adhesive Application Operation	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1168 (08/15/00) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART RR	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Aerospace Assembly & Component Manufacturing	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1124 (12/13/96) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR63 SUBPART GG	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1124(e) & (f) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1124 (j) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Graphic Arts (Gravure, Letter Press, Flexographic & Lithographic Printing Process, Etc.)	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1130 (10/08/99) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART RR <input type="checkbox"/> 40 CFR60 SUBPART QQ <input type="checkbox"/> 40 CFR60 SUBPART FFF <input type="checkbox"/> 40 CFR60 SUBPART VVV <input type="checkbox"/> 40 CFR63 SUBPART KK	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1130 (h) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1130 (e) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart

KEY ABBREVIATIONS:

Reg. = AQMD Regulation
 Rule = AQMD Rule

App. = Appendix
 AQMD TM = AQMD Test Method

CFR = Code of Federal Regulations
 CCR = California Code of Regulations

AQMD Form 500-C1

Section II **Applicable Regulations**

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
<input type="checkbox"/> Coating Operation, Magnet Wire Coating Operations	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1126 (01/13/95) <input type="checkbox"/> Rule 1171 (10/08/99)	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1126(d) <input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1126(c)(4) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7)
<input type="checkbox"/> Coating Operation, Marine Coating (Except for recreational equipment)	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1106 (01/13/95) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR63 SUBPART JJ	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1106(e) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1106(c)(5) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Metal Coating	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1107 (08/14/98) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART EE <input type="checkbox"/> 40 CFR60 SUBPART SS	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1107(f) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1107(k) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Coating Operation, Metal Containers, Closure, & Coil Coating Operations	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1125 (01/13/95) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART TT <input type="checkbox"/> 40 CFR60 SUBPART WW	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1125(e) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1125(c)(6) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Coating Operation, Motor Vehicle & Mobile Equipment Non-Assembly Line Coating Operation	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1151 (12/11/98) <input type="checkbox"/> Rule 1171 (10/08/99)	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1151(g) <input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1151(f) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7)
<input type="checkbox"/> Coating Operation, Motor Vehicle Assembly Line	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1115 (05/12/95) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART MM	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1115(e) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1115(g) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Paper, Fabric, & Film Coating Operations	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1128 (03/08/96) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART VVV	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1128(f) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1128(e) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Plastic, Rubber, & Glass	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1145 (02/14/97) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR60 SUBPART TTT	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1145(e) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1145(d) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart

EQUIPMENT/PROCESS

APPLICABLE REQUIREMENT

TEST METHOD

MRR REQUIREMENT

<input type="checkbox"/> Coating Operation, Pleasure Craft	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1106.1 (02/12/99) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR63 SUBPART II	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1106.1(e) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1106.1(d) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Screen Printing	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1130.1 (12/13/96) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR63 SUBPART KK	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1130.1(g) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1130.1(c)(5) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Use Of Architectural Coating (Stationary Structures)	<input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1113 (05/14/99) <input type="checkbox"/> Rule 1171 (10/08/99)	Manufacturer's Specifications <input type="checkbox"/> Rule 1113(e) <input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 1171(c)(7) <input type="checkbox"/> Rule 109(c)(1)
<input type="checkbox"/> Coating Operation, Wood Flat Stock	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1104 (08/13/99) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR63 SUBPART II	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1104(e) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 1104(d) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coating Operation, Wood Products (Commercial Furniture, Cabinets, Shutters, Frames, Toys)	<input type="checkbox"/> Rule 109 (08/18/00) <input type="checkbox"/> Rule 481 (05/05/78) <input type="checkbox"/> Rule 1136 (06/14/96) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR63 SUBPART JJ	<input type="checkbox"/> Rule 109(c)(2), (c)(3), & (c)(4) Manufacturer's Specifications <input type="checkbox"/> Rule 1136(f) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 109(c)(1) <input type="checkbox"/> Rule 1136(d) & (g) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Coater	See Coating Operations		
<input type="checkbox"/> Columns	See Petroleum Refineries, Fugitive Emissions		
<input type="checkbox"/> Compressors	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		
<input type="checkbox"/> Concrete Batch Plants	See Nonmetallic Mineral Processing Plants		
<input type="checkbox"/> Consumer Product Manufacturing	See Manufacturing, Consumer Product		
<input type="checkbox"/> Cooling Tower, Hexavalent Chromium	<input type="checkbox"/> 40 CFR63 SUBPART Q	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Crude Oil Production	See Oil Well Operations		
<input type="checkbox"/> Crusher	See Nonmetallic Mineral Processing Plants		
<input type="checkbox"/> Degreasers	<input type="checkbox"/> Rule 1122 (07/11/97) <input type="checkbox"/> Rule 1171 (10/08/99) <input type="checkbox"/> 40 CFR63 SUBPART T	<input type="checkbox"/> Rule 1122(i) <input type="checkbox"/> Rule 1171(f) See Applicable Subpart	<input type="checkbox"/> Rule 1122(j) & Rule 109 <input type="checkbox"/> Rule 1171(c)(7) See Applicable Subpart
<input type="checkbox"/> Dry Cleaning, Perchloroethylene	<input type="checkbox"/> Rule 1421 (06/13/97)	<input type="checkbox"/> Rule 1421 (e), (g), (h), & (i)	<input type="checkbox"/> Rule 1421(j)
<input type="checkbox"/> Dry Cleaning, Petroleum Solvent	<input type="checkbox"/> Rule 1102 (11/17/00) <input type="checkbox"/> 40 CFR60 SUBPART JJ	<input type="checkbox"/> Rule 1102(g) See Applicable Subpart	<input type="checkbox"/> Rule 1102(f) & Rule 109 See Applicable Subpart
<input type="checkbox"/> Dryers, Mineral Industries	<input type="checkbox"/> 40 CFR60 SUBPART UUU	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Ethylene Oxide Sterilizer	See Sterilizer, Ethylene Oxide		
<input type="checkbox"/> Flanges	See Fugitive Emissions or Petroleum Refineries, Fugitive Emissions		

KEY

Reg. = AQMD Regulation

App. = Appendix

CFR = Code of Federal Regulations

AQMD Form 500-C1

Rev. 12/00

ABBREVIATIONS:

Rule = AQMD Rule

AQMD TM = AQMD Test Method

CCR = California Code of Regulations

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EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
<input type="checkbox"/> Fluid Catalytic Cracking Unit	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 1105 (09/01/84)	<input type="checkbox"/> AQMD TM 100.1 <input type="checkbox"/> Rule 1105(c)(1)	<input type="checkbox"/> Rule 218(e) <input type="checkbox"/> Rule 1105(c)(2)
<input type="checkbox"/> Fugitive Emissions, Benzene	<input type="checkbox"/> Rule 1173 (05/13/94) <input type="checkbox"/> 40 CFR61 SUBPART L <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1173(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1173(g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Fugitive Emissions, Chemical Plant	<input type="checkbox"/> Rule 466 (10/07/83) <input type="checkbox"/> Rule 466.1 (03/16/84) <input type="checkbox"/> Rule 467 (03/05/82) <input type="checkbox"/> Rule 1173 (05/13/94) <input type="checkbox"/> 40 CFR60 SUBPART VV <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) <input type="checkbox"/> Rule 1173(h) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) <input type="checkbox"/> Rule 1173(g) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Fugitive Emissions, Natural Gas Processing Plant	<input type="checkbox"/> Rule 466 (10/07/83) <input type="checkbox"/> Rule 466.1 (03/16/84) <input type="checkbox"/> Rule 467 (03/05/82) <input type="checkbox"/> Rule 1173 (05/13/94) <input type="checkbox"/> 40 CFR60 SUBPART KKK <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) <input type="checkbox"/> Rule 1173(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) <input type="checkbox"/> Rule 1173(g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Fugitive Emissions, Oil & Gas Production Facility	<input type="checkbox"/> Rule 466 (10/07/83) <input type="checkbox"/> Rule 466.1 (03/16/84) <input type="checkbox"/> Rule 467 (03/05/82) <input type="checkbox"/> Rule 1173 (05/13/94) <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) <input type="checkbox"/> Rule 1173(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) <input type="checkbox"/> Rule 1173(g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart

Section II - Applicable Regulations, Methods, and MRR

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
<input type="checkbox"/> Fugitive Emissions, Pipeline Transfer Station	<input type="checkbox"/> Rule 466 (10/07/83) <input type="checkbox"/> Rule 466.1 (03/16/84) <input type="checkbox"/> Rule 467 (03/05/82) <input type="checkbox"/> Rule 1173 (05/13/94) <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) <input type="checkbox"/> Rule 1173(h) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) <input type="checkbox"/> Rule 1173(g) See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Furnace, Basic Oxygen Process	<input type="checkbox"/> 40 CFR60 SUBPART Na <input type="checkbox"/> 40 CFR60 SUBPART AAa	<input type="checkbox"/> See Applicable Subpart <input type="checkbox"/> See Applicable Subpart	<input type="checkbox"/> See Applicable Subpart <input type="checkbox"/> See Applicable Subpart
<input type="checkbox"/> Furnace, Electric Arc, For Steel Plants Constructed After August 17, 1983	<input type="checkbox"/> 40 CFR60 SUBPART AA	<input type="checkbox"/> See Applicable Subpart	<input type="checkbox"/> See Applicable Subpart
<input type="checkbox"/> Furnace, Electric Arc, For Steel Plants: Constructed After Oct. 21, 1974, & On Or Before Aug. 17, 1983	<input type="checkbox"/> Rule 1117 (01/06/84) <input type="checkbox"/> Rule 1101 (10/07/77) <input type="checkbox"/> 40 CFR63 SUBPART X <input type="checkbox"/> Rule 461 (04/21/00) See Manufacturing, Glass	<input type="checkbox"/> Rule 1117 (c), AQMD TM 7.1 or 100.1 <input type="checkbox"/> AQMD TM 6.1 See Applicable Subpart <input type="checkbox"/> Rule 461 (d)	<input type="checkbox"/> See Applicable Subpart <input type="checkbox"/> See Applicable Subpart See Applicable Subpart <input type="checkbox"/> Rule 461 (c)(7)
<input type="checkbox"/> Furnace, Glass Melting	<input type="checkbox"/> 40 CFR60 SUBPART DD	<input type="checkbox"/> See Applicable Subpart	<input type="checkbox"/> See Applicable Subpart
<input type="checkbox"/> Furnace, Lead Melting, Automotive Batteries	<input type="checkbox"/> 40 CFR82 SUBPART H	<input type="checkbox"/> See Applicable Subpart	<input type="checkbox"/> See Applicable Subpart
<input type="checkbox"/> Gasoline Transfer & Dispensing Operation	<input type="checkbox"/> Rule 1120 (08/04/78)	<input type="checkbox"/> AQMD Visible Emissions, AQMD TM 6.2	<input type="checkbox"/> Rule 1120(f)
<input type="checkbox"/> Glass Manufacturing	See Manufacturing, Glass		
<input type="checkbox"/> Grain Elevators	<input type="checkbox"/> 40 CFR60 SUBPART DD	<input type="checkbox"/> See Applicable Subpart	<input type="checkbox"/> See Applicable Subpart
<input type="checkbox"/> Halon-containing Equipment, Use for Technician Training, Testing, Maintenance, Service, Repair, or Disposal	<input type="checkbox"/> 40 CFR82 SUBPART H	<input type="checkbox"/> See Applicable Subpart	<input type="checkbox"/> See Applicable Subpart
<input type="checkbox"/> Heater, Asphalt Pavement	<input type="checkbox"/> Rule 1120 (08/04/78)	<input type="checkbox"/> AQMD Visible Emissions, AQMD TM 6.2	<input type="checkbox"/> Rule 1120(f)
<input type="checkbox"/> Heaters, Petroleum Refinery Process	<input type="checkbox"/> Rule 429 (12/21/90) <input type="checkbox"/> Rule 431.1 (06/12/98) <input type="checkbox"/> Rule 1146 (11/17/00) <input type="checkbox"/> 40 CFR60 SUBPART J See Boilers	<input type="checkbox"/> N/A <input type="checkbox"/> Rule 431.1(f) <input type="checkbox"/> Rule 1146(d) See Applicable Subpart	<input type="checkbox"/> Rule 429(d) <input type="checkbox"/> Rule 431.1(d) & (e) <input type="checkbox"/> Rule 1146(c)(2) & (c)(3) See Applicable Subpart
<input type="checkbox"/> Heaters, Process	See Boilers		
<input type="checkbox"/> Incinerators	<input type="checkbox"/> 40 CFR60 SUBPART E <input type="checkbox"/> 40 CFR61 SUBPART P	<input type="checkbox"/> See Applicable Subpart <input type="checkbox"/> See Applicable Subpart	<input type="checkbox"/> See Applicable Subpart <input type="checkbox"/> See Applicable Subpart
<input type="checkbox"/> Inorganic Arsenic Emissions, Arsenic Trioxide & Metallic Arsenic Production Facilities	<input type="checkbox"/> Rule 1112.1 (02/07/86) <input type="checkbox"/> 40 CFR60 SUBPART F <input type="checkbox"/> Rule 1150.1 (04/10/98) <input type="checkbox"/> 40 CFR60 SUBPART WWW See Manufacturing, Lead Acid Battery	<input type="checkbox"/> N/A See Applicable Subpart <input type="checkbox"/> Rule 1150.1(f) See Applicable Subpart	<input type="checkbox"/> N/A See Applicable Subpart <input type="checkbox"/> Rule 1150.1(e) & (f) See Applicable Subpart
<input type="checkbox"/> Kiln, Cement Plant			
<input type="checkbox"/> Landfills			
<input type="checkbox"/> Lead Acid Battery Manufacturing Plants			

Section II - Applicable Regulations, Test Methods, & MRR Requirements

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
<input type="checkbox"/> Marine Tank Vessel Operations	<input type="checkbox"/> Rule 1142 (07/19/91) <input type="checkbox"/> 40 CFR63 SUBPART Y	<input type="checkbox"/> Rule 1142 (e) See Applicable Subpart	<input type="checkbox"/> Rule 1142(h) See Applicable Subpart
<input type="checkbox"/> Mercury Emissions	<input type="checkbox"/> 40 CFR61 SUBPART E	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Motor Vehicle Air Conditioners with Ozone Depleting Substances (ODS): Repair, Service, Manufacturing, Maintenance, or Disposal	<input type="checkbox"/> 40 CFR82 SUBPART B <input type="checkbox"/> 40 CFR82 SUBPART F	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Municipal Waste Combustors	<input type="checkbox"/> 40 CFR60 SUBPART Ea <input type="checkbox"/> 40 CFR60 SUBPART Eb <input type="checkbox"/> 40 CFR60 SUBPART Cb	See Applicable Subpart See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Negative Air Machines/HEPA, Asbestos	<input type="checkbox"/> 40 CFR61 SUBPART M	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Nonmetallic Mineral Processing Plants	<input type="checkbox"/> Rule 404 (02/07/86) <input type="checkbox"/> Rule 405 (02/07/86) <input type="checkbox"/> 40 CFR60 SUBPART OOO	<input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 <input type="checkbox"/> AQMD TM 5.1, 5.2, or 5.3 See Applicable Subpart	
<input type="checkbox"/> Off-site Waste and Recovery Operation	<input type="checkbox"/> 40 CFR63 SUBPART DD	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Oil Well Operation	<input type="checkbox"/> Rule 1148 (11/05/82)	<input type="checkbox"/> AQMD TM 25.1	See Applicable Subpart
<input type="checkbox"/> Onshore Natural Gas Processing, SO ₂ Emissions	<input type="checkbox"/> 40 CFR60 SUBPART LLL	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Open Fires	<input type="checkbox"/> Rule 444 (10/02/87)		
<input type="checkbox"/> Open Storage, Petroleum Coke	<input type="checkbox"/> Rule 403 (12/11/98) <input type="checkbox"/> Rule 403.1 (01/15/93) <input type="checkbox"/> Rule 1158 (06/11/99)	<input type="checkbox"/> Rule 403(d)(4) <input type="checkbox"/> Rule 1158 (h) <input type="checkbox"/> Rule 403(d)(4)	<input type="checkbox"/> Rule 403(f) <input type="checkbox"/> Rule 403.1(f) <input type="checkbox"/> Rule 1158(j) <input type="checkbox"/> Rule 403(f) <input type="checkbox"/> Rule 403.1(f)
<input type="checkbox"/> Open Storage	<input type="checkbox"/> Rule 403 (12/11/98) <input type="checkbox"/> Rule 403.1 (01/15/93)		<input type="checkbox"/> 40 CFR55 See Applicable Subpart
<input type="checkbox"/> Outer Continental Shelf Platform	<input type="checkbox"/> Rule 1183 (03/12/93) <input type="checkbox"/> 40 CFR55	<input type="checkbox"/> 40 CFR55 See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Oven, Commercial Bakery	<input type="checkbox"/> Rule 1153 (01/13/95)	<input type="checkbox"/> Rule 1153(h)	<input type="checkbox"/> Rule 1153(g)
<input type="checkbox"/> Oven, Petroleum Coke	<input type="checkbox"/> Rule 477 (04/03/81)	<input type="checkbox"/> AQMD Visible Emissions, AQMD TM 5.1, 5.2, or 5.3	
<input type="checkbox"/> Ozone Depleting Substances (ODS) or Alternative ODS, Use	<input type="checkbox"/> 40 CFR63 SUBPART L <input type="checkbox"/> 40 CFR82 Subpart G	See Applicable Subpart See Applicable Subpart	See Applicable Subpart See Applicable Subpart

Section I - Applicable Regulations

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
<input type="checkbox"/> Petroleum Refineries	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 465 (08/13/99) <input type="checkbox"/> Rule 468 (10/08/76) <input type="checkbox"/> Rule 469 (02/13/81) <input type="checkbox"/> Rule 1123 (12/07/90) <input type="checkbox"/> 40 CFR60 SUBPART J Title 13 CCR 2250 <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I	<input type="checkbox"/> AQMD TM 100.1 <input type="checkbox"/> AQMD TM 6.1 or 6.2 <input type="checkbox"/> AQMD TM 6.1 or 6.2 N/A See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart <input type="checkbox"/> AQMD TM 100.1 <input type="checkbox"/> AQMD TM 6.1 or 6.2 <input type="checkbox"/> AQMD TM 6.1 or 6.2 N/A See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 218(e) <input type="checkbox"/> Rule 1123© See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart <input type="checkbox"/> Rule 218(e) <input type="checkbox"/> Rule 1123© See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Petroleum Refineries	<input type="checkbox"/> Rule 218 (05/14/99) <input type="checkbox"/> Rule 465 (08/13/99) <input type="checkbox"/> Rule 468 (10/08/76) <input type="checkbox"/> Rule 469 (02/13/81) <input type="checkbox"/> Rule 1123 (12/07/90) <input type="checkbox"/> 40 CFR60 SUBPART J Title 13 CCR 2250 <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I	<input type="checkbox"/> Rule 1173(h) <input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1173(g) <input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Petroleum Refineries, Fugitive Emissions	<input type="checkbox"/> Rule 1173 (05/13/94) <input type="checkbox"/> Rule 466 (10/07/83) <input type="checkbox"/> Rule 466.1 (03/16/84) <input type="checkbox"/> Rule 467 (03/05/82) <input type="checkbox"/> 40 CFR60 SUBPART GGG <input type="checkbox"/> 40 CFR61 SUBPART V <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1173(h) <input type="checkbox"/> Rule 466(f) <input type="checkbox"/> Rule 466.1(g) <input type="checkbox"/> Rule 467(f) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1173(g) <input type="checkbox"/> Rule 466(e) <input type="checkbox"/> Rule 466.1(h) <input type="checkbox"/> Rule 467(e) See Applicable Subpart See Applicable Subpart

Section I - Applicable Requirements, Standards, & MRR

EQUIPMENT/PROCESS	APPLICABLE REQUIREMENT	TEST METHOD	MRR REQUIREMENT
<input type="checkbox"/> Petroleum Refineries, Storage Tanks	<input type="checkbox"/> Rule 463 (03/11/94) <input type="checkbox"/> 40 CFR60 SUBPART K <input type="checkbox"/> 40 CFR60 SUBPART Ka <input type="checkbox"/> 40 CFR60 SUBPART Kb <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR63 SUBPART R <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 463(g) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 463(e)(5) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Petroleum Refineries, Wastewater Systems	<input type="checkbox"/> Rule 1176 (09/13/96) <input type="checkbox"/> Rule 464 (12/07/90) <input type="checkbox"/> 40 CFR60 SUBPART QQ <input type="checkbox"/> 40 CFR63 SUBPART CC	<input type="checkbox"/> Rule 1176(h) N/A See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 1176(f) & (g) See Applicable Subpart See Applicable Subpart
<input type="checkbox"/> Pharmaceuticals & Cosmetics Manufacturing	<input type="checkbox"/> Rule 1103 (03/12/99) <input type="checkbox"/> Rule 1162 (05/13/94) <input type="checkbox"/> Rule 1171 (10/08/99)	<input type="checkbox"/> Rule 1103(f) <input type="checkbox"/> Rule 1162(f) & (g) <input type="checkbox"/> Rule 1171(f)	<input type="checkbox"/> Rule 1103(e) <input type="checkbox"/> Rule 1162(e) <input type="checkbox"/> Rule 1171(c)(7)
<input type="checkbox"/> Printing Press	See Coating Operations		
<input type="checkbox"/> Pumps	See Fugitive Emissions of Petroleum Refineries, Fugitive Emissions		
<input type="checkbox"/> Recycling & Recovery Equipment for Ozone Depleting Substances (ODS),	<input type="checkbox"/> 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Refrigerant Reclaimers for Ozone Depleting Substances (ODS)	<input type="checkbox"/> 40 CFR82 SUBPART F	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Rendering Plant	<input type="checkbox"/> Rule 472 (05/07/76)	N/A	<input type="checkbox"/> Rule 472(b)
<input type="checkbox"/> Rock Crushing	See Nonmetallic Mineral Processing Plants		
<input type="checkbox"/> Sewage Treatment Plants	See Public Owned Treatment Works Operation		
<input type="checkbox"/> Smelting, Secondary Lead	<input type="checkbox"/> 40 CFR60 SUBPART L	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Soil Decontamination	<input type="checkbox"/> Rule 1166 (07/14/95)	<input type="checkbox"/> Rule 1166 (b)(4)	<input type="checkbox"/> Rule 1166(c)(1)(C)
<input type="checkbox"/> Spray Booth	See Coating Operations		
<input type="checkbox"/> Sterilizer, Ethylene Oxide	<input type="checkbox"/> 40 CFR63 SUBPART O	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Storage Tank, Degassing Operation	<input type="checkbox"/> 40 CFR63 SUBPART CC <input type="checkbox"/> Rule 1149 (07/14/95)	See Applicable Subpart	See Applicable Subpart
<input type="checkbox"/> Storage Tank, Greater Than 19,815 Gallon Capacity	<input type="checkbox"/> Rule 463 (03/11/94) <input type="checkbox"/> 40 CFR63 SUBPART F <input type="checkbox"/> 40 CFR63 SUBPART G <input type="checkbox"/> 40 CFR63 SUBPART H <input type="checkbox"/> 40 CFR63 SUBPART I <input type="checkbox"/> 40 CFR60 SUBPART K <input type="checkbox"/> 40 CFR60 SUBPART Ka <input type="checkbox"/> 40 CFR60 SUBPART Kb <input type="checkbox"/> 40 CFR63 SUBPART R	<input type="checkbox"/> Rule 463(g) See Applicable Subpart See Applicable Subpart	<input type="checkbox"/> Rule 463(e)(5) See Applicable Subpart See Applicable Subpart

Section IV - SIP-Approved Rules That Are Not The Most Current AQMD Rules

Check off each SIP-Approved Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.

SIP-Approved Rule	Adoption/ Amendment Date	Check (✓) if Applies	SIP-Approved Rule	Adoption/ Amendment Date	Check (✓) if Applies
109	03/06/92	<input type="checkbox"/>	1151	06/13/97	<input type="checkbox"/>
218	08/07/81	<input checked="" type="checkbox"/>	1158	12/02/83	<input type="checkbox"/>
401	03/02/84	<input checked="" type="checkbox"/>	1168	02/13/98	<input type="checkbox"/>
444	10/02/81	<input checked="" type="checkbox"/>	1171	06/13/97	<input type="checkbox"/>
461	09/08/95	<input type="checkbox"/>	1176	05/13/94	<input type="checkbox"/>
466.1	05/02/80	<input type="checkbox"/>			<input type="checkbox"/>
469	05/07/76	<input type="checkbox"/>			<input type="checkbox"/>
475	10/08/76	<input checked="" type="checkbox"/>			<input type="checkbox"/>
1102	12/07/90	<input type="checkbox"/>			<input type="checkbox"/>
1102.1	12/07/90	<input type="checkbox"/>			<input type="checkbox"/>
1104	03/01/91	<input type="checkbox"/>			<input type="checkbox"/>
1130	03/08/96	<input type="checkbox"/>			<input type="checkbox"/>
1134	12/07/95	<input checked="" type="checkbox"/>			<input type="checkbox"/>
1140	02/01/80	<input type="checkbox"/>			<input type="checkbox"/>
1146	05/13/94	<input type="checkbox"/>			<input type="checkbox"/>
1150.1	04/05/85	<input type="checkbox"/>			<input type="checkbox"/>
1150.2	10/18/95	<input type="checkbox"/>			<input type="checkbox"/>

Section V - AQMD Rules That Are Not SIP-Approved

Check off each AQMD Rule as it applies to the facility. Use the blanks at the end of this form to fill-in new items.

Non SIP-Approved Rule	Adoption/ Amendment Date	Check (✓) if Applies	Non SIP-Approved Rule	Adoption/ Amendment Date	Check (✓) if Applies
53 Los Angeles Co.	N/A	<input type="checkbox"/>	1403	04/08/94	<input type="checkbox"/>
53 Orange Co.	N/A	<input type="checkbox"/>	1404	04/06/90	<input type="checkbox"/>
53 Riverside Co.	N/A	<input type="checkbox"/>	1405	01/04/91	<input type="checkbox"/>
53 San Bernardino Co.	N/A	<input checked="" type="checkbox"/>	1406	07/08/94	<input type="checkbox"/>
53A San Bernardino Co.	N/A	<input checked="" type="checkbox"/>	1407	07/08/94	<input type="checkbox"/>
218.1	05/14/99	<input checked="" type="checkbox"/>	1411	03/01/91	<input type="checkbox"/>
402	05/07/76	<input checked="" type="checkbox"/>	1414	05/03/91	<input type="checkbox"/>
429	12/21/90	<input checked="" type="checkbox"/>	1415	10/14/94	<input type="checkbox"/>
441	05/07/76	<input type="checkbox"/>	1418	09/10/99	<input type="checkbox"/>
443.1	12/05/86	<input type="checkbox"/>	1420	09/11/92	<input type="checkbox"/>
473	05/07/76	<input type="checkbox"/>	1469	10/08/98	<input type="checkbox"/>
1109	08/05/88	<input type="checkbox"/>	1605	10/11/96	<input type="checkbox"/>
1110.1	10/04/85	<input type="checkbox"/>	1610	02/12/99	<input type="checkbox"/>
1110.2	11/14/97	<input type="checkbox"/>	1612	07/10/98	<input type="checkbox"/>
1116.1	10/20/78	<input type="checkbox"/>	1613	11/14/97	<input type="checkbox"/>
1118	02/14/98	<input type="checkbox"/>	1620	07/10/98	<input type="checkbox"/>
1138	11/14/97	<input type="checkbox"/>	1623	05/10/96	<input type="checkbox"/>
1146.2	01/09/98	<input type="checkbox"/>	2202	10/09/98	<input type="checkbox"/>
1150	10/15/82	<input type="checkbox"/>	2501	05/09/97	<input type="checkbox"/>
1163	06/07/85	<input type="checkbox"/>	2506	12/10/99	<input checked="" type="checkbox"/>
1170	05/06/88	<input type="checkbox"/>			<input type="checkbox"/>
1189	01/21/00	<input type="checkbox"/>			<input type="checkbox"/>
1191	06/16/00	<input type="checkbox"/>			<input type="checkbox"/>
1192	06/16/00	<input type="checkbox"/>			<input type="checkbox"/>
1193	06/16/00	<input type="checkbox"/>			<input type="checkbox"/>
1401	03/17/00	<input checked="" type="checkbox"/>			<input type="checkbox"/>
1402	03/17/00	<input type="checkbox"/>			<input type="checkbox"/>

Title V SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
Form 500-E Title V Applicability Questionnaire & Exclusion/Exemption Request

Section I - Facility Information			
1. Facility Name:	<u>PEGASUS PROJECT</u>	Facility ID (6-Digit):	
2. Legal Owner (if different from Facility Name):	<u>PEGASUS POWER PARTNERS, LLC</u>		
3. Facility Address (Street Designation Only):	<u>West of 5601 Eucalyptus Avenue</u>		
City	<u>Chino</u>	CA	Zip Code <u>91710</u>
4. Mailing Address, if different from Item 3 (Street/ P.O. Box Designation):	<u>89 Headquarters Plaza, North Tower 14th Floor</u>		
City	<u>Morristown</u>	State <u>NY</u>	Zip Code <u>07960</u>
5. Facility Contact Person:	<u>Jay Roland</u>	Phone:	<u>714-437-5036</u>
Title:	<u>Director of Business Development</u>	Fax:	<u>714-437-5051</u>

Section II - Certification Statement	
<p>I certify that I am the responsible official for this facility as defined in AQMD Rule 3000 (b) (26). I also certify under penalty of law that I personally examined, and am familiar with, the statements and information submitted in this document and all of its attachments. Based on my inquiry of those individuals with primary responsibility for obtaining the information, I certify that the statements and information are to the best of my knowledge and belief true, accurate, and complete. I am aware that there are significant penalties for submitting false statements and information or omitting required statement and information, including the possibility of fine or imprisonment. (Check the appropriate box.)</p>	
a. <input checked="" type="checkbox"/>	I hereby certify that my facility's potential to emit exceeds the emission limits specified in AQMD Rule 3001 and that my facility is subject to Title V requirements.
b. <input type="checkbox"/>	I hereby request to be excluded from the Title V program because of errors in reported emissions (Section IV of this document) or a decline reported emissions (Section V of this document). I understand that filing this request does not relieve me of my obligation to prepare and submit an application for a Title V permit unless I am otherwise notified in writing that my exclusion has been approved by AQMD.
c. <input type="checkbox"/>	I hereby request to be exempted from the Title V program because my facility's potential to emit is below the limits in Rule 3001 (Section VI of this document), or I have requested a permit condition that limits my facility's potential to emit below the emission limits in Rule 3001 (Section VII of this document). I understand that filing this request does not relieve me of my obligation to prepare and submit an application for a Title V permit unless I am otherwise notified in writing that my exemption has been approved by AQMD.
	04/24/01
Signature of Responsible Official	Date
Richard G. Vicens	(973) 993-1854
Type or Print Name of Responsible Official	Phone
Vice President	(973) 326-1821
Title of Responsible Official	Fax
89 Headquarters Plaza North Tower 14 th Floor	Morristown NJ 07960
Address of Responsible Official	City State Zip Code

Section III - Could Your Facility Reduce Future Emissions Below Title V Thresholds?	
<p>The AQMD is considering a Potential To Emit (PTE) Rule that would exempt facilities from Title V requirements if the total emissions reported on the annual EFB forms are below 50 percent of the emission thresholds in Rule 3001. These emission limits are shown in Section IV. The following information will assist the AQMD to determine the feasibility of a PTE rule.</p>	
<input checked="" type="checkbox"/>	No, I do not expect total facility emissions to fall below the Title V thresholds in Section IV within the next two years.
<input type="checkbox"/>	Yes, I expect total facility emissions to fall below the Title V thresholds in Section IV within the next two years.

Section IV - Exclusion Request - Based on Errors in Actual Reported Emissions

I am requesting an exclusion from having to apply for a Title V permit because of errors in reported emissions. (Check all that apply below and provide supporting data where requested. Also check Section II. Box b. in the Certification Statement)

- a. The facility was incorrectly identified by the AQMD as subject to Title V requirements. All previously submitted Emissions Fee Billing (EFB) reports from Fiscal Year (FY) 1995-96 and later show the total actual emissions are below the following thresholds for the South Coast Air Basin. (Please submit the appropriate EFB reports and any other pertinent information for verification.)

Volatile Organic Compds	Oxides of Nitrogen	Oxides of Sulfur	Carbon Monoxide	Particulates < 10um	Single HAP	Combined HAPS
5 tpy	5 tpy	50 tpy	25 tpy	35 tpy	5 tpy	12.5 tpy

- b. The facility's previously submitted EFB report(s) contained incorrect emissions data due to an error in calculations or reporting. The amended report(s) shows that the actual emissions are below the emission thresholds.

For which years were the EFB reports amended? (List all that apply)

When was the amendment(s) submitted (mo/day/yr)?

State the reasons for amending the EFB report(s) and attach a copy of the original and amended EFB reports.

Section V - Exclusion Request - Based on a Decline in Reported Emissions Since FY 1998-99

I am requesting an exclusion from having to apply for a Title V permit. Since FY 1998-99, the facility's actual emissions have been reduced below 50 percent of the emission thresholds in Rule 3001 (listed in Section IV a.). (Also check Section II. b. in the Certification Statement.)

- a. For which years do the EFB forms show a reduction in emissions? (Check all that apply)

FY 1999-00 FY 2000-01

Attach a copy of the EFB report for each year that the emissions dropped below the thresholds.

- b. Describe in detail (including dates or milestones) how the facility's actual emissions were permanently reduced below the emission thresholds (e.g., equipment removal, process change, facility shutdown, material substitution, etc.).

- c. In addition to the description provided in Section V.b., reference as appropriate any other pending applications, permits to construct, or permits to operate that are currently on file that can support the claim of decreased emissions. Attach additional supporting information (e.g. source test reports, EFB reports, equipment invoices), as necessary, as proof of your facility's actual emissions. (Attach additional pages as needed.)

Section VI - "Potential To Emit" Exemption Request (Requires Facility PTE Calculation)

I am requesting an exemption from the Title V program because the facility's potential to emit is below the emission levels specified in Rule 3001. (Refer to the Technical Guidance Document for suggestions on determining PTE and attach all calculations to support this claim. Also check Section II. c. in the Certification Statement.)

Section VII - "Synthetic Minor" Exemption Request (Requires New Permit Condition)

I am requesting an exemption from the Title V program with a permit condition that will limit facility-wide emissions below the levels specified in Rule 3001. (Also check Section II. Box c. in the Certification Statement.)

This form shall be completed by Acid Rain facilities ONLY and shall accompany all requests for Phase II permit actions unique to Acid Rain facilities. Also attach a completed Form 500-A2. In addition, if an initial Title V permit, permit renewal, or permit revision is requested, attach Form 500-A1 and any supplemental Acid Rain forms (Forms 500-F2, 500-F3, and 500-F4), as appropriate.

Section I - General Information

1. Facility Name: PEGASUS PROJECT Facility ID (6-Digit): _____
 ORIS Code:(5-Digit): _____

2. This is an application for a (Check all that apply to the facility):
 a. Phase II Acid Rain Permit or Revision (Complete Section II of this form)
 b. Repowering Extension Plan or Revision (Complete Form 500-F2)
 c. New Unit Exemption or Revision (Complete Form 500-F3)
 d. Retired Unit Exemption or Revision (Complete Form 500-F4)

3. The requested permit action involves a(n) (Check one):
 a. Administrative Permit Revision
 b. Significant Permit Revision
 c. Fast Track Permit Revision
 d. Automatic Permit Revision
 e. Other (specify): _____

4. For all applications requesting a permit revision, provide a general description of the proposed changes (Attach additional sheets as necessary):

Section II - Phase II Acid Rain Device Information

1. The following information is (Check one) a. New b. Revised

AQMD Device #	EPA Unit #	Will device need a Repowering Extension Plan?	Has device started operations on or after 11/15/90?	Device Operations Start Date (mo/day/yr)	For Devices starting-up after 11/15/90, provide date when Monitoring Certification will begin (mo/day/yr)
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		
		<input type="checkbox"/> Yes <input type="checkbox"/> No	<input type="checkbox"/> Yes <input type="checkbox"/> No		

PEGASUS POWER PARTNERS, LLC
The Pegasus Project
Chino, California

APPLICATION FORMS

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- Figure 2: Equipment Site Arrangement
- Figure 3: Ammonia Supply and Storage – Piping and Instrument Diagram
- Figure 4: Site Plot Plan

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- Appendix B: Normal Operating Conditions - Air Emissions Calculations
- Appendix C: Startup & Shutdown – Air Emissions Calculations
- Appendix D: Turbine Commissioning – Air Emissions Calculations
- Appendix E: Emission Offsets Calculations.

ATTACHMENTS

- Attachment I: LM6000 – Gas Turbine Generator Set. Product Specification
SCR / Oxidation Catalyst Product Information and Guarantee
- Attachment II: Modeling Analyses Methodology and Results for:
Compliance Demonstration,
Health Risk Analyses, and
Visibility Analyses

CHAPTER 1 - PROJECT OVERVIEW

Pegasus Power Partners, LLC is proposing to install a new power plant (nominally rated at 180 MW) at a site in Chino, San Bernardino County, California, on the California State Department of Correction property. This property is bound by Euclid Avenue (State Hwy 83) on the East, Central Avenue on the West, Edison Avenue on the North, and the correctional facility on the South. Figure 1 contains an aerial photograph depicting the proposed site location with respect to its surroundings.

The plant will be called the Pegasus Project, and it will consist of four (4) natural gas fired combustion turbines in simple-cycle configuration. Emissions from the gas turbines will be controlled by Selective Catalytic Reduction (SCR) and Oxidation Catalyst systems. Figure 2 shows the equipment arrangement on the proposed 15-acre site.

The proposed project is being developed as a Peaker project in response to the Governor's emergency orders of February, 2001 and will be built and operated in accordance with the requirements set forth in these emergency orders and the requirements of the CEC 21-day emergency permitting process.

Therefore, Pegasus Power Partners, LLC is proposing to implement the project on a fast-track basis in order to be online in time for the peak power demand season this summer. An application for Certification is being concurrently submitted to the California Energy Commission (CEC), and the project qualifies (as an emergency peaking facility) for the CEC's 21-day accelerated permit approval process. Under Executive Orders recently issued by the Governor, new peaking power plants that contract with the Department of Water Resources to provide power to California residents can apply for a 21-day expedited permit with the CEC. For the purposes of the expedited review, peaking power plants are defined as simple-cycle power plants that can be constructed in a relatively small area, do not require water supplies for cooling, and can be readily connected to the existing transmission and natural gas system.

On April 6, 2001 Applicant met with the South Coast Air Quality Management District (SCAQMD) Staff to discuss the project and any issues of concerns that Staff may have. Based on that meeting, Applicant is proceeding as expeditiously as possible to meet all the requirements of the district and to satisfy all applicable regulations and laws in order to meet the expedited review and construction schedules.

COMPANY NAME AND ADDRESS:

Pegasus Power Partners LLC
89 Headquarters Plaza
North Tower, 14th Floor
Morristown, NJ 07960
Phone: (973) 993 - 1855
Fax: (973) 326 - 1821

EQUIPMENT LOCATION:

The Pegasus Project will be located on the California State Correctional Facility property, next door (on the West side) to the existing small Cogeneration facility at 5601 Eucalyptus Avenue, Chino, California 91710.

CHAPTER 2 - EQUIPMENT AND PROCESS DESCRIPTION

1. Gas Turbines

Applicant is proposing to install four-new GE LM6000 Sprint Enhanced combustion-turbine generators (CTGs) rated at 45 MW each for a nominal combined power output of 180 MW. The gas turbines will be fired with California PUC quality natural gas only.

The GE LM6000 CTG has two concentric rotor shafts: the low pressure (LP) compressor and turbine form the LP rotor, and the high pressure (HP) compressor and turbine form the HP rotor. Each CTG is equipped with a chilling coil system that will be used for cooling the combustion air. The CTGs will use the LP turbine to power the output shaft with a direct coupling to a 3600-RPM generator for 60 Hz power generation. The generator is a synchronous, two-pole cylindrical rotor generator with forced air-cooling. The generators will have a nominal output of 45 MW at ISO conditions. The net heat rate for each gas turbine is approximately 9,342 Btu/kWh-hr (HHV). Detailed information about the GE LM6000 can be found in Attachment I.

Water will be injected into the combustors to control the NOx emissions to 25 ppmdv at 15% oxygen. The water injection system will use demineralized water injected into the combustor through ports in the fuel nozzles. Water will be supplied to the nozzles through a water manifold or premixed with fuel in a secondary manifold. Water injection begins when the turbine reaches a load of about 7 MW. Table 1 below summarizes selected gas turbine parameters.

**Table 1
Gas Turbine Data**

Manufacturer	GE
Model	LM6000 Enhanced Sprint
Fuel Type	PUC Quality Natural Gas
Average Fuel Heat Content (HHV)	1,050 btu/scf
Average Fuel Density	0.045 lbs/scf
Max Fuel Consumption (@ 24° F)	20,260 lbs/hour
Max Gas Turbine Exhaust Flow (@ 24° F)	1,091,160 lbs/hour
Gas Turbine Power Output	45 MW
Gas Turbine Heat Rate (HHV)	9,348 Btu/kw-hour
Uncontrolled NOx Emissions	205 ppmdv
Controlled NOx Emissions (Water Injection)	25 ppmdv

2. Air Pollution Control (APC) Equipment

The APC equipment will be used to control the CO, VOC, and NO_x emissions from the gas turbines. The APC equipment will also reduce the emissions of toxic air contaminants (e.g., formaldehyde and acetaldehyde) from the gas turbines. There will be one APC system for each gas turbine. Each APC system will include the following equipment:

- (1) One 15,000 gallons aqueous ammonia storage tank (one tank for all 4 APC systems),
- (2) ammonia/air dilution skid,
- (3) ammonia distribution header and injection grid supply piping,
- (4) specially designed ductwork,
- (5) CO catalyst/ammonia injection grid housing,
- (6) SCR catalyst housing, and
- (7) 110' high exhaust stack.

Ammonia Transfer and Storage Equipment:

The ammonia will be transported to the facility in aqueous form (19% ammonia by weight) and it will be stored in a 15,000-gallon storage tank. The storage tank will be built to API-620 standards. A receiving and transfer station will be installed, and a vapor-return line will be used during receiving operations to control filling losses. Figure 3 contains a detailed piping and instrument diagram for the ammonia supply and storage system that will be employed for this proposed facility.

Ammonia/Air Dilution Skid.

The ammonia/air dilution skids will be used to vaporize the 19% aqueous ammonia so that it can be transferred to the ammonia injection grids. The ammonia/air dilution equipment will be shop assembled and skid mounted for easy field installation. Each skid will include two 15 horsepower dilution air fans (one operating and one spare), and two 110- kilowatt heater elements (one operating and one spare) housed in a common heater box. In addition, instrument/atomizing air at 80-160 psig will be used to atomize the aqueous ammonia in the ammonia/air-mixing chamber. The vaporized ammonia from the mixing chamber will be fed to the ammonia distribution header.

Ammonia Distribution Header:

A carbon steel ammonia distribution header will be located alongside the reactor housing, and it will receive the hot ammonia/air mixture from the ammonia dilution skid and deliver it evenly to the ammonia injection grid piping. There will be one injection grid supply pipe for every six ammonia injection grid lances. Each injection grid supply pipe will be equipped with manual butterfly-valves and local flow instrumentation for balancing the ammonia flow through each of the ammonia injection grid supply pipes.

Ductwork.

Ductwork for the CO/SCR catalyst system will be based on Deltak's or other manufacturer significant experience with the LM6000 gas turbine, and approximately 20' of ductwork will connect the gas turbine outlet to the CO catalyst housing. The ductwork will utilize the company's severe service design, and it has been designed to provide proper flow distribution to the catalyst. The ductwork will be provided in three shop-assembled modules, and it has been designed for an internal pressure of 20 inches W.G.

CO Catalyst/Ammonia Injection Grid (AIG) Housing:

The oxidation catalyst will be used to control the CO and (to a lesser extent) VOC emissions from the gas turbines. The oxidation catalyst will also control the formaldehyde and acetaldehyde emissions from the gas turbines. The catalyst will be located within a structural catalyst frame integral to the housing, and additional room will be provided in case another layer of catalyst is needed. The temperature of the flue gas passing through the catalyst will vary from approximately 724° Fahrenheit to 885° Fahrenheit, depending on ambient and gas turbine operating conditions. The catalyst is expected to achieve the following performance results:

- (1) Maximum CO conversion = 90%,
- (2) Average CO emission rate = 5.7 lbs/hour,
- (3) Maximum CO concentration = 6.0 ppmdv @ 15% O₂,
- (4) Average VOC conversion = 33%,
- (5) Maximum VOC emission rate = 1.0 lbs/hour,
- (6) Maximum VOC concentration = 2.0 ppmdv @ 15% O₂, and max pressure drop = 1.6" W.G.

The catalyst has a typical guaranteed (operating life) of 3 years or 4,500 hours of operation, whichever comes first, and will not exceed 42 months after the equipment is installed.

Table 2
CO Catalyst Data Summary

Catalyst Manufacturer	Engelhard Corporation, Johnson Matthey, or Equivalent
Catalyst Type	Stainless steel foil substrate with platinum impregnated alumina washcoat.
SCR Housing Dimensions	12' W x 20' L x 50' H
Catalyst Depth	Approximately 3"
Catalyst Volume	110 - 150 ft ³ - approximately 500 ft ² cross section
Space Velocity	Approximately 175,000 to 150,000 hr ⁻¹
Outlet CO	< 6 ppmdv (1-hour average @ 15% Oxygen)
Outlet VOC	< 2 ppmdv (1-hour average @ 15% Oxygen)
Minimum Operating Temp.	500° F
Maximum Operating Temp.	1,200° F

The AIG will be located in the duct just downstream from the CO catalyst. The purpose of this equipment is to mix the ammonia (from the ammonia/air dilution skid) with the flue gas from the gas turbines. In order to achieve the required NOx reduction (i.e., 80%), six evenly spaced (vertically) grids consisting of six evenly spaced (horizontally) ammonia injection lances will be mounted to the side-wall of the reactor housing approximately 10' upstream of the SCR catalyst.

SCR Catalyst Housing.

The SCR catalyst will be used to control the NOx emissions from the gas turbines. The catalyst will be located within a structural catalyst frame integral to the housing duct downstream from the oxidation catalyst housing, and additional room will be provided in case another layer of catalyst is needed to meet present or future emission reduction requirements.

Engelhard Corporation, or equivalent, will provide the high temperature catalyst, and the temperature of the flue gas passing through the catalyst will vary from approximately 724° Fahrenheit to 885° Fahrenheit, depending on ambient and gas turbine operating conditions. The pressure drop across the catalyst will vary from 3.0 to 3.9 inches H₂O, depending primarily on gas turbine operating conditions.

A tempering air system can be installed if necessary, and the purpose of this equipment would be to ensure that the flue gas temperature does not exceed the upper operating range of the SCR catalyst (i.e., 885° Fahrenheit). The tempering air system may consist of a 65 HP fan that can provide 75,000 lbs/hour of ambient air at 100° F into the gas turbine exhaust stream. The air will be injected (if needed) into the ductwork in the area immediately downstream of the gas turbine exhaust expansion joint.

The typical catalyst guarantee (for performance) is as follows:

- 1) Minimum NOx conversion of 80%,
- 2) Maximum NOx emission rate of 8.6 lbs/hour,
- 3) Maximum NOx concentration of 5 ppm_{dv} @ 15% O₂, and
- 4) Maximum ammonia slip of 5 ppm_{dv} @ 15% O₂.

The catalyst has a typical guarantee (operating life) of 3 years, or 4,500 hours of operation, whichever comes first, and will not exceed 42 months after the equipment is installed. The maximum temperature of the exhaust gas into the catalyst will not exceed the upper temperature limit of the catalyst. Table 3 below summarized the main characteristics of the SCR system.

Table 3
SCR Data Summary

Catalyst Manufacturer	Engelhard Corporation, Cormetech, or Equivalent
Catalyst Type	NO _x -CAT™ VNX-HT vanadia-titania catalyst
SCR Housing Dimensions	12' W x 20' L x 50' H
Catalyst Depth	15"
Catalyst Volume	800 ft ³ - approximately
Space Velocity	Approximately 30,000 hr ⁻¹
Area Velocity	0.025 ft/sec
Ammonia Injection rate	Approximately 100 lb/hour (19% ammonia)
Maximum Ammonia Slip	5 ppm 1-hour average at 15% Oxygen
Outlet NO _x Emissions	5 ppm 1-hour average at 15% Oxygen

Process Controls.

A PLC based automatic control system will be used to control any fans, the dilution air heaters, and the ammonia flow controller. Precise ammonia flow control is needed in order to ensure compliance with the stringent NO_x and ammonia slip emissions limits. The ammonia flow controller will control the ammonia injection rate into the SCR based on the gas turbine load signal and the NO_x reading from the CEMS. The ammonia flow controller set-point will be adjusted based on the NO_x reading in the stack. The cost for each APC system will be in the neighborhood of \$2 millions.

CHAPTER 3 - AIR EMISSIONS

Emissions data for the gas turbines is provided for the following modes of operation: (1) Normal Operations, (2) Startups and Shutdowns, and (3) Commissioning Period.

1. Normal Operations

Normal operations were evaluated for 15 different scenarios and operating conditions. These operating scenarios include 3 different loads (100%, 75%, and 50%); 4 different ambient temperatures (24, 66, 92, and 114 degrees Fahrenheit); and different combinations of air chilling, water injection, and fogging. During normal operations, the air pollutants are assumed controlled to BACT levels. Stack parameter information for each operating scenario is summarized in Table 4 below and is included in Appendix A. Appendix A also contains estimated performance tables for the gas turbines.

Table 4
Stack Parameters Summary for Normal Operation Scenarios

Operating Condition	Percent of Base Load	Ambient Temp (F)	Inlet Air Chiller	Water Injection (Sprint)	Stack Gas Flow Rate (acfm)	Stack Exit Temp (F)
1	100%	24	Off	Off	608,867	799
2	75%	24	Off	Off	523,190	724
3	50%	24	Off	Off	436,729	686
4	100%	66	Off	On	581,084	857
5	100%	66	On	On	599,072	846
6	100%	66	Off	Off	532,194	801
7	75%	66	Off	Off	465,636	779
8	50%	66	Off	Off	395,057	737
9	100%	92	On/Fogger*	On	543,193	848
10	100%	92	On/Fogger	On	543,193	848
11	100%	114	Off	On	472,786	885
12	100%	114	On	On	599,072	846
13	100%	114	Off	Off	420,248	845
14	75%	114	Off	Off	375,818	822
15	50%	114	Off	Off	330,568	788

* Condition 9 also has a silencer installed

Emission Rates - Normal Operation Data

It is assumed that PM₁₀ and SO₂ emissions will be the same for all operating scenarios. The highest emission rates for the other pollutants (CO, NO_x, VOC, NH₃) will occur during Operating Condition 1 as noted in Table 4 above.

Data:

1. Max fuel flow rate = 20,260 lbs/hr (occurs during operating condition 1)
2. Average natural gas density = 0.045 lbs/scf
3. Emission Factor (lbs/MMscf) = (uncontrolled or controlled ppm_{dv}) x (MW) x (1/SMV) x (20.9/5.9) x (Fd) x (FHC)

where, uncontrolled ppm_{dv} = concentration at catalyst inlet corrected to 15% O₂ and controlled ppm_{dv} = BACT required levels corrected to 15% O₂.

- MW = molecular weight (lbs/lb-mole)
 SMV = specific molar volume at 68° Fahrenheit = 385.3 scf/lb-mole
 Fd = dry oxygen F-Factor for natural gas = 8,710 dscf/MMbtu at 68° F
 FHC = fuel heat content (natural gas) = 1,050 btu/dscf

Detailed emission calculations for normal operating conditions are included in Appendix B of this document. Table 5 below provides a summary of these emissions.

**Table 5
 Mass Emission Rates (per gas turbine) - Normal Operation**

Pollutant	Maximum Uncontrolled		Maximum Controlled		Average Annual Controlled		4 Turbines Average Annual (tons/year)
	(lbs/hour)	(lbs/day)	(lbs/hour)	(lbs/day)	(lbs/hour)	(lbs/year)	
CO	125.8	3,019	12.6	302	5.7	42,750	86
NO _x	43.0	1,032	8.6	206	6.3	47,250	95
VOC	1.8	43	1.2	29	0.9	6,750	14
SO _x	0.6	15	0.64	15	0.46	3,450	7
PM ₁₀	3.1	74	3.09	74	2.25	16,875	34
NH ₃	0.0	0	3.2	77	2.3	17,250	35

Maximum Daily emissions are based on 24 hours/day

Annual operating hours per turbine are assumed **7,500 Hours/year**

PM₁₀ emissions are based on AP-42 emission factor of 0.0066 lb/MMBtu

SO_x emissions are based on 0.5 grain/100 scf sulfur content in natural gas

2. Startups and Shutdowns

Startups begin with the turbine's initial firing and continue until the unit meets the emission concentration limits. The duration of a startup will be approximately 15 minutes. The NO_x, CO, and VOC emissions will be uncontrolled for the first ten minutes, and the NO_x emissions will be partially controlled to 25 ppm for the next 5 minutes. After 10 minutes, the CO and VOC emissions will be controlled to at or below BACT levels, and after 15 minutes, the NO_x emissions will be controlled to at or below BACT levels.

Shutdowns begin with the initiation of the turbine shutdown sequence and end with cessation of turbine firing. A shutdown will last approximately 10 minutes from full load operation to zero emissions. Turbine shutdowns will start with a hot catalyst and will be executed in a manner that will not result in operations with catalyst temperatures below the SCR threshold value for an appreciable length of time. Shutdown emissions will be assumed to be equal to emissions during normal operation.

Emission Rates – Startups and Shutdowns

Data:

1. Number of startups per day = variable (on average 1)
2. Number of startups per year = 365 are assumed
3. Startup duration: CO and VOC = 10 minutes, NO_x = 15 minutes
4. Number of shutdowns per day = variable (on average 1)
5. Number of shutdowns per year = 365 are assumed
6. Shutdown duration = approximately 10 minutes

Calculations (All emissions are per turbine unless otherwise indicated):

1. Maximum Hourly Startup Emissions Per Turbine (see emission calculation tables in Appendix B):

$$\begin{aligned} \text{CO} &= (125.8 \text{ lbs/hour} \times 10/60) + (12.6 \text{ lbs/hour} \times 50/60) = 31.47 \text{ lbs/hour} \\ \text{NO}_x &= (43.0 \text{ lbs/hour} \times 10/60) + (31.4 \text{ lbs/hour} \times 5/60) + (8.6 \times 45/60) = 16.23 \text{ lbs/hr} \\ \text{VOC} &= (1.8 \text{ lbs/hour} \times 10/60) + (1.2 \text{ lbs/hour} \times 50/60) = 1.30 \text{ lbs/hour} \\ \text{SO}_x &= \text{less than during normal operation, but assume equal} = 0.32 \text{ lbs/hour} \\ \text{PM}_{10} &= \text{less than during normal operation, but assume equal} = 3.09 \text{ lbs/hour} \\ \text{NH}_3 &= 0 \text{ lbs for the first 15 minutes} + (3.2 \text{ lbs/hour} \times 45/60) = 2.40 \text{ lbs/hour} \end{aligned}$$

2. Average Annual Startup Emissions Per Turbine:

$$\begin{aligned} \text{CO} &= [(125.8 \text{ lbs/hour} \times 10/60) + (5.7 \text{ lbs/hour} \times 50/60)] \times 365 \text{ startups/year} = 9,387 \text{ lbs/year} \\ \text{NO}_x &= [(31.4 \text{ lbs/hour} \times 10/60) + (31.4 \times 5/60) + (6.3 \times 45/60)] \times 365 = 4,590 \text{ lbs/year} \\ \text{VOC} &= [(1.3 \text{ lbs/hour} \times 10/60) + (0.9 \text{ lbs/hours} \times 50/60)] \times 365 \text{ startups/year} = 353 \text{ lbs/year} \\ \text{SO}_x &= \text{less than normal operation, but assumed as same} (0.23 \text{ lbs/hour} \times 365) = 84 \text{ lbs/year} \\ \text{PM}_{10} &= \text{less than normal operation, but assumed as same} (2.25 \text{ lbs/hour} \times 365) = 821 \text{ lbs/year} \\ \text{NH}_3 &= [0 \text{ for the first 15 minutes} + (2.3 \text{ lbs/hour} \times 45/60)] \times 365 \text{ startups per year} = 630 \text{ lbs/year} \end{aligned}$$

3. Maximum Hourly Shutdown Emissions Per Turbine (assume equal to normal operation):

CO = 12.60 lbs/hour
 NOx = 8.60 lbs/hour
 VOC = 1.20 lbs/hour
 SOx = 0.32 lbs/hour
 PM₁₀ = 3.09 lbs/hour
 NH₃ = 3.20 lbs/hour

4. Average Annual Shutdown Emissions Per Turbine:

CO = 5.7 lbs/hour x 365 shutdowns/year = 2,081 lbs/year
 NOx = 6.3 lbs/hr x 365 shutdowns/year = 2,300 lbs/year
 VOC = 0.9 lb/hour x 365 shutdowns/year = 329 lbs/year
 SOx = 0.23 lb/hr x 365 shutdowns/year = 84 lbs/year
 PM₁₀ = 2.25 lbs/hr x 365 shutdowns/year = 821 lbs/year
 NH₃ = 2.3 lbs/hr x 365 shutdowns/year = 840 lbs/year

Average annual startup emissions based on 365 startups per year, and the average of the emission rates calculated for operating scenarios 1-15. Average annual shutdown emissions are based on 365 shutdowns per year, and the average of the emission rates calculated for operating scenarios 1-15. Note, the PM₁₀ and SOx emissions are not significantly reduced by operation of the CO catalyst or the SCR, and emissions of these pollutants are less during partial load periods than during normal full load operation. Startup and shutdown emissions are summarized in Table 6a below as well as Appendix C.

Table 6a
Startups and Shutdowns
Mass Emission Rates Summary
(Per turbine)

Pollutant	Startup		Shutdown	
	Max Hourly Emission Rate (lbs/hour)	Average Annual Emissions (lbs/year)	Max Hourly Emission Rate (lbs/hour)	Average Annual Emissions (lbs/year)
CO	31.47	9,387	12.60	2,081
NOx	16.23	4,590	8.60	2,300
VOC	1.30	353	1.20	329
SOx	0.32	84	0.32	84
PM ₁₀	3.09	821	3.09	821
NH ₃	2.40	630	3.20	840

In order to insure that 1-hour averages of significant increase levels in ambient concentrations are not threatened, Applicant is proposing to limit the startup of turbines to 2 at-a-time. Therefore the worst case startup scenario will be as follows: 2 turbines in startup mode and 2 turbines in normal operation mode. It is also assumed that the maximum hourly startup emissions occur during the worst case operation scenario of 100% load, 24 degrees F, and no chiller.

The maximum hourly start emissions for each turbine can then be expressed as follows:

$$[(\text{Max Hourly Startup Emissions} \times 2) + (\text{Max Hourly Normal Emissions} \times 2)] / 4$$

Table 6b below summarizes the proposed startup emissions per turbine that will be used in the air dispersion modeling to determine compliance with the significant change in ambient concentrations.

**Table 6b
Proposed Startup Mass Emission Rates
For Modeling and Comparison with
Significant Change in Ambient Air Concentration
(Per turbine)**

Pollutant	Maximum Startup Emissions (lbs/hour)	Maximum Normal Emissions (lbs/hour)	Composite Max Hourly Startup Emissions (lbs/hour)	Other Averaging Periods (lbs/hour)				
				1-hour	3 Hours	8 Hours	24 Hours	Annual
CO	31.47	12.60	22.033			13.78		
NOx	16.23	8.60	12.417					6.30
VOC	1.30	1.20	1.250					
SOx	0.64	0.64	0.640		0.64		0.64	0.46
PM10	3.09	3.09	3.090				3.09	2.25
NH3	2.40	3.20	2.800					

3. Commissioning Period

Each turbine will be commissioned separately. The time required to commission each turbine is estimated to be about 96 hours. During commissioning, emissions of CO, NOx, and VOC are expected to be higher than normal due to the fact that the SCR and CO control system may not be fully operational, and the turbine burners may not be optimally tuned.

The commissioning emissions calculations are based on the following assumptions:

- a. The turbine is fired for the 1st 10 hours without water injection and without SCR/Ox-Cat.
- b. Water injection is employed from hour 11 through hour 60, then hour 61 to 96 are fully controlled with water injection and SCR/Oxidation Catalyst.

Emission Rates – Commissioning Period

Emissions for Hours 0-10 Per Turbine (Assuming Operating Scenario 13)

CO =	8.8 lbs/hour x 10 hours =	88.0 lbs
NOx =	43.0 lbs/hour x 10 hours =	430.0 lbs
VOC =	1 lb/hour x 10 hours =	10.0 lbs
SOx =	0.18 lbs/hour x 10 hours =	1.8 lbs
PM10 =	1.73 lbs/hour x 10 hours =	17.3 lbs
NH3 =	0 lbs	

Emissions for Hours 11-60 Per Turbine (Assuming Operating Scenario 13)

CO =	8.8 lbs/hour x 50 hours =	440.0 lbs
NOx =	24.1 lbs/hour x 50 hours =	1,205 lbs
VOC =	1 lb/hour x 50 hours =	50.0 lbs
SOx =	0.18 lbs/hour x 50 hours =	9.0 lbs
PM10 =	1.73 lbs/hour x 50 hours =	86.5 lbs
NH3 =	0 lbs	

Emissions for Hours 61-96 Per Turbine (Assuming Operating Scenario 13)

CO =	3.5 lbs/hour x 36 hours =	126.0 lbs
NOx =	4.8 lbs/hour x 36 hours =	172.8 lbs
VOC =	0.7 lb/hour x 36 hours =	25.2 lbs
SOx =	0.18 lbs/hour x 36 hours =	6.5 lbs
PM10 =	1.73 lbs/hour x 36 hours =	62.3 lbs
NH3 =	1.8 lbs/hour x 36 hours =	64.8 lbs

Table 7 below summarizes the mass emissions for the different pollutants from one turbine as well all 4 turbines. More information and assumptions on calculating commissioning emissions are contained in Appendix D.

**Table 7
Mass Emissions Summary
Commissioning Period**

Pollutant	One Turbine (lbs)	Four Turbine (lbs)
CO	654	2,616
NO _x	1,808	7,231
VOC	85	341
SO _x	35	138
PM10	166	664
NH ₃	65	259

Emission Offsets Calculations

Data:

1. Gas Turbine fuel flow at 100% load & Winter conditions (24 degrees Fahrenheit), operating condition 1 = 0.445 MMscf/hr per turbine.
2. Gas Turbine fuel flow at 100% load & Summer conditions (114 degrees Fahrenheit), operating condition 12 = 0.429 MMscf/hr per turbine.
3. Maximum monthly hours of operation = 670 hours per turbine (based on 90% capacity factor).

Assumptions:

1. Emissions during shutdown = emissions during normal operation.
2. PM₁₀ and SO_x emissions during startup = emissions during normal operation.
4. Commissioning period lasts 96 hours per turbine.
5. Emissions from each identical turbine are the same.

Detailed emission offsets calculations are included in Appendix E of this document. Table 8 below summarizes average emissions and offsets requirements.

Table 8
30-day Average Emissions and Offsets Requirements

Pollutant	1-turbine (lbs/day)	4-turbines (lbs/day)	Offset Ratio	Required Offsets (lbs/day)
CO	301	1,204	1.2	1,444
NOx	200	800	1.2	960
VOC	27	108	1.2	129
SOx	5	21	1.2	25
PM10	50	201	1.2	241

CHAPTER 4
REGULATORY REVIEW AND EVALUATION

SCAQMD REGULATIONS

REGULATION II – PERMITS

RULE 201 - Permit to Construct

Rule 201 requires that a person shall not build, erect, install, alter or replace any equipment, the use of which may cause the issuance of air contaminants or the use of which may eliminate, reduce or control the issuance of air contaminants without first obtaining written authorization for such construction from the Executive Officer. A permit to construct shall remain in effect until the permit to operate the equipment for which the application was filed is granted or denied, or the application is cancelled.

Applicant intends to comply with this rule, hence the submittal of this permit application to obtain the authority to construct (ATC) from the Executive Officer. When the ATC is granted to applicant will construct the equipment in accordance with the conditions set forth in that permit, and shall operate the equipment at all times in accordance with such conditions.

RULE 212 - Standards for Approving Permits and Issuing Public Notice

The applicant is subject to the provisions of this Rule and therefore will comply by distributing a public notice (in accordance with the requirements specified in this rule) because the daily maximum NO_x, PM₁₀, and CO emissions will exceed the emissions thresholds specified in subdivision (g) of this rule. The required public-notice comment period will be 30 days.

RULE 218 - Continuous Emission Monitoring

Applicant will submit a CEMS application to the District prior to installing the CEMS. The NO_x and CO CEMS will need to be certified in accordance with the requirements specified in this rule and operated in accordance with the requirements specified in Rule 218.1, Continuous Emission Monitoring Performance Specifications.

REGULATION IV - PROHIBITIONS

RULE 401 – Visible Emissions

Visible emissions are not expected under normal operating conditions of the turbines. Applicant will comply with the provisions of this Rule.

RULE 402 – Nuisance

This Rule requires that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. Nuisance problems are not expected under normal operating conditions of the turbines. Therefore applicant will comply with the provisions of Rule 202.

RULE 403 – Fugitive Dust

The purpose of this rule is to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce or mitigate fugitive dust emissions. The provisions of this rule apply to any activity or man-made condition capable of generating fugitive dust. This rule prohibits emissions of fugitive dust beyond the property line of the emission source.

During normal operations, compliance with this rule is expected. However, during the construction phase of the project, reasonably available control measures will be used to ensure compliance with this rule.

RULE 407 – Liquid and Gaseous Air Contaminants

This rule limits the CO emissions to 2000 ppm max, and the sulfur content of the exhaust to 500 ppm for equipment not subject to the emission concentration limits of 431.1. Since the gas turbines are subject to the limits of Rule 431.1, only the 2000 ppm limit of this rule applies. It is expected that the equipment will be able to meet the CO limit with the use of the oxidation catalyst. Compliance will be verified through CEMS data.

RULE 409 – Combustion Contaminants

This Rule prohibits any person from discharging into the atmosphere from the burning of fuel, combustion contaminants exceeding 0.23 gram per cubic meter (0.1 grain per cubic foot) of gas calculated to 12 percent of carbon dioxide (CO₂) at standard conditions averaged over a minimum of 15 consecutive minutes. The provisions of this rule do not apply to jet engine test stands and emissions from internal combustion engines.

Based on experience with similar equipment, compliance with this rule is expected from the gas turbines. Furthermore, compliance will be verified through the initial performance test. The calculated PM concentration is provided below.

Exhaust gas flow rate at average annual ambient conditions = 232,237 scfmd = 13,934,220 scfhd
Maximum PM₁₀ emissions = 3.1 lbs/hr. Therefore, grain loading = (3.1 lbs/hr) x (7000 grains/lb) / 13,934,220 scfhd = 0.002 grains/scfd which is less than the 0.1 grain per cubic foot limit.

RULE 431.1 – Sulfur Content of Natural Gas

This rule requires that the natural gas supplied to the turbines meet a sulfur content limit of 16 ppmv calculated as hydrogen sulfide. The PUC quality natural gas that will be supplied to the gas turbines will meet this requirement.

RULE 474 – Fuel Burning Equipment – Oxides of Nitrogen

The maximum gross heat input for each gas turbine will be less than 555 MMbtu/hour. Therefore, this rule is not applicable.

RULE 475 –Electric Power Generating Equipment

This rule applies to power generating equipment greater than 10 MW installed after May 7, 1976. Requirements are that the equipment meet a limit for combustion contaminants (combustion contaminants are defined as particulate matter in AQMD Regulation I) of 11 lbs/hr, or 0.01 grains/scf. Compliance is achieved if either the mass limit or the concentration limit is met. The maximum PM₁₀ emission rate from the subject gas turbines will be 3.1 lbs/hr. Therefore, compliance with this rule is expected. Compliance will be verified through the initial performance test.

RULE 476 –Steam Generating Equipment

The gas turbines will not be used in conjunction with steam producing equipment. Therefore, this rule is not applicable.

REGULATION XIII – New Source Review (Non-RECLAIM facility)

The proposed facility will be located in the San Bernardino Valley portion of the SCAQMD, and it will be classified as a Major Polluting Facility because the NO_x emissions will be greater than 25 tons/year. The San Bernardino Valley portion of the SCAQMD is in attainment with both federal and state standards for NO₂ and SO₂. Therefore, this regulation is not applicable to the NO₂ and SO₂ emissions from the proposed equipment. The proposed facility is required to comply with the following BACT, modeling, offsets, and protection of visibility requirements specified in this regulation.

RULE 1301 - NEW SOURCE REVIEW: General

Purpose: This regulation sets forth pre-construction review requirements for new, modified, or relocated facilities, to ensure that the operation of such facilities does not interfere with progress in attainment of the national ambient air quality standards, and that future economic growth within the South Coast Air Quality Management District (District) is not unnecessarily restricted.

The specific air quality goal of this regulation is to achieve no net increases from new or modified permitted sources of nonattainment air contaminants or their precursors. In addition to nonattainment air contaminants, this regulation will also limit emission increases of ammonia, and Ozone Depleting Compounds (ODCs) from new, modified or relocated facilities by requiring the use of Best Available Control Technology (BACT).

RULE 1303(a) – BACT

The BACT requirements for the gas turbines will be based on the ARB's guidance document for power plants entitled Guidance for Power Plant Citing and Best Available Control Technology, dated September 1999. A summary of the BACT requirements is provided in the following table.

**Table 9
BACT Requirements**

NO _x	CO	VOC	PM10	SO _x
5 ppm _{dv} @ 15% Oxygen, 1-hour rolling average	6 ppm _{dv} @ 15% Oxygen, 3-hour rolling average	2 ppm _{dv} @ 15% Oxygen, 1-hour rolling average, OR 0.0027 lbs/MMBtu (HHV)	An emission limit corresponding to natural gas with sulfur content of no more than 1 grain/100 scf	An emission limit corresponding to natural gas with fuel sulfur content of no more than 1 grain/100 scf

Pegasus Power Partners LLC is proposing the following BACT levels for this project. Note that these levels generally represent guaranteed emissions under base load operating conditions.

**Table 10
Pegasus Power Partners LLC – Chino California
Proposed BACT**

NO _x	CO	VOC	PM ₁₀ / SO _x	SO _x
5 ppm _{dv} @ 15% Oxygen, 1-hour rolling average	6 ppm _{dv} @ 15% Oxygen, 1-hour rolling average	2 ppm _{dv} @ 15% Oxygen, 1-hour rolling average	Exclusive use of CA PUC quality natural gas with a maximum sulfur content of 0.5 grain per 100 cubic feet	Ammonia slip of 5 ppm _{dv} @ 15% Oxygen, 1-hour rolling average

The proposed control levels above are within the requirements of BACT as summarized in Table 9 above for all criteria pollutants. In addition, the BACT requirement for ammonia slip is 5 ppm_{dv} corrected to 15% oxygen which applicant will meet.

Pegasus Power Partners, LLC will use NO_x CEMS to verify compliance with the NO_x BACT limit, and CO CEMS to verify compliance with the PSD BACT requirement in Rule 1703.

RULE 1303(b)(1) – Modeling

Air dispersion modeling is required for the non-attainment pollutants: NO_x, PM₁₀, and CO emissions per Rule 1303(b). This rule requires the applicant to substantiate with modeling that the project will not cause a significant increase / change in an ambient air quality concentration.

Pegasus Power Partners, LLC determined the maximum project impacts using ISCST3 air dispersion modeling. Maximum NO_x and CO impacts occur during the simultaneous startup of the gas turbines (2 turbines only will be started at-a-time) during a low ambient temperature condition (i.e., 24° Fahrenheit). Table 11 below shows the applicable standards for the subject pollutants, and the results from modeling analysis for all 4 combustion turbines.

Table 11**New Source Review Modeling for all 4 Combustion Turbines**

Pollutant	Averaging Period	Significant Increase in Ambient Concentration ($\mu\text{g}/\text{m}^3$)	Maximum Impacts from All 4 Stacks ($\mu\text{g}/\text{m}^3$)
CO	1-hour	1,100	35.030
	8-hour	500	14.454
NO _x	1-hour	20	19.742
	Annual	1	0.533
PM ₁₀	24-hour	2.5	1.408
	Annual	1	0.190

Pegasus Power Partners, LLC performed refined air dispersion modeling for all subject pollutants. Details on the modeling approach, methodology description, and results are included in Attachment II.

RULE 1303(b)(2) - Emission Offsets

Emission offsets will be needed for the CO, NO_x, VOC, and PM₁₀ emissions from the proposed facility. The amount of offsets needed is based on the calculation methodology specified in Rule 1306(b). Detailed emission offsets calculations are included in Appendix E. Table 12 below includes a summary of emission offsets requirements for the proposed Chino facility.

Table 12
Emission Offsets Requirements

Pollutant	1-turbine (lbs/day)	4-turbines (lbs/day)	Offset Ratio	Required Offsets (lbs/day)
CO	301	1,204	1.2	1,444
NO _x	200	800	1.2	960
VOC	27	108	1.2	129
SO _x	5	21	1.2	25
PM ₁₀	50	201	1.2	241

Pegasus Power Partners, LLC will obtain offsets / emission reduction credits (ERCs) in the required amounts from the State ERC Bank, AQMD's Priority Reserve, or purchase necessary amounts on the open market as needed. Applicant will obtain a letter of transaction that will include the following information:

1. date of transaction,
2. proponent name and phone number,
3. facility name & location,
4. quantity of ERCs requested,
5. District offset ratio applied,
6. total quantity of ERCs issued,
7. total monies received,
8. expected date of online generation,
9. size (MW) of the proposed facility,
10. and ERC expiration date.

After obtaining such letter, Applicant will notify the District in writing, identifying the permanent offsets to be used in lieu of the issued ERCs, six months before expiration. Applicant will also submit to the District contracts or other evidence of acquisition of the permanent offsets no less than 90 days before their expiration.

RULE 1303(b)(3) – Sensitive Zone Requirements

For this project, ERCs can and will be purchased from either Zone 1 or Zone 2A to satisfy the sensitive zone requirements of Rule 1303 (b)(3).

RULE 1303(b)(4) – Facility Compliance

The new facility will comply with all applicable rules and regulations of the District.

RULE 1303(b)(5)(a) – Alternative Analysis

Compliance with CEQA will be determined by the CEC. Furthermore, This emergency permitting process is being exempted from the CEQA process.

RULE 1303(b)(5)(b) – Statewide Compliance

This Rule is not applicable to the Pegasus Power Partners, LLC Chino Facility.

RULE 1303(b)(5)(c) – Protection of Visibility

Table 13 below lists identified Class I areas that could be influenced by the proposed facility. These Class I areas are listed in order of distance from the facility from closest to farthest.

**Table 13
Class I Areas and Their Distance to the
Proposed Pegasus Project**

Class I Area	Distance in Kilometers
Cucamonga Wilderness	21
San Gabriel Wilderness	30
San Gorgonio Wilderness	61
Aqua Tibia Wilderness	84
San Jacinto Wilderness	85
Joshua Tree National Monument	108
San Rafael Wilderness	194

As indicated in Table 13 above, the proposed facility will be located near the following Federal Class I areas: Cucamonga Wilderness (21 km), San Gabriel Wilderness (30 km), San Gorgonio Wilderness (61 km), Aqua Tibia Wilderness (84 km), and San Jacinto Wilderness Area (85 km).

The potential PM₁₀ and NO_x emissions from the proposed facility will exceed 15 tons/year and 40 tons/year, respectively. Therefore, under Rule 1303(b)(5)(c) a modeling analysis for plume visibility is required for this project.

Pegasus Power Partners, LLC is submitting a modeling analysis in accordance with the procedures specified in Appendix B (of this regulation). EPA's VISCREEN model was used to perform the level 1 screening analyses. This level of analysis entails use of worst-case default input assumptions (e.g., extremely stable atmospheric turbulence conditions, and very low wind speed persisting for 12 consecutive hours in a direction towards the closest Class I boundary) to determine adverse plume impacts on visibility. Level 1 analyses were performed for the two closest Class I areas (Cucamonga and San Gabriel), and the results of the VISCREEN modeling show no exceedance of the screening criteria for the San Gabriel Wilderness Area. However, the VISCREEN modeling exceeds level 1 screening criteria for visibility impairment, as potential plume delta-E and green contrast indices inside the Cucamonga Wilderness area.

Due to the modeled exceedance for the Cucamonga Wilderness Area, the VISCREEN model was used again with Level 2 input parameters. The results of the Level 2 screening analysis reveal that the Project's potential for visibility impairment is negligible, as potential plume delta-E and green contrast indices inside the Class I area are less than the conservative Level 2 screening thresholds, for the Cucamonga Wilderness Area.

Based on the above, the proposed project's impacts to the two nearest Class I areas (less than 50 km) are expected to be less than significant for Delta E and for Contrast therefore satisfying the requirement of this Rule. A copy of Level 1 & Level 2 screening runs are included in Attachment

II. However, during a conversation with Mr. Mike McCorison of the US Forest Service (USFS) on behalf of Applicant, Mr. McCorison indicated that the USFS is not really interested in any coherent plume analysis / modeling for areas within 50 kilometers of the project, but they would rather like to see a visibility (regional haze) analysis for areas outside the 50 kilometers radius. This analysis would need to utilize a tool like the Calpuff model. Therefore, plume visibility impacts will be analyzed for Class I areas beyond 50 kilometers using the Calpuff-lite model to determine the impacts from the Pegasus Project on these sensitive areas under the regional haze program.

REGULATION XIV – TOXICS AND OTHER NON-CRITERIA POLLUTANTS

RULE 1401 – New Source Review of Toxic Air Contaminants

This rule specifies limits for maximum individual cancer risk (MICR), cancer burden, and noncancer acute and chronic hazard index (HI) from new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants listed in Table I. The rule establishes allowable risks for permit units requiring new permits pursuant to Rules 201 or 203.

Toxic / Hazardous Air Pollutant emissions were estimated using the guidance in Rule 1401 (f) and a Tier 4 modeling analysis was performed using the ISCST3 model to determine maximum cancer, chronic, and acute risks from the project. The potential health risks were assessed using the procedures consistent with the CAPCOA Risk Assessment Guidelines (CAPCOA, 1993) and AQMD Rule 1401. The results of the modeling analyses indicate that compliance with this rule will be achieved.

Modeling analyses is included in Attachment II and the Health Risk Assessment calculations are also included in the same attachment in the HRA Table. A summary of the modeling results is included in the Table 14 below.

Table 14
Results of Health Risk Assessment
 (HRA Values include Impacts from all 4 Turbines)

Parameter	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk Per Million
Significance Level	1	1	1
Worst Case Risk	0.10408	0.05253	0.07584
Operating Scenario	1	12	12
East UTM Coordinate (m)	438,012	439,612	439,612
West UTM Coordinate (m)	3,763,778	3,761,078	3,761,078
Distance to Max Impact (km)	2.97	2.602	2.602
Direction from Stack to Max Impact	To The Northeast	To The Northeast	To The Northeast

REGULATION XVII – Prevention of Significant Deterioration (PSD)

This regulation sets forth pre-construction review requirements for stationary sources to ensure that air quality in clean air areas does not significantly deteriorate while maintaining a margin for future industrial growth.

The San Bernardino Valley portion of the area where the Pegasus Project is to be located in an attainment area for the following pollutants: NO₂, and SO₂.

In order for a project of this nature (simple-cycle – no steam generation) to be a major source and subject to the PSD federal requirements of the Clean Air Act, the total air emissions from the facility have to exceed 250 tons/year for any regulated pollutant. As indicated in Table 5 of Chapter 3, the Pegasus Project does not trigger this federal threshold for PSD review and therefore is not subject to the federal PSD requirements and the federal ESA is not required.

Rule 1702 defines a significant increase for the above pollutants as follows: NO₂ > 40 tons/yr and SO₂ > 40 tons/yr. The NO_x emissions from the facility will be greater than 40 tons/year; therefore, a PSD review is required for this air pollutant (NO₂) under Rule 1702.

RULE 1703(a)(3)(A) – Facility Compliance

Pegasus Power Partners, LLC has certified in writing (see Application Forms) that the subject facility will comply with all applicable federal, state, and AQMD rules and regulations.

RULE 1703(a)(3)(B) – BACT

The NO_x emissions from the gas turbines will be controlled by SCR equipment to current BACT levels (i.e., 5 ppm_{dv} corrected to 15% oxygen). Therefore, compliance with this rule is expected.

RULE 1703(a)(3)(C) – Air Quality Modeling

The ISCST3 model was used to determine if the NO₂ emissions from the project would create a violation of the National or State Ambient Air Quality Standards (AAQS), or the allowable PSD increments. The results of their modeling analyses are as follows:

1-hour NO₂ Averaging Period

Predicted Maximum 1-hour Impact (from the Pegasus Project) = 19.74 µg/m³
Background Level from the AQMD Pomona Station, 2000 (about 11 km away) = 263.4 µg/m³
Predicted Total Concentration = 263.4 + 19.74 = 283.14 µg/m³
AAQS = 470 µg/m³

Annual NO₂ Averaging Period

Predicted Max Annual Impact = 0.533 µg/m³
Background Level from the AQMD Pomona Station, 2000 (about 11 km away) = 82.8 µg/m³

Predicted Total Concentration = $82.8 + 0.533 = 83.333 \mu\text{g}/\text{m}^3$

AAQS = $100 \mu\text{g}/\text{m}^3$

NO₂ PSD Increment

Predicted Maximum Annual Impact = $0.533 \mu\text{g}/\text{m}^3$

Impact Area = 0 (the emissions never reach $1 \mu\text{g}/\text{m}^3$ (annual average))

Maximum Allowable Increase (Class I Areas) = $2.5 \mu\text{g}/\text{m}^3$ (annual arithmetic mean)

Maximum Allowable Increase (Class II Areas) = $25 \mu\text{g}/\text{m}^3$ (annual arithmetic mean)

The predicted total concentrations will be below the above AAQS standards, and the predicted NO_x PSD increment will not exceed the maximum allowable levels specified in this rule. Therefore, compliance with this rule is expected.

RULE 1703(a)(3)(D) – Pre-Construction Ambient Air Quality Monitoring

The existing continuous monitoring network data collected by the District at several air monitoring stations in the area (Pomona, Fontana, Ontario, and others) is representative of the Pegasus Project site. Applicant will use this data to determine the pre-construction ambient air quality. Pre-construction monitoring is not required of the Pegasus Project because the predicted annual NO_x impacts are below the $14 \mu\text{g}/\text{m}^3$ pre-construction monitoring exemption level.

RULE 1703(a)(3)(E) – Soil and Vegetation Impacts

Maximum modeled NO₂ and SO₂ impacts from normal facility operations have been compared to U.S. Forest Service (USFS) significant impact thresholds for soil and vegetation ecosystems for Class I wilderness areas (using the ISCST3 model). The table (Table 15) below compares the maximum-modeled NO₂ and SO₂ impacts with the USFS significance levels. All predicted impacts are below the USFS significance levels.

Table 15
Soil and Vegetation Impacts
Soils and Vegetation Impacts in Class I Areas

Pollutant	Averaging Period	United State Forest Service Significance Level (ppb)	Maximum Impacts from All Project Sources (ppb)
SO ₂	1-hour	40	0.007562
	Annual	8	0.000076
NO ₂	Annual	15	0.002075

RULE 1703(a)(3)(E) – Visibility Impacts

The procedures specified in the U.S. EPA document entitled “Workbook for Plume Visual Impact Screening and Analysis, 1992” was followed in performing the visibility analysis per the requirements of this Rule. A Level 1 visibility analysis was performed for the nearest Class I areas (i.e., Cucamonga and San Gabriel Wilderness areas), and the predicted total color contrast values (Delta-E) and plume contrast values for the above Class I areas were below the threshold values of 2 and 0.5 inside the San Gabriel area but above the threshold inside the Cucamonga area. A level 2 analysis for the Cucamonga area showed that the predicted total color contrast values (Delta-E) and plume contrast values inside this area are within the threshold. Table 16 below summarizes these results for the two areas. Details regarding the visibility analysis are included in Attachment II and on the modeling CD.

Table 16
Plume Visibility Analysis Per Rule 1703(a)(3)(E) for the
Class I areas Within 50 KM from Project

Class I Area	Thresholds =	2.0	0.05
	Distance in Kilometers	Delta E	Contrast
Cucamonga Wilderness	21	1.25	0.008
San Gabriel Wilderness	30	1.96	0.016
San Gorgonio Wilderness	61	-	-
Aqua Tibia Wilderness	84	-	-
San Jacinto Wilderness	85	-	-
Joshua Tree National Monument	108	-	-
San Rafael Wilderness	194	-	-

During a conversation with Mr. Mike McCorison of the US Forest Service (USFS) on behalf of Applicant, Mr. McCorison indicated that the USFS is not really interested in any coherent plume analysis / modeling for areas within 50 kilometers of the project, but they would rather like to see a visibility (regional haze) analysis for areas outside the 50 kilometers radius. This analysis would need to utilize a tool like the Calpuff model. Therefore, plume visibility impacts will be analyzed for Class I areas beyond 50 kilometers using the Calpuff-lite model to determine the impacts from the Pegasus Project on these sensitive areas under the regional haze program.

RULE 1703(a)(3)(F) – Application Distribution

Applicant is providing the District 10 copies of the application package and the modeling CD. There will be enough copies to distribute to the following: State Land Manager, Forest Supervisors, National Park Service, Federal Land Manager, US Forest Service, and U.S. EPA Region IX.

REGULATION XXX – TITLE V

The maximum potential NO_x emissions from the proposed facility will exceed the 25-tons/year threshold for this air pollutant. Therefore, a Title V permit must be obtained prior to construction. Applicant is submitting the required certified forms for Title V permit application along with this permit application package. A copy of these forms is included in this section as well as in the Application forms section of the package.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

This application is being submitted under the Governor's Executive Order for emergency peaking plants and therefore is exempt from CEQA.

APPLICABLE EPA / FEDERAL REGULATIONS

40CFR Part 60 Subpart GG – NSPS for Gas Turbines

NSPS applies to the subject turbines since the heat input is greater than 10.7 Gigajoules per hour at peak load. The manufacturer's rated heat rate at manufacturer's rated load (kJ/W-hr) based on the fuel LHV = 9.5 kJ/W-hr. The allowable NOx emissions for each turbine is based on the formula below.

NOx standard (ppmdv @ 15% O₂) = $0.0075 * 14.4 * (1/Y) + F$, where

Y = above heat rate = 9.5 kJ/W-hr

F = 0 for natural gas with a nitrogen content < 0.015% (by wt.)

NOx = 115 ppmdv corrected to 15% O₂

The allowable SOx emissions = 150 ppm.

A performance test is required within 60 days of installation. Applicant will perform this compliance test to demonstrate the project's compliance with this rule for all sources.

40CFR Part 63 – NESHAPS

EPA is in the process of establishing a NESHAP for gas turbines, and a rule is scheduled for promulgation in 2002. Until the NESHAP is promulgated, turbine MACT standards must be evaluated on a case-by-case basis. For this project, the HAP emissions from the subject turbines will be below the major source thresholds of 10 tpy for a single HAP or 25 tpy for a combination of HAPs. Based on the above, the subject turbines are not considered major source of HAPs, and are exempt from this regulation.

40CFR Part 64 - Compliance Assurance Monitoring

The NOx and CO CEMS will be certified and operated in accordance with AQMD Rule 218. Therefore, compliance with the CAM regulation is expected.

40CFR Part 72 – Acid Rain Program

Acid rain requirements will need to be included in the Title V permit. The Title IV Phase II permit application process has been initiated and a Title IV permit application is being prepared to be publicly-noticed and submitted for the Pegasus Project in the near future.

FIGURES

APPENDIX A

**STACK PARAMETERS & TURBINE
PERFORMANCE**

Stack Parameters per turbine for 15 different operating conditions

Operating Condition	Percent of Base Load	Ambient Temp (F)	Inlet Air Chiller	Water Injection (Sprint)	Stack Gas Flow Rate (acfm)	Stack Exit Temp (F)	Stack Gas Exit Velocity (m/s)	Stack Exit Temp (K)	Stack Diameter (m)	Stack Area (m ²)	Stack Height (m)
1	100%	24	Off	Off	608,867	799	39.4	699.3	3.05	7.3	33.5
2	75%	24	Off	Off	523,190	724	33.8	657.6	3.05	7.3	33.5
3	50%	24	Off	Off	436,729	686	28.2	636.5	3.05	7.3	33.5
4	100%	66	Off	On	581,084	857	37.6	731.5	3.05	7.3	33.5
5	100%	66	On	On	599,072	846	38.7	725.4	3.05	7.3	33.5
6	100%	66	Off	Off	532,194	801	34.4	700.4	3.05	7.3	33.5
7	75%	66	Off	Off	465,636	779	30.1	688.2	3.05	7.3	33.5
8	50%	66	Off	Off	395,057	737	25.6	664.8	3.05	7.3	33.5
9	100%	92	On/Fogger*	On	543,193	848	35.1	726.5	3.05	7.3	33.5
10	100%	92	On/Fogger	On	543,193	848	35.1	726.5	3.05	7.3	33.5
11	100%	114	Off	On	472,786	885	30.6	747.1	3.05	7.3	33.5
12	100%	114	On	On	599,072	846	38.7	725.4	3.05	7.3	33.5
13	100%	114	Off	Off	420,248	845	27.2	724.9	3.05	7.3	33.5
14	75%	114	Off	Off	375,818	822	24.3	712.1	3.05	7.3	33.5
15	50%	114	Off	Off	330,568	788	21.4	693.2	3.05	7.3	33.5

* Condition 9 also has a silencer installed

APPENDIX B

NORMAL OPERATIONS EMISSION CALCULATIONS

One Turbine Normal Operation Mass Emission Rates Summary

Pollutant	Maximum Uncontrolled		Maximum Controlled		Average Annual Controlled		4 Turbines Average Annual (tons/year)
	(lbs/hour)	(lbs/day)	(lbs/hour)	(lbs/day)	(lbs/hour)	(lbs/year)	
CO	125.8	3,019	12.6	302	5.7	42,750	86
NOx	43.0	1,032	8.6	206	6.3	47,250	95
VOC	1.8	43	1.2	29	0.9	6,750	14
SOx	0.6	15	0.64	15	0.46	3,450	7
PM10	3.1	74	3.09	74	2.25	16,875	34
NH3	0.0	0	3.2	77	2.3	17,250	35

Maximum Daily emissions are based on 24 hours/day

Annual operating hours per turbine are assumed **7,500** Hours/year

PM10 emissions are based on AP-42 emission factor of 0.0066 lb/MMBtu

SOx emissions are based on 0.5 grain/100 scf sulfur content in natural gas

APPENDIX C

STARTUP & SHUTDOWN EMISSION CALCULATIONS

Startup and Shutdown Emissions Per Turbine

Assumptions:

Number of Startups per day = 1 on the average
 Number of Startups per Year = 365 Startups
 Startup duration:
 Uncontrolled CO = 10 minutes then controlled thereafter
 Uncontrolled VOC = 10 minutes then controlled thereafter
 Uncontrolled NOx = 10 minutes
 then partial control for 5 minutes
 (25-30ppm through water injection) then full control thereafter

Number of Shutdowns per day = 1 on the average
 Number of Shutdowns per year = 365 Shutdowns
 Shutdown duration assumed: 10 minutes on the average
 Shutdown emissions are also assumed to be the same as normal operation.

Maximum Hourly Startup Emissions assuming worst case operation @ 100% load, 24 degrees F, and no chiller.

CO = (125.8 lbs/hour x 10/60) + (12.6 lbs/hour x 50/60) = 31.47 lbs/hour
 NOx = (43.0 lbs/hour x 10/60) + (31.4 x 5/60) + (8.6 x 45/60) = 16.23 lbs/hour
 VOC = (1.8 lbs/hour x 10/60) + (1.2 lbs/hours x 50/60) = 1.30 lbs/hour
 SOx = less than normal operation, but assumed as same = 0.64 lbs/hour
 PM10 = less than normal operation, but assumed as same = 3.09 lbs/hour
 NH3 = 0 for the first 15 minutes + (3.2 lbs/hour x 45/60) = 2.40 lbs/hour

Average Annual Startup Emissions using the same assumptions listed above and average annual operating condition

CO = [(125.8 lbs/hour x 10/60) + (5.7 lbs/hour x 50/60)] x 365 startups/year = 9,387 lbs/year
 NOx = [(31.4 lbs/hour x 10/60) + (31.4 x 5/60) + (6.3 x 45/60)] x 365 startups/year = 4,590 lbs/year
 VOC = [(1.3 lbs/hour x 10/60) + (0.9 lbs/hours x 50/60)] x 365 startups/year = 353 lbs/year
 SOx = less than normal operation, but assumed as same (0.46 lbs/hour x 365) = 168 lbs/year
 PM10 = less than normal operation, but assumed as same (2.25 lbs/hour x 365) = 821 lbs/year
 NH3 = [0 for the first 15 minutes + (2.3 lbs/hour x 45/60)] x 365 startups per year = 630 lbs/year

Maximum Hourly Shutdown Emissions assuming worst case operation @ 100% load, 24 degrees F, and no chiller.

CO = 12.60 lbs/hour
 NOx = 8.60 lbs/hour
 VOC = 1.20 lbs/hour
 SOx = 0.64 lbs/hour
 PM10 = 3.09 lbs/hour
 NH3 = 3.20 lbs/hour

Average Annual Shutdown Emissions using the same assumptions listed above and average annual operating condition

CO = 5.7 lbs/hour x 365 shutdowns/year = 2,081 lbs/year
 NOx = 6.3 lbs/hr x 365 shutdowns/year = 2,300 lbs/year
 VOC = 0.9 lb/hour x 365 shutdowns/year = 329 lbs/year
 SOx = 0.46 lb/hr x 365 shutdowns/year = 168 lbs/year
 PM₁₀ = 2.25 lbs/hr x 365 shutdowns/year = 821 lbs/year
 NH3 = 2.3 lbs/hr x 365 shutdowns/year = 840 lbs/year

Pollutant	Startup		Shutdown	
	Max Hourly Emission Rate (lbs/hour)	Average Annual Emissions (lbs/year)	Max Hourly Emission Rate (lbs/hour)	Average Annual Emissions (lbs/year)
CO	31.47	9,387	12.60	2,081
NOx	16.23	4,590	8.60	2,300
VOC	1.30	353	1.20	329
SOx	0.64	168	0.64	168
PM10	3.09	821	3.09	821
NH3	2.40	630	3.20	840

Worst-Case Start-up Scenario

Assumption and Limitations:

Only 2 Turbines will be started up at-a-time and assuming that the other two turbines are already in normal operation

Maximum Hourly Startup Emissions assuming worst case operation @ 100% load, 24 degrees F, and no chiller.

**Maximum hourly startup emissions for each turbine can be expressed as follows:
 [(Max Hourly Startup Emissions x 2) + (Max Hourly Normal Emissions x 2)] / 4**

Pollutant	Maximum Startup Emissions (lbs/hour)	Maximum Normal Emissions (lbs/hour)	Composite Max Hourly Startup Emissions (lbs/hour)	Other Averaging Periods (lbs/hour)				
				1-hour	3 Hours	8 Hours	24 Hours	Annual
CO	31.47	12.60	22.033			13.78		
NOx	16.23	8.60	12.417					6.30
VOC	1.30	1.20	1.250					
SOx	0.64	0.64	0.640		0.64		0.64	0.46
PM10	3.09	3.09	3.090				3.09	2.25
NH3	2.40	3.20	2.800					

APPENDIX D

**COMMISSIONING
EMISSION CALCULATIONS**

Commissioning Emissions

Each turbine will be commissioned separately. The time required to commission each turbine is estimated to be about 96 hours. During commissioning, emissions of CO, NO_x, and VOC are expected to be higher than normal due to the fact that the SCR and CO control system may not be fully operational, and the turbine combustor may not be optimally tuned.

The commissioning emissions calculations are based on the following assumptions:
 The turbine is fired for the first 10 hours without water injection and without SCR/Ox-Cat.
 Water injection is employed from hour 11 through hour 60, then hour 61 to 96 are fully controlled.

Emissions for Hours 0-10 Per Turbine (Assuming Operating Scenario 13)

CO = 8.8 lbs/hour x 10 hours =	88.0 lbs
NO _x = 43.0 lbs/hour x 10 hours =	430.0 lbs
VOC = 1 lb/hour x 10 hours =	10.0 lbs
SO _x = 0.36 lbs/hour x 10 hours =	3.6 lbs
PM ₁₀ = 1.73 lbs/hour x 10 hours =	17.3 lbs
NH ₃ =	- lbs

Emissions for Hours 11-60 Per Turbine (Assuming Operating Scenario 13)

CO = 8.8 lbs/hour x 50 hours =	440.0 lbs
NO _x = 24.1 lbs/hour x 50 hours =	1,205.0 lbs
VOC = 1 lb/hour x 50 hours =	50.0 lbs
SO _x = 0.36 lbs/hour x 50 hours =	18.0 lbs
PM ₁₀ = 1.73 lbs/hour x 50 hours =	86.5 lbs
NH ₃ =	- lbs

Emissions for Hours 61-96 Per Turbine (Assuming Operating Scenario 13)

CO = 3.5 lbs/hour x 36 hours =	126.0 lbs
NO _x = 4.8 lbs/hour x 36 hours =	172.8 lbs
VOC = 0.7 lb/hour x 36 hours =	25.2 lbs
SO _x = 0.36 lbs/hour x 36 hours =	13.0 lbs
PM ₁₀ = 1.73 lbs/hour x 36 hours =	62.3 lbs
NH ₃ = 1.8 lbs/hour x 36 hours =	64.8 lbs

Commissioning Period - Mass Emissions

Pollutant	One Turbine (lbs)	Four Turbine (lbs)
CO	654	2,616
NO _x	1,808	7,231
VOC	85	341
SO _x	35	138
PM ₁₀	166	664
NH ₃	65	259

APPENDIX E

EMISSIONS OFFSETS CALCULATIONS

Emissions Offsets Calculations

Gas Turbine fuel flow at 100 Load & winter conditions (24 F) (based on Operating Condition 1) = 0.445 MMscf/hour

Gas Turbine fuel flow at 100 Load & summer conditions (114 F) (based on Operating Condition 12) = 0.429 MMscf/hour

Maximum monthly hours of operation = 670 hours based on 31-day month, 24 hours/day and 90% capacity factor

Assumptions:

Shutdown emissions = Normal operation emissions

PM10 and SOx startup emissions = Normal operation emissions

Commissioning lasts 96 hours per turbine

Emissions from each identical turbine are the same

Offsets Emission Calculations

Turbine	Condition	Hours per Month	CO (lbs/hour)	NOx (lbs/hour)	VOC (lbs/hour)	SOx (lbs/hour)	PM10 (lbs/hour)	CO (lbs/month)	NOx (lbs/month)	VOC (lbs/month)	SOx (lbs/month)	PM10 (lbs/month)		
CTG 1	Startup	31	31.47	16.23	1.3	0.23	2.25	976	503	40	7	70		
	Shutdown	31	12.6	8.6	1.2	0.23	2.25	391	267	37	7	70		
	Normal Op	608	12.6	8.6	1.2	0.23	2.25	7661	5229	730	140	1368		
CTG 2	Startup	31	31.47	16.23	1.3	0.23	2.25	976	503	40	7	70		
	Shutdown	31	12.6	8.6	1.2	0.23	2.25	391	267	37	7	70		
	Normal Op	608	12.6	8.6	1.2	0.23	2.25	7661	5229	730	140	1368		
CTG 3	Startup	31	31.47	16.23	1.3	0.23	2.25	976	503	40	7	70		
	Shutdown	31	12.6	8.6	1.2	0.23	2.25	391	267	37	7	70		
	Normal Op	608	12.6	8.6	1.2	0.23	2.25	7661	5229	730	140	1368		
CTG 4	Startup	31	31.47	16.23	1.3	0.23	2.25	976	503	40	7	70		
	Shutdown	31	12.6	8.6	1.2	0.23	2.25	391	267	37	7	70		
	Normal Op	608	12.6	8.6	1.2	0.23	2.25	7661	5229	730	140	1368		
			Total Monthly Emissions (lbs/month):											
			36,108									23,994	616	6,030
			30-Day Average Emissions (lbs/day):											
			1,204									800	21	201
			7,500 Hours/Year Operation Emissions (tons/year):											
			86									95	7	34
			Offset Ratio:											
			1.2									1.2	1.2	1.2
			Emission Offsets Required (lbs/day):											
			1,444									960	25	241

LM6000

TURBINE GENERATOR SET

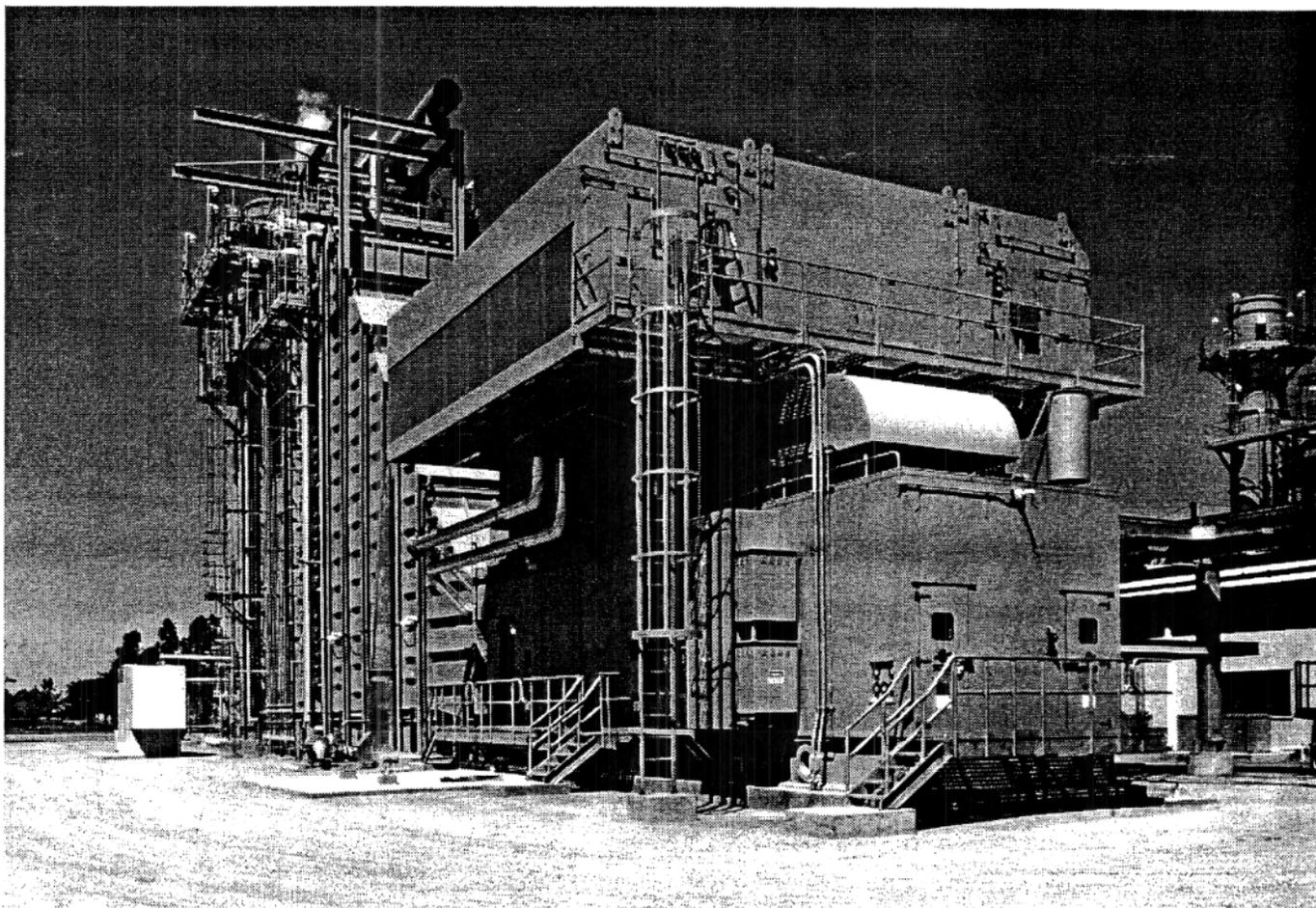
PRODUCT SPECIFICATION



LM6000

GAS TURBINE GENERATOR SET

PRODUCT SPECIFICATION



THIS PRODUCT MANUAL IS SUBMITTED WITH THE UNDERSTANDING THAT THE INFORMATION CONTAINED HEREIN WILL BE KEPT CONFIDENTIAL AND NOT DISCLOSED TO OTHERS OR DUPLICATED WITHOUT THE PRIOR CONSENT OF S&S ENERGY PRODUCTS. DATA AND SPECIFICATIONS MAY BE UPDATED FROM TIME TO TIME WITHOUT NOTICE.



PERFORMANCE CURVES AND DATA

Turbine Performance

ISO Conditions

- Inlet and Exhaust Losses - None
- Emission Controls - None

Gas turbine engine performance is affected by several factors, including:

- Ambient temperature
- Barometric pressure
- Relative humidity
- Elevation above sea level
- Inlet pressure losses
- Exhaust pressure losses
- Emission controls
- Fuel type

To assist buyers, the International Organization for Standardization (ISO) has defined the following standard conditions for rating and comparing gas turbine engines:

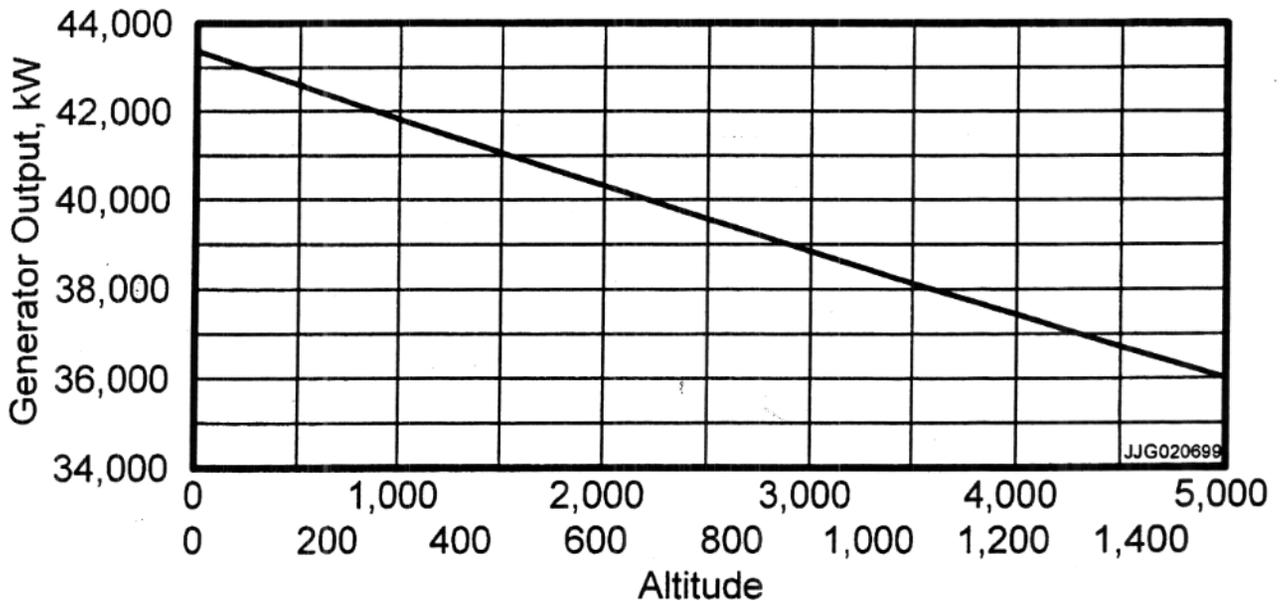
- Ambient Temperature - 15°C (59°F)
- Barometric Pressure - 76 cm Hg (14.696 PSIA)
- Relative Humidity - 60%
- Elevation - Sea Level

Charts & Data

The charts, curves and data in this manual are shown at standard ISO conditions, except as specifically noted.

S&S Energy Products will be glad to prepare performance data for customer's individual job site conditions.

GE LM6000 Performance at Various Altitudes



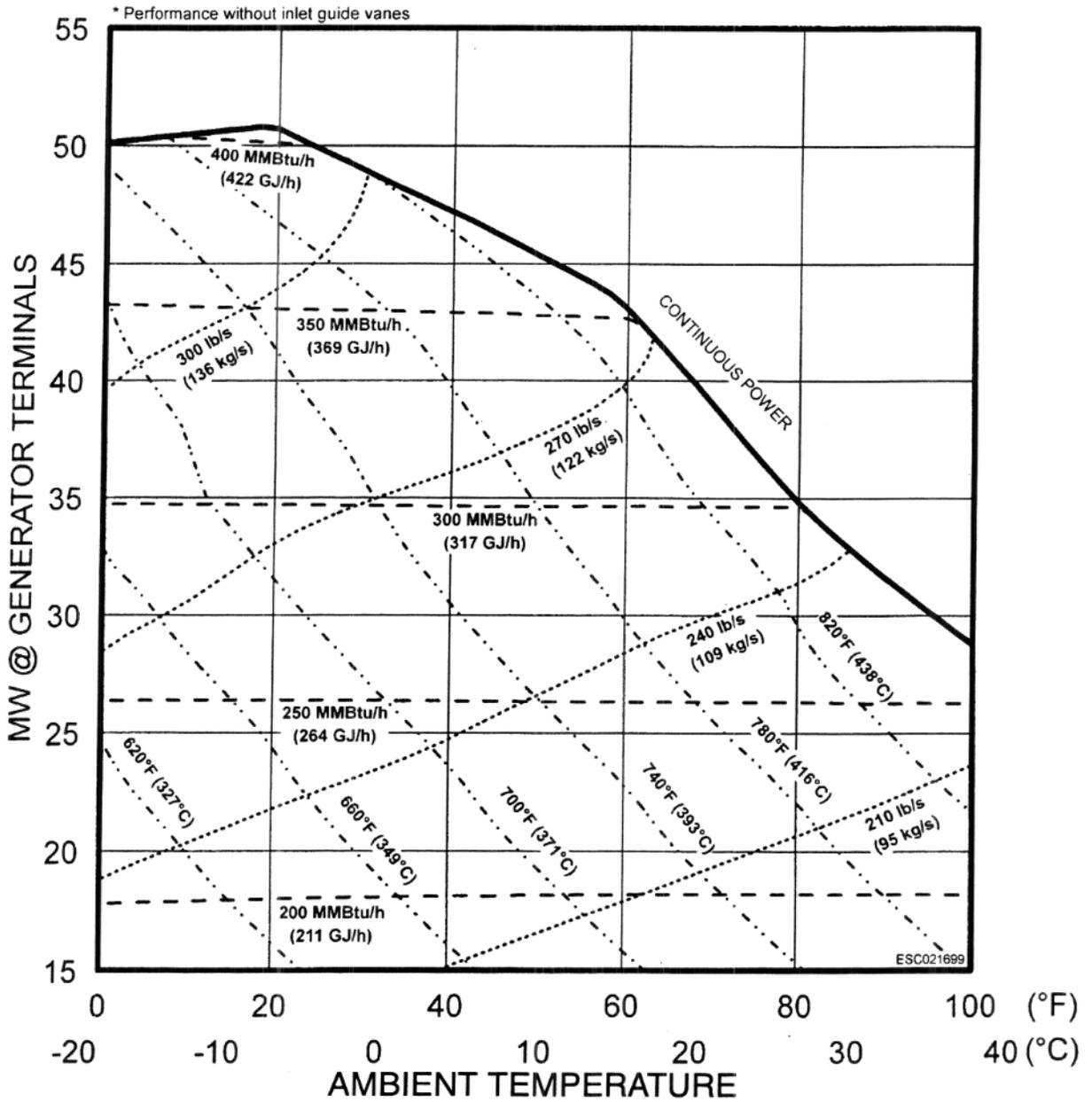


LM6000 GAS TURBINE

60Hz GENERATOR SET PERFORMANCE

60% RH, SEA LEVEL, 3600 RPM
 NO INLET/EXHAUST LOSSES
 NATURAL GAS FUEL, DRY ENGINE

FUEL FLOW, MMBTU/h LHV (GJ/h) - - - -
 EXHAUST MASS FLOW lb/s (kg/s) ······
 EXHAUST GAS TEMP °F (°C) - ······

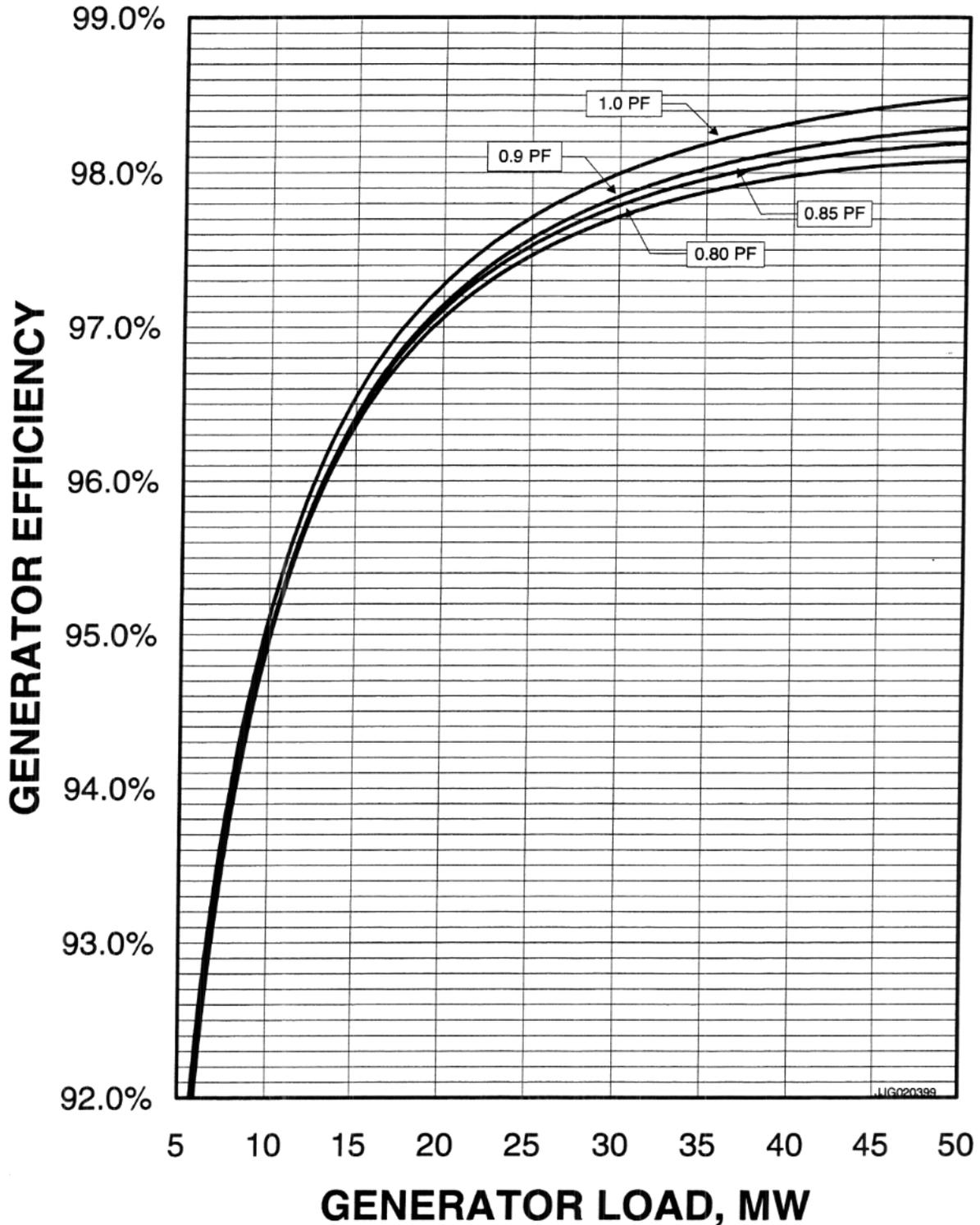




LM6000 GAS TURBINE GENERATOR SET

VARIATION OF EFFICIENCY WITH LOAD

13.8 kV, 60 Hz, 3 PH, 59°F COOLING AIR



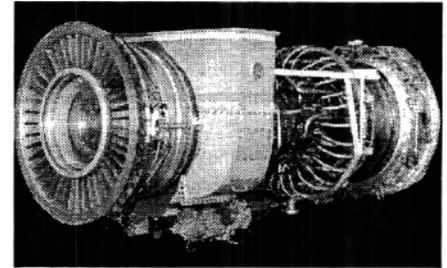


BASIC SCOPE OF SUPPLY

The following equipment and services are included in the basic scope of supply.

GAS TURBINE

General Electric LM6000 is the world's most fuel-efficient simple-cycle gas turbine. The LM6000 delivers world class reliability and economy in simple-cycle, combined-cycle, and cogeneration applications. Proven design provides long-life for base load or peaking power.



GE LM6000 Gas Turbine.

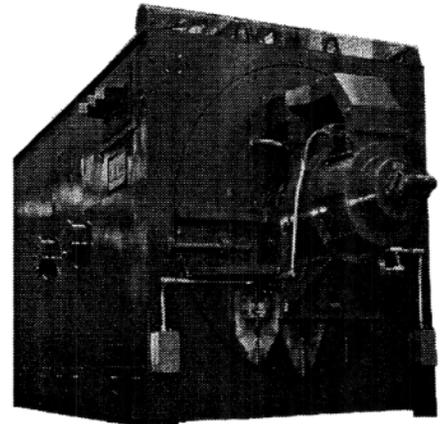
LM6000 GENERATOR SETS - ISO RATINGS*

60 Hz

Power	43,488 kW
Heat Rate	8164 Btu/kWh (LHV)
	8613 kJ/kWh (LHV)

GENERATOR

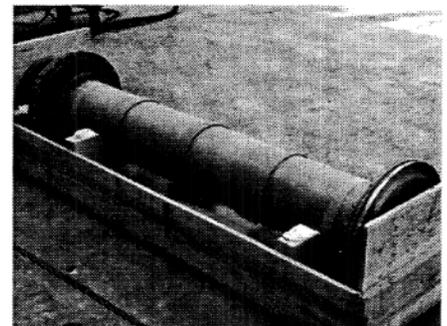
Air-cooled generator with brushless excitation, rated 71,176 kVA @ 0.85 PF, 13800 volts, 60 Hz, 59°F (15°C) cooling air, suitable for Class 1, Group D, Division 2 areas. Generator handles the full continuous power of the gas turbine at any ambient temperature throughout the operating range. Generator cooling air is filtered by the inlet air filter. Air cooling eliminates the need for a cooling water loop and associated fans and pumps. Generator is utility grade, 2-pole synchronous design with brushless excitation and PMG (permanent magnet generator). Neutral and Lineside cubicles and voltage regulator are included. (See Section 6 for additional information.)



Air Cooled Generator.

DIRECT DRIVE GENERATOR

60-Hertz Generators are directly coupled to the generator with a dry, flexible diaphragm coupling. No gearbox is required. The coupling transmits full turbine torque to the generator at all operating conditions.



Flexible Coupling Connects 60 Hz LM6000 Turbine And Generator.

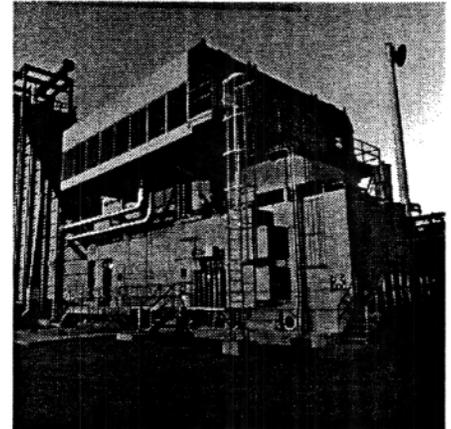
* Includes generator and gearbox losses. Ratings are at 15°C (59°F), no inlet / exhaust losses, natural gas fuel, sea-level, 60° RH.



BASIC SCOPE OF SUPPLY (CONTINUED)

ENCLOSURE

Acoustic enclosure for turbine and generator. The unit is protected by a weatherproof acoustic enclosure with separate compartments for turbine and generator. Each compartment is ventilated with redundant fans. Explosion-proof AC lighting and fire and gas detection equipment are provided in each compartment. A bridge crane in the turbine compartment simplifies engine removal and maintenance. (See Section 8 for additional information.)

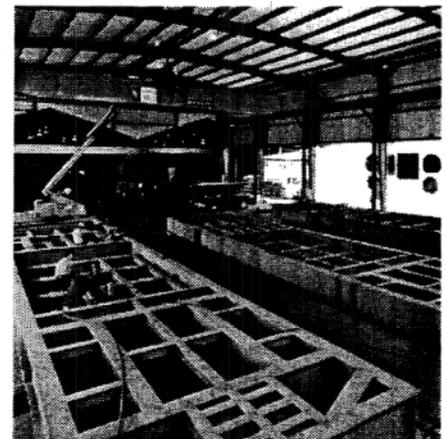


Enclosure Protects Equipment And Reduces Sound Emissions.

BASEPLATE

I-beam baseplate. LM6000 generator sets are mounted on two rugged I-beam baseplates to simplify shipping and installation. The gas turbine is mounted on one baseplate; the generator (and gearbox for 50 Hz units) are mounted on the other. Tapered pins between the baseplates simplify field alignment.

The baseplates are suitable for Uniform Building Code earthquake Zone 4 installations. Lifting spools are built into the baseplates.



Baseplates Are Fabricated With Continuous, Full Penetration Welds.

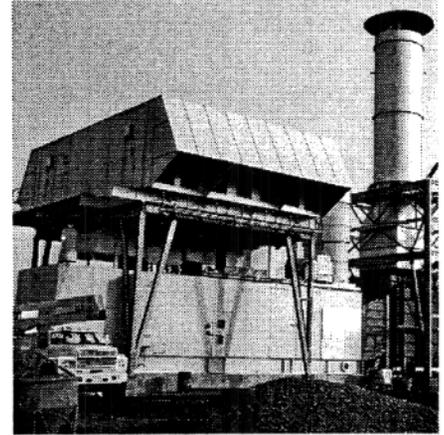


BASIC SCOPE OF SUPPLY (CONTINUED)

INLET AIR SYSTEM

Pre-Engineered for Performance. S&S Energy Products filters all combustion and ventilation air with a rugged, high-efficiency inlet air system. We use pre-engineered filter options for job sites with special needs such as dust, salt air, humidity or other local conditions. Optional Cooling Coils improve turbine performance in hot weather, and protect the inlet during icing conditions (with hot water circulation).

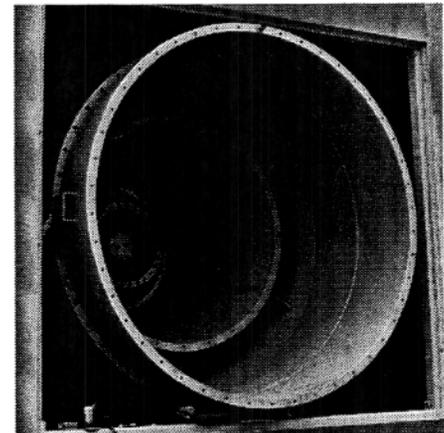
The filter house mounts above the turbine enclosure, supported by the enclosure frame (or by optional legs). Downward airflow provides filtered air for combustion and ventilation. This compact filter design is easily installed in the field, and it eliminates customer-supplied ducting. The filter system includes a stainless steel inlet silencer and a ladder and platform for inspection and servicing the filter. (See Section 7 for additional details.)



Inlet Air System Filters Both Combustion And Ventilation Air.

EXHAUST SYSTEM

Axial Exhaust for low loss. Straight-line exhaust system reduces pressure drop and permits closer spacing of multiple units. Customer connects to circular exhaust flange and furnishes remainder of exhaust system. (S&S Energy Products offers an optional exhaust stack assembly for simple cycle units. Please see Section 9 for details.)



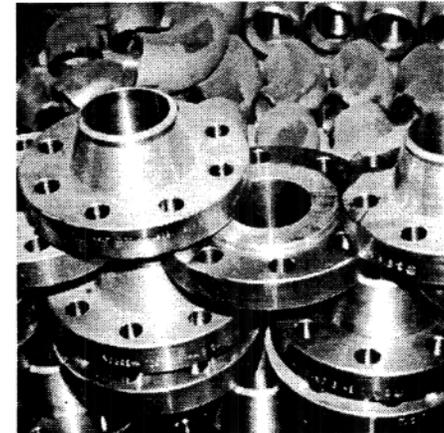
Axial Exhaust Simplifies Equipment Layout.

PIPING SYSTEM

Stainless Steel throughout.

- 304 Stainless Steel - Lube Oil, Fuel and Water piping and fittings, Lube Oil Reservoirs, Run-Down Tanks, Water Wash Tanks, Hydraulic Systems, and Stainless Steel Trim on Valves.
- 321 Stainless Steel - Steam piping and fittings.

All piping is designed and fabricated to ANSI B31.1 Power Piping Code requirements. Pipe spools are hydrostatically tested at 1.5 times maximum working pressure. Steam piping welds are 100% x-ray inspected. 10% of all other piping welds are x-ray inspected.



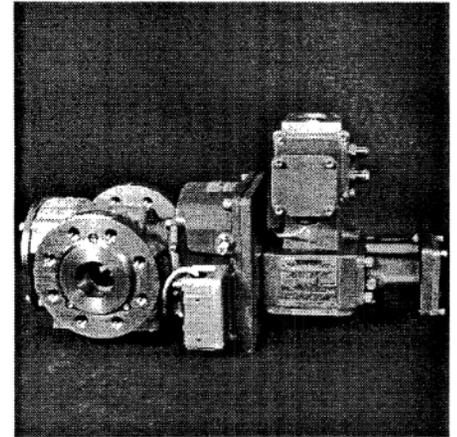
304 Stainless Steel Pipe And Fittings.



BASIC SCOPE OF SUPPLY (CONTINUED)

FUEL SYSTEM

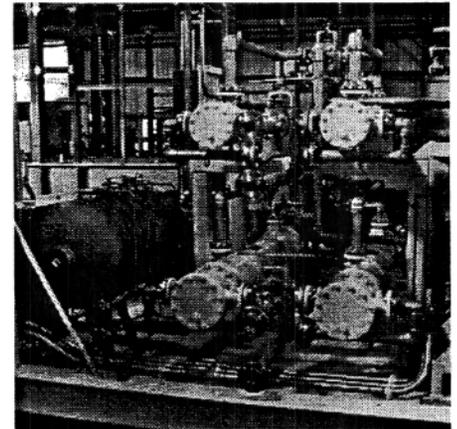
Natural gas fuel system, complete, self-contained. Basic unit includes natural gas fuel system with fuel metering valve and all necessary shutoff valves, piping and instruments. Options include:



Woodward Fuel Gas Valve Provides Precise Control.

LUBE OIL SYSTEMS

Two systems - synthetic oil for the gas turbine, mineral oil for the generator and 50 Hz gearbox. Each lube oil system includes stainless steel piping and reservoirs, stainless steel trimmed valves, duplex filters and duplex shell & tube coolers. Filters and coolers can be serviced during operation. For 60 Hz units, the coolers, filters and gas turbine lube oil reservoir are mounted on the Auxiliary Module. A separate lube oil module is provided for the gearbox and generator on 50 Hz units. (See Section 11 for additional information.)



Duplex Shell & Tube Lube Oil Coolers (60 Hz System).

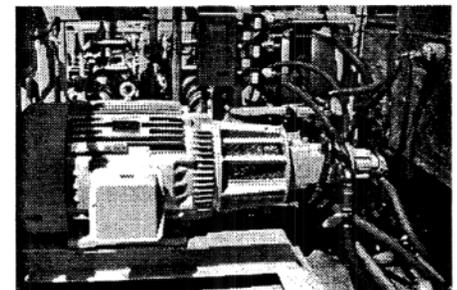
ELECTRO-HYDRAULIC STARTING SYSTEM

*Rotates turbine for starting and water washing. Permits 10-minute start to full load.**

Starting system includes:

- 200 HP electric motor (150 kW)**
- Variable-displacement hydraulic pump **
- Air/oil cooler **
- Hydraulic reservoir, filters and controls**
- Hydraulic starting motor on the turbine accessory gearbox

This system rotates the turbine for starting, water washing and exhaust system purging. (Please see Section 10 for additional information.)



200 HP Electric Motor Powers Hydraulic Starting System.

* Requires simple-cycle unit or HRSG with bypass or dry operation capability.
** Mounted on the Auxiliary Module baseplate.



BASIC SCOPE OF SUPPLY (CONTINUED)

DIGITAL CONTROL SYSTEM

Includes control panel and package-mounted sensors, valves and actuators. The S&S Energy Products system provides operating, sequencing and safety controls for the gas turbine and generator. The unit panel is suitable for indoor mounting in a non-hazardous, air conditioned control room. System includes:

- Unit Control Panel, containing:
 - Digital controller
 - Vibration monitoring system
 - Manual-Auto voltage regulator.
 - Protective relay system
 - Industrial or desktop PC for HMI (color monitor indicates alarms, shutdowns, status)
 - Fire & Gas system monitor
 - Auto/Manual Synchronization
 - Auto/Manual generator loading
 - Provisions for Remote Control with customer's DCS
- Package-mounted sensors and valves
- 24 Volt Control battery system with dual 100% chargers

(Please see Section 14 for additional information.)

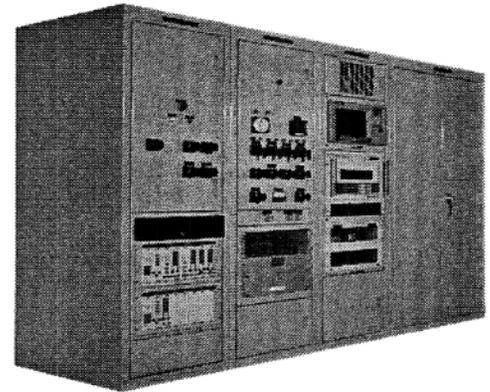
FIRE DETECTION SYSTEM

Fire and gas detection and extinguishing system.

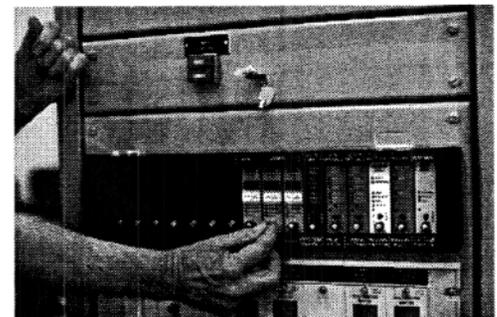
Including:

- Sensors in Turbine and Generator enclosures:
 - Optical Flame Detectors
 - Gas detectors
 - Temperature detectors (with rate-of-rise detection)
- Monitor in Unit Control Panel
- Primary and secondary CO₂ cylinders, piping, nozzles
- 24 Volt Fire & Gas System battery and charger

(Please see Section 13 for additional information.)



Operator Controls Gas Turbine And Generator From Unit Control Panel.



Sensors Detect Flame, Temperature And Hazardous Gas Concentration.

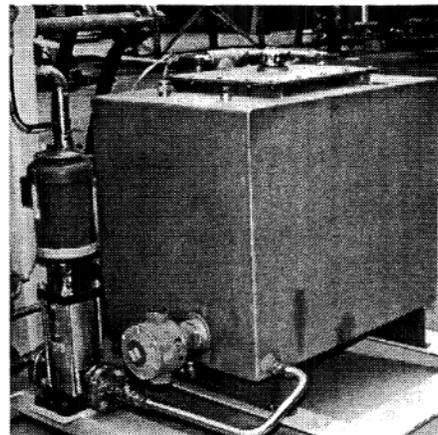


BASIC SCOPE OF SUPPLY (CONTINUED)

WATER WASH

“On-line” and “soak wash” systems boost performance and availability.

Water wash system includes a stainless steel reservoir mounted on the Auxiliary Module, a manifold of spray jets mounted in the turbine inlet volute, and a pump to pressurize solution into the spray nozzles. An electric heater for the water wash solution can be included as an option. Customer supplies necessary chemicals and purified water to the Auxiliary Module connection.



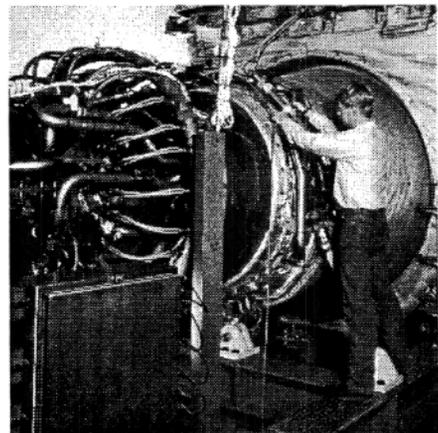
Water Wash Removes Fouling And Improves Gas Turbine Performance.

COMPONENT TESTING

LM6000 Factory Acceptance Testing

S&S Energy Products provides factory acceptance testing on the standard LM6000 gas turbines, using the state-of-the-art test cell at our Jacintoport facility. Tests include:

- Mechanical integrity
- Output horsepower
- Heat rate
- Vibration



LM6000 On Test In S&S Energy Products' Test Cell.

Generator factory test. Each generator is factory-tested to stringent IEEE or IEC requirements, including rotor overspeed (120%) test. Additional factory tests are run on selected generators to verify resistances, reactances, voltage, heat runs and open-circuit and short-circuit characteristics.



Generator On Test At Factory.



BASIC SCOPE OF SUPPLY (CONTINUED)

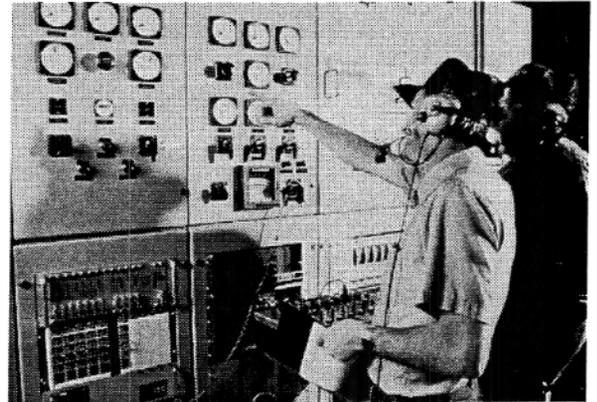
FULL-LOAD STRING TEST

Complete unit test under load. The completed gas turbine generator set is tested under full load.

Equipment tested includes:

- LM6000 gas turbine
- Generator
- Gearbox (50 Hz units only)
- Control System (using Project control panel)
- Auxiliary Module (Starting system, Lube Oil Coolers)

Unit mechanical performance and power generation capability are tested under full load, and performance is verified. Dual fuel units are tested with each fuel, and on-line fuel transfer is verified. (Water and steam injection systems are proven functionally, but are normally not operated during the full load test. Please see Section 15 for additional details.)



Turbine And Generator Operate Under Full Load During "STRING TEST" At Jacintoport Assembly Plant.

DOCUMENTATION

Drawings:

S&S Energy Products provides engineering drawings for the unit, including: General Arrangement drawings, Flow and Instrument Diagrams, Electrical One-Line drawings, and Conduit Wiring Interconnection Plan. (Please see Section 18.)

Manuals:

S&S Energy Products provides:

- Installation Manuals to assist in field re-assembly.
- Operating & Maintenance manuals including:
 - Operating concepts
 - Troubleshooting
 - Basic information on the gas turbine, generator and auxiliary equipment.



Operation And Maintenance Manuals Simplify Start-Up And Operation.

Manuals are printed in English, with English and Metric measurement notation. (Please see Section 18.)



BASIC SCOPE OF SUPPLY (CONTINUED)

TRAINING

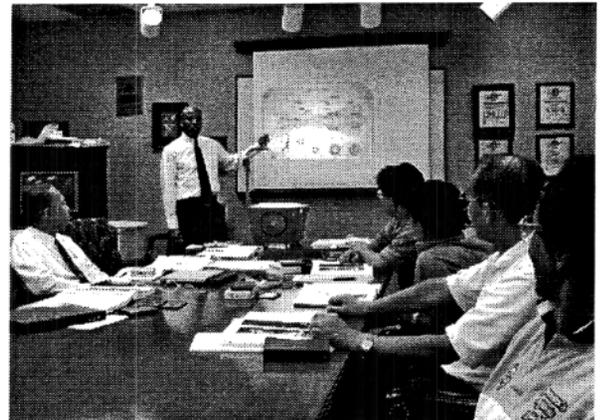
Hands-on training for 10 customer's operators and supervisors. Experienced instructors, using specially developed training materials, provide training in basic operating theory and advanced concepts. Both classroom and hands-on training are included.

Training includes *Gas Turbine Familiarization* at GE's Evendale, Ohio plant (3 days), plus *System Design & Operations* at S&S Energy Products Jacintoport*, Texas plant (8 days). Customer provides living and travel expenses for his employees.

* Training at other locations is possible. Customer provides classroom, projector, etc. Instructor's travel and living expenses are billed at cost.



Gas Turbine Familiarization At GE's Evendale, Ohio Plant.



S&S Energy Products Turbine Operations Training At Jacintoport.

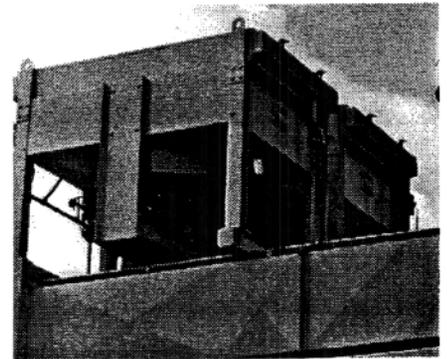


OPTIONAL EQUIPMENT AND SERVICES

“S” Quoted as Separate Price. “I” Included in Customer Quotation

OPTION D FIN-FAN COOLER

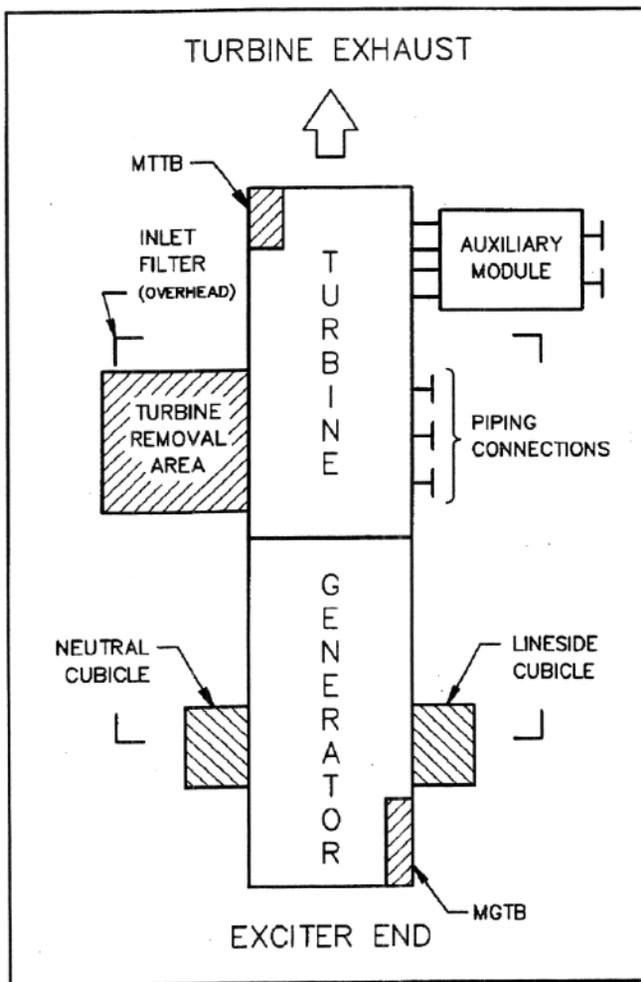
Fin-Fan Cooler replaces standard shell and tube coolers for customers who prefer air cooling of lube oil. Fin-fan cooler includes dual stainless steel coils (one for synthetic oil; one for mineral oil) and two electric-motor driven fans.



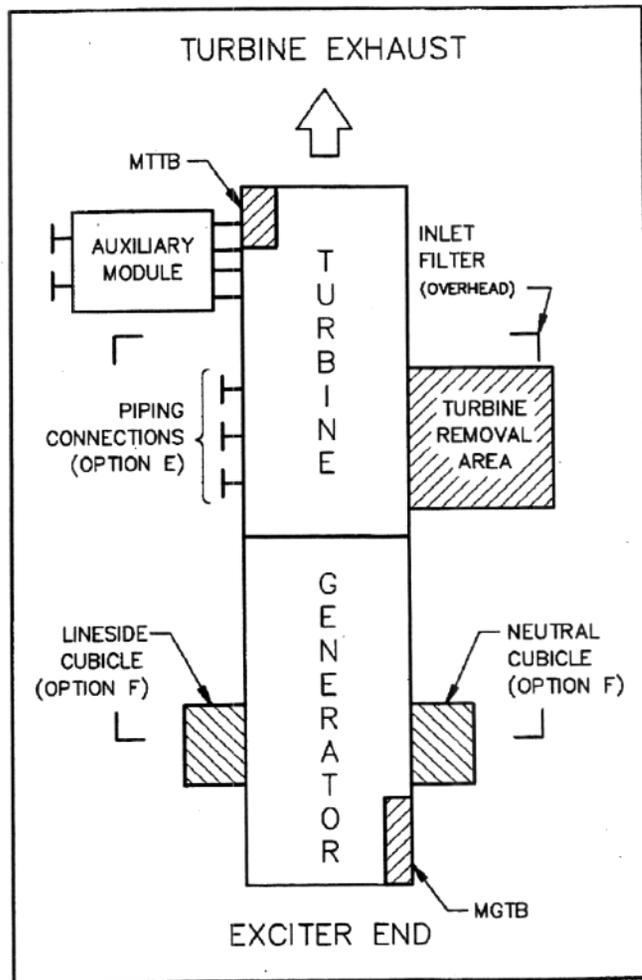
Fan Lube Oil Cooler.



OPTIONAL EQUIPMENT AND SERVICES



Standard Configuration.



Options E and F.
(May be selected separately.)

□ OPTION E LEFT-HAND PIPING CONNECTIONS

In the standard LM6000 configuration, the customer's piping connections are on the right side, as viewed from the exciter. As an option, the unit can be built with the piping connections on the left side. The turbine removal area is located on the side opposite the piping connections.

□ OPTION F LEFT-HAND LINESIDE CUBICLE

In the standard LM6000 configuration the generator lineside cubicle is on the right hand side as viewed from the exciter. The neutral cubicle is on the left. As an option, the unit can be built with the lineside cubicle on the left-hand side and the neutral cubicle on the right side.



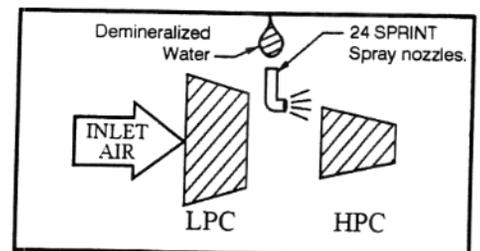
□ **OPTION L SPRINT® POWER BOOST SYSTEM**

SPRINT® is a SPRay INTercooling system that:

- Boosts turbine output power
- Increases exhaust energy

by injecting fine water droplets into the interstage air stream between the low pressure and high pressure compressors.

(For additional information, please see Section 5.)



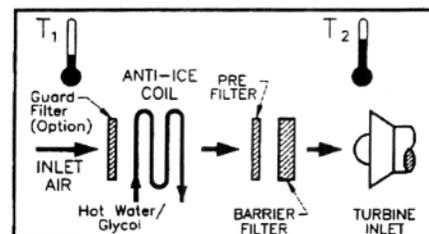
SPRINT® increases turbine output with interstage water injection.



OPTIONAL EQUIPMENT AND SERVICES (CONTINUED)

□ OPTION N INLET AIR ANTI-ICE SYSTEM

Cold weather protection. S&S Energy Products recommends an Anti-Ice System for safe operating during icing conditions (see Section 7 for details). With this option S&S Energy Products installs a heat exchanger coil as the first element in the inlet air system. Customer circulates a heated water-glycol mixture 80°-100°F (27°-38°C), 50 psig (345 kPa) through the coil to heat the inlet air 15°F (8.3°C).

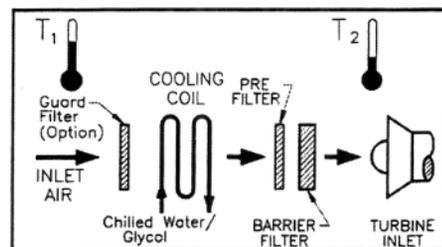


Anti-Ice System Provides Protection During Icing Conditions.

□ OPTION O INLET AIR CHILLING

Optimize Turbine Output in Hot Weather. To increase the output of the LM6000 during hot weather, S&S Energy Products offers the following optional cooling equipment:

- High Performance Cooling Coils installed in Inlet Air System.
- Mechanical Chiller Skid, complete, ready for installation.
- Circulation Module - Pumps, Motors and controls for water/glycol circulation. (Please see Section 7 for details.)



Inlet Air Is Heated/Cooled To Boost Power.



LIMITS OF SCOPE OF SUPPLY

Listed below are the limits of S&S Energy Products' standard Scope of Supply. All piping, wiring, cables, duct, etc. connecting to these points will be furnished by the Customer (unless modified by specific agreement).

Materials by S&S Energy Products

Equipment System	Limit of S&S Energy Products Scope
<ul style="list-style-type: none"> All piping, including Fuel Gas, Fuel Oil, Steam, Cooling Water, Heating Water, Demineralized Water (for NOx reduction), Lube Oil (to external coolers), Compressed Air, Instrument Air, Hydraulic Start Oil 	Flanged or threaded connection on S&S Energy Products baseplates.
<ul style="list-style-type: none"> Inlet Air-to-Filter 	Atmosphere (non-standard duct by others)
<ul style="list-style-type: none"> Turbine Cooling Air Exhaust and Generator Cooling Air Exhaust 	Atmosphere (non-standard duct by others)
<ul style="list-style-type: none"> Turbine Exhaust 	Exhaust flange on main baseplate
<ul style="list-style-type: none"> Instruments on S&S Energy Products baseplate 	Terminal box on baseplate
<ul style="list-style-type: none"> Instrument Wiring in Turbine Control Panel 	Terminal cubicle in Turbine Control Panel
<ul style="list-style-type: none"> High Voltage Connections 	Bus bar in S&S Energy Products Lineside cubicle
<ul style="list-style-type: none"> Generator Ground Connections 	S&S Energy Products Neutral cubicle
<ul style="list-style-type: none"> Electric Motor Connections 	Terminal box on individual motor
<ul style="list-style-type: none"> Ladders and Platforms 	Ladders and Platforms for Inlet Air Filter maintenance only
<ul style="list-style-type: none"> 24 VDC Batteries and Chargers for Control System and Fire and Gas System 	Battery Terminals (if supplied loose)*
<ul style="list-style-type: none"> 125 VDC Switchgear Battery and Charger (Optional) 	Battery Terminals (if supplied loose)*

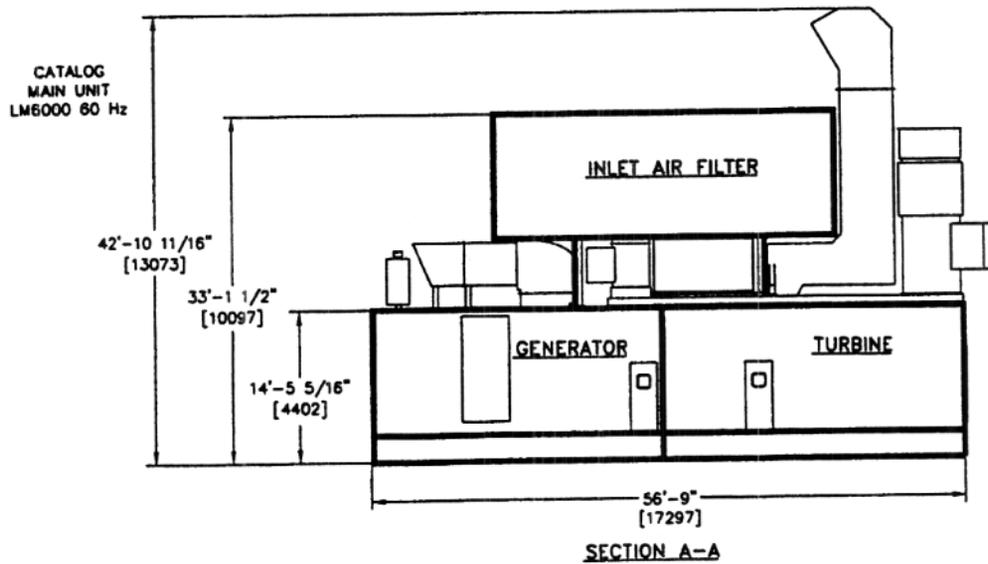
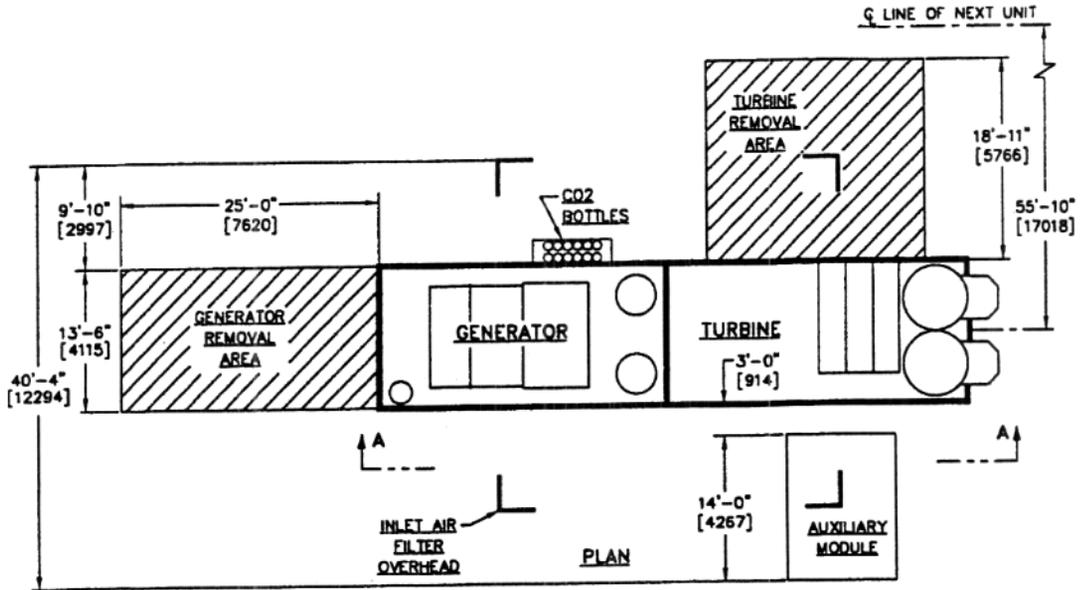
*S&S Energy Products will wire batteries to control panel if a Modular Control Room is furnished.

Material and Labor Furnished By Others

- Interconnecting piping, wiring, cables, bus bars, bus duct, ventilation duct (non-standard), exhaust duct, exhaust expansion joint, heat recovery steam generator (HRSG), exhaust stack.
- Fuel Gas Compression and Air Compression equipment, as required.
- Cooling & Heating Systems, including cooling towers, heaters, boilers and related equipment and piping
- Power wiring from Motor Control Center to terminals of motors on S&S Energy Products baseplates.
- Ladders, Stairs and Platforms (except those for Inlet Air Filter Maintenance).
- Buildings, foundations, anchor bolts.
- Fluids - Turbine Fuel, Lube Oil, Water, Steam, etc.
- Transportation, Off-Loading and Storage.
- All Jobsite Labor installation and erection labor.
- Field Performance Testing.



MAJOR DIMENSIONS - LM6000 60 Hz GENERATOR SET

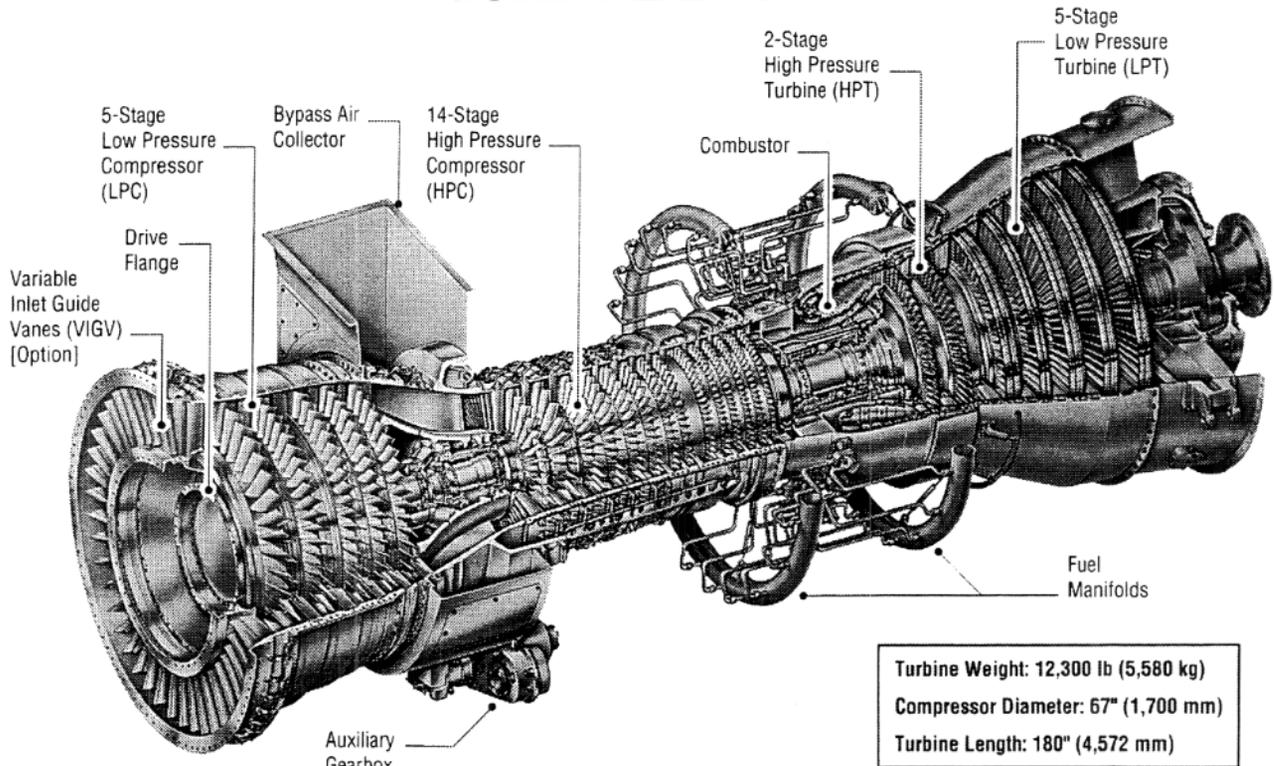


APPROXIMATE WEIGHTS

ITEM	POUNDS	KILOGRAMS
Main Baseplate	437,500	198450
Auxiliary module	18,100	8210
Heaviest Lift (Generator)	161,000	73028



TURBINE ENGINE



Turbine Weight: 12,300 lb (5,580 kg)
 Compressor Diameter: 67" (1,700 mm)
 Turbine Length: 180" (4,572 mm)

LM6000 Gas Turbine Engine.

Description of the Turbine Engine

The LM6000 is a 2-shaft gas turbine engine derived from the core of the CF6-80C2 - GE's high thrust, high efficiency aircraft engine. Over eighteen hundred CF6-80C2s are in service and over 2000 more are on order or option.

The CF6-80C2 has logged more than 30,000,000 flight hours in the Boeing 747 and other wide-body aircraft, with a 99.88% dispatch reliability and commercial aviation's lowest shop visit rate.

GE used this 30 million hour flight experience to create the LM6000. Both engines have a common design and share most major parts. The Low Pressure Turbines, High Pressure Compressors, High Pressure Turbines, and Combustors are virtually identical. This use of flight-proven parts, produced in high volume, contributes to the low initial cost and high operating efficiency of the LM6000.

Major Engine Components

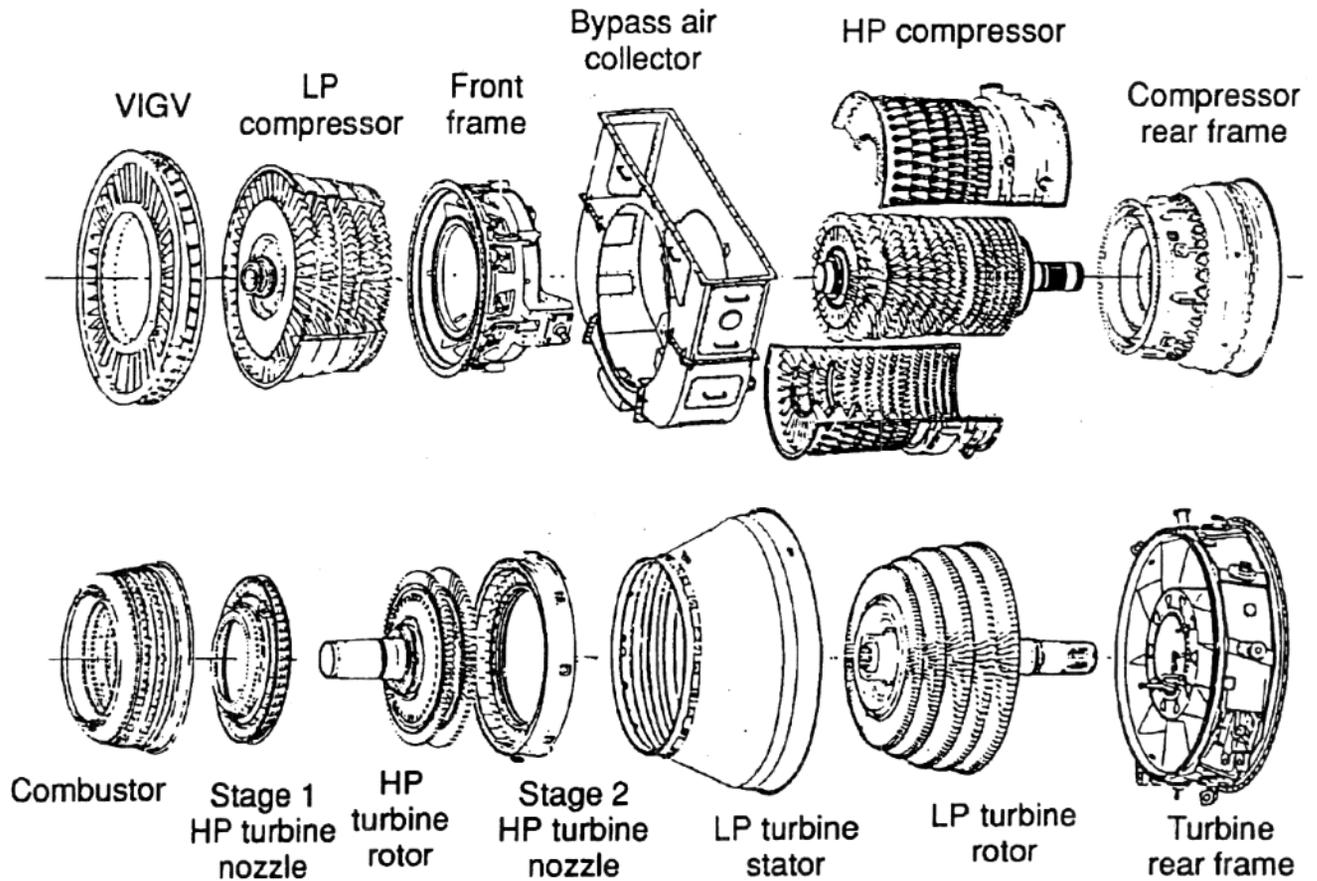
- Variable inlet guide vanes (VIGV) (Option)
- 5-stage low pressure compressor (LPC)

- 14-stage variable geometry high pressure compressor (HPC)
- Annular combustor
- 2-stage air cooled high pressure turbine (HPT)
- 5-stage low pressure turbine (LPT)
- Accessory Drive Gear Box

The LM6000 has two concentric rotor shafts:

The LPC and LPT are assembled on one shaft, forming the Low Pressure Rotor.

The HPC and HPT are assembled on the other shaft, forming the High Pressure Rotor.

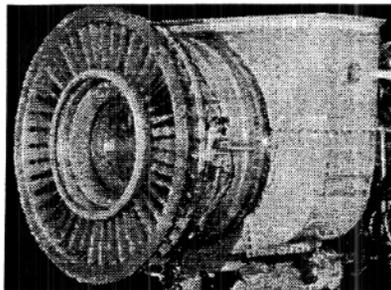


The LM6000 uses the Low Pressure Turbine (LPT) to power the output shaft. By eliminating the separate power turbine found in many other gas turbines, the LM6000 design simplifies the engine, improves fuel efficiency and permits direct-coupling to 3600 RPM generators for 60 Hz power generation. A gearbox is used to reduce 50 Hz generator speed to 3000 RPM.

The LM6000 gas turbine drives its generator through a flexible dry type coupling connected to the front, or "cold," end of the LPC shaft.

Turbine Cycle

- Filtered air enters the Bellmouth and flows through Variable Guide Vanes to LPC.
- LPC compresses air by 2.4:1 ratio.
- Air flows from LPC through the front frame and bypass air collector to HPC.
- Air enters HPC through Variable Inlet Guide Vanes.
- HPC compresses air by 12:1 ratio.
- 30 Fuel Nozzles mix air and fuel (75 nozzles for DLE)
- Air-Fuel mixture is ignited in Annular Combustor.
- Hot combustion gasses expand through HPT. HPT drives HPC.
- Hot combustion gasses expand further through LPT. LPT drives LPC.
- Flanged end of LPC shaft drives electric generator load.
- Exhaust gasses create steam in (Optional) Heat Recovery Steam Generator (HRSG).



Turbine Inlet And VIGV Section.

Inlet and VIGV Section

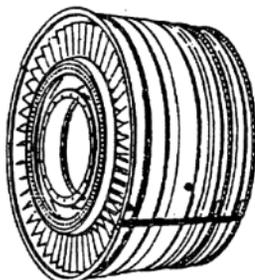
The turbine inlet smooths the air stream and directs it into the Low Pressure Compressor.¹

¹For extended operations at reduced power, optional Variable Inlet Guide Vanes (VIGV) are available to control the inlet air flow. (VIGV is standard on DLE engines.)

Low Pressure Compressor

The Low Pressure Compressor (LPC) is a 5-stage axial flow compressor with 2.4:1 pressure ratio. It is derived from the CF6-50 flight engine.

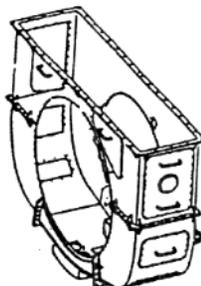
A horizontally split casing provides access to blades and vanes. Borescope ports permit flow path inspection.



Low Pressure Compressor.

Bypass Air Collector

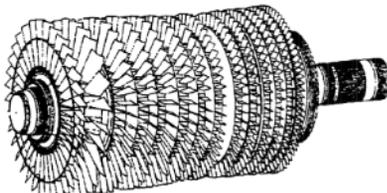
The LM6000 matches the airflow between the Low Pressure and High Pressure Compressor with 12 hydraulically-actuated Variable Bypass Valves mounted in the Turbine Front Frame. During acceleration and part-load operation these valves open partially and vent excess air to the Bypass Air Collector. This Collector supports the Auxiliary Gearbox.



Bypass Air Collector.

High Pressure Compressor

The LM6000 High Pressure Compressor (HPC) is a 14-stage design. Variable inlet guide vanes (option) and variable stators in stages 1 through 5 provide high efficiency throughout the starting and operating range. The stator geometry of stages 6 through 14 is fixed horizontally to allow ready access to the stator vanes and rotor blades for inspection or replacement.



High Pressure Compressor.

Combustion Section

Thirty nozzles feed fuel into the LM6000 annular combustor, providing a uniform heat profile to the High Pressure Turbine (HPT). This produces maximum output with low thermal stress. The nozzle design swirls the air and fuel in counter-rotating patterns to improve mixing and provide cleaner combustion and lower NOx output.

Available nozzle designs allow natural gas, distillate or dual-fuel operation. The nozzles also permit NOx reduction with water injection (natural gas and distillate fuels) and steam injection (natural gas fuel only).

The annular combustor design provides low pressure loss, low exit temperature and high combustion efficiency. A Hasteloy X inner liner resists corrosion and extends combustor life.

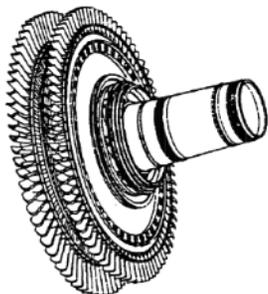


LM6000 Combustor.



High Pressure Turbine

The High Pressure Turbine (HPT) is a 2-stage, air cooled turbine rotated by the hot gasses from the combustor. The HPT powers the High Pressure Compressor to supply high pressure air to the combustor.

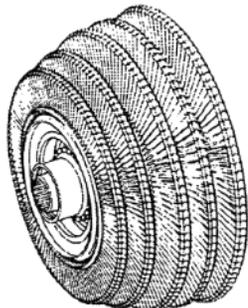


High Pressure Turbine.

Turbine disks, blades and stator are air-cooled for efficiency. Coated blades resist erosion and corrosion.

Low Pressure Turbine

The 5-stage Low Pressure Turbine (LPT) receives the outlet flow from the HPT. The LPT powers the Low Pressure Compressor and the driven load (generator, compressor, etc.) with a shaft concentric to the HPT shaft.



Low Pressure Turbine.

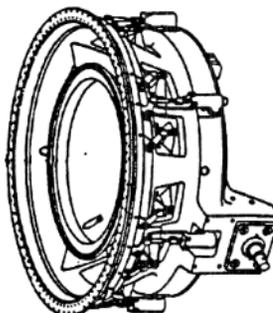
Gas Turbine Support Structures

Three frames are used on the LM6000 gas turbine to provide support for the LP and HP rotors.

This configuration produces excellent rotor stability and closely controlled blade tip clearance.

Front Frame

The LM6000 front frame is a major engine structure that provides support for the LPC shaft and the forward end of the HPC shaft. The frame also forms an air flow path between the outlet of the LPC and the inlet of the HPC. Engine front mounts provisions are made off the front frame.



LM6000 Front Frame.

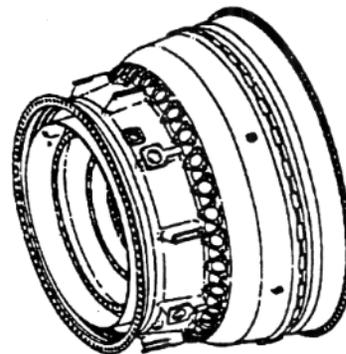
The front frame contains the engine "A" sump that includes a thrust and a radial bearing for support of the LPC rotor and a radial bearing which supports the forward end of the HPC rotor.

Lubrication oil supply and scavenge lines for the "A" sump are routed inside the frame struts. The engine inlet gearbox is located in the "A" sump, with the radial shaft extending out through the strut located at the six o'clock position.

Pads are contained on the frame outer case for mounting of the two High Pressure Compressor inlet temperature sensors.

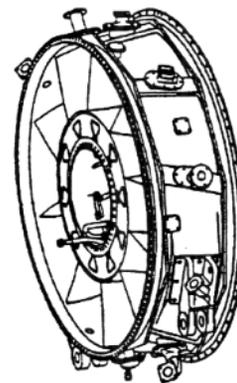
Compressor Rear Frame

The compressor rear frame consists of an outer case, 10 struts and the "B-C" sump housing. The outer case supports the combustor and 30 fuel nozzles. The hub provides support for both a thrust bearing and a radial bearing to support the mid-section of the HP rotor system.

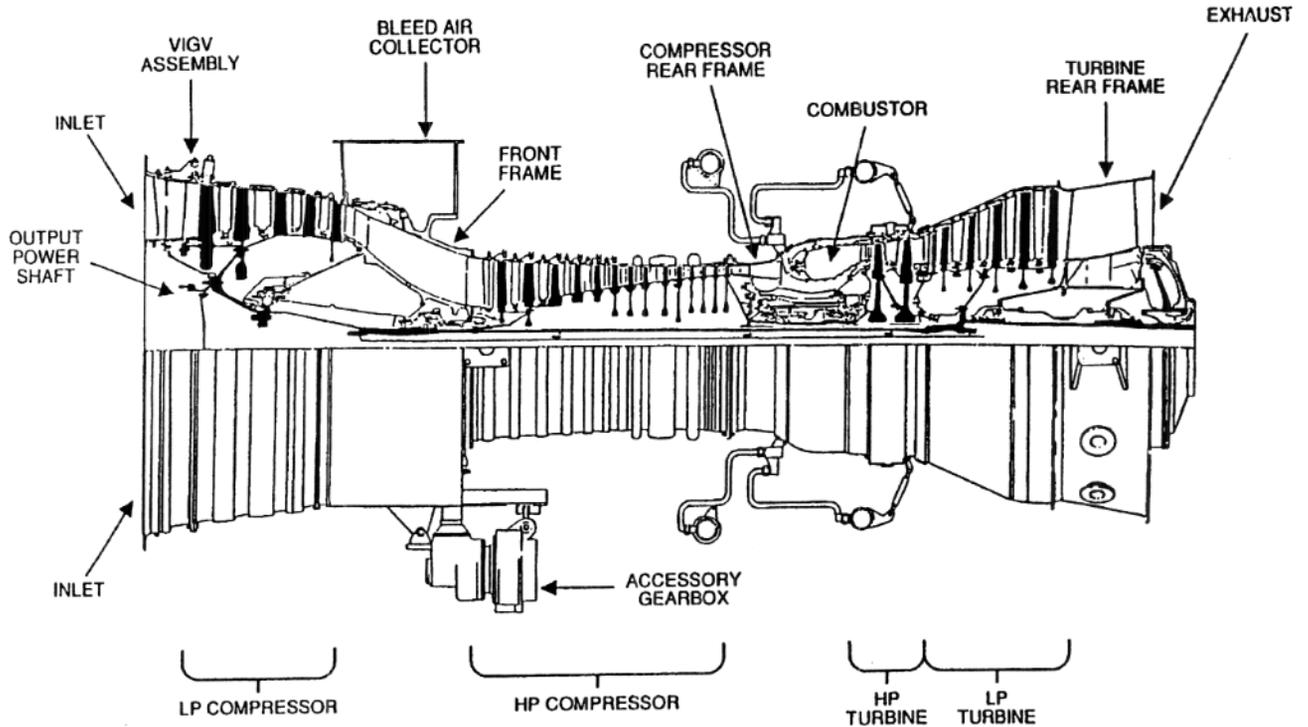


Compressor Rear Frame.

The turbine rear frame supports the rear engine mounts and contains the D-E sump. The 14-strut rear frame guides and straightens the exhaust flow for lower pressure drop and greater efficiency.



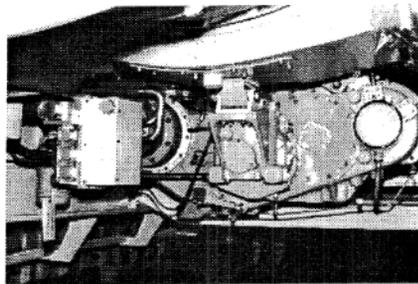
Turbine Rear Frame.



LM6000 Gas Turbine Cross Section.

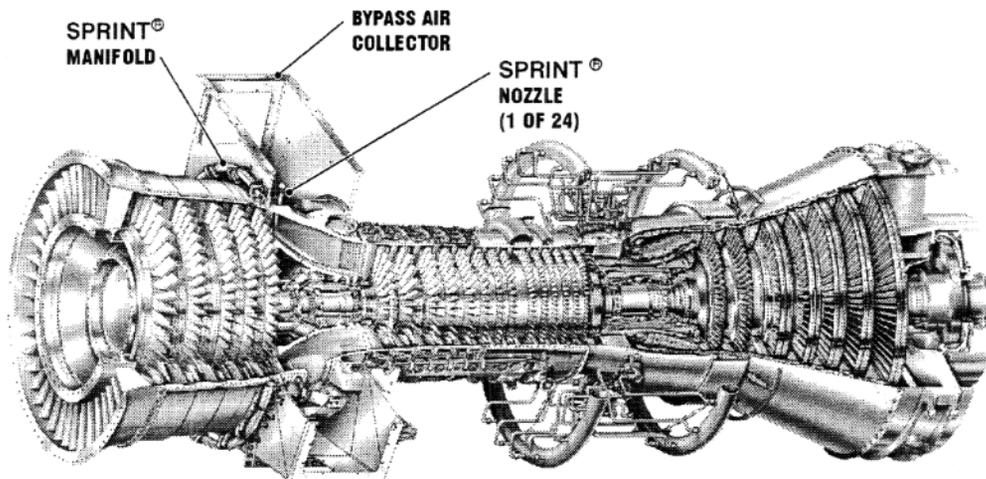
Accessory Drive System

The hydraulic starter, lube and scavenge pump, variable geometry hydraulic pump, and other accessories are mounted on and driven by the accessory gearbox. The accessory gearbox, located below the



Accessory Gearbox Mounts Below Turbine Engine.

front HPC casing at the six o'clock position on the LPC air collector, is driven from the transfer gearbox through a short horizontal shaft. The transfer gearbox is driven by the high pressure rotor system. This accessory gearbox is also used on the LM2500 and LM5000 gas turbines. The gearbox is supported from the LPC bleed air collector.



SPRINT® Intercooling Increases LM6000 Output And Efficiency.

The SPRINT® System (Option)

SPRINT® (SPRay INTercooling) produces two major benefits for the operator:

- **More Power**--SPRINT® increases power output by 7% at ISO and more than 20% on 90°F (32.2°C) days.
- **Better Heat Rate**--SPRINT® typically improves heat rate at ISO and even more on hotter days. (Please see table.)

SPRINT® enhances the efficiency and output of the LM6000 gas turbine engine. With SPRINT®, micro-droplets of atomized water are sprayed into the interstage air stream between the Low Pressure Compressor and the High Pressure Compressor. The water is atomized by eighth-stage bleed air and special nozzles to a droplet diameter

of less than 20 microns. As the droplets evaporate, the air temperature is reduced and the mass-flow is increased. This permits greater power output.

Interstage Cooling

The LM6000 is ideally suited for intercooling. The LM6000 has 2 separate compressors that operate in series:

- **Low Pressure Compressor**--A 5 stage axial compressor operates at output shaft speed, usually 3600 RPM.
- **High Pressure Compressor**--A 14 stage axial compressor operates at 6000-10000 RPM, depending upon load demand.

A bypass air duct is located between these compressor sections.

For the SPRINT® option, we mount a manifold with special spray nozzles onto the bypass air duct and spray the micro-droplets of water directly into the interstage air stream.

Evaporative Intercooling Design and Advantages

By using evaporative cooling technology instead of an external heat exchanger, we maintain a proven engine design. No changes were required to the shaft or any air foils on the LM6000.

SPRINT® also conserves energy. All of the heat of compression is kept within the engine system instead of being rejected to atmosphere. A portion of this transformed heat of compression can be captured by projects using a heat recovery system.



Ambient Temperature		30°F/-1°C	45°F/7°C	59°F/15°C	70°F/21°C	80°F/27°C	90°F/32°C
Output MW	LM6000 PC Sprint	49.6	47.2	42.6	38.5	34.2	30.6
		49.6	48.5	45.7	43.0	39.8	37.4
Heat Rate (Btu/kWh LHV)	LM6000PC Sprint	8,483	8,516	8,652	8,843	9,086	9,331
		8,483	8,519	8,617	8,722	8,849	8,984
Exh Temp F	LM6000PC Sprint	822	818	815	817	825	832
		822	818	821	824	824	833
Flow Lbs/sec	LM6000PC Sprint	301	293	279	265	251	238
		301	298	287	278	268	257
Sprint Water	gpm/min	0.0	4.0	7.5	9.4	10.0	10.5

Conditions: Sea level, 60% relative humidity, 4 inch wc inlet loss, radial inlet volute, axial exhaust, 6 inch wc exhaust loss, combustor water injection for 25 ppm NO_x, natural gas fuel, and 60 Hz generator. Expected average engine performance.

Fuel With SPRINT[®] System

The SPRINT[®] system is designed to operate with:

- Natural gas fuels
- Liquid fuels
- Dual fuel systems

NO_x Control With SPRINT[®]

The SPRINT[®] system may be used with:

- Steam injection
- Water injection systems for NO_x control

SPRINT[®] is not available with DLE systems for NO_x control at this time.

Water Supply

The water purity requirements for SPRINT[®] are identical to the requirements for NO_x control water injection. A maximum flow rate of 15 gpm (57 l/min) is required for full power boost when ambient temperature is 104°F (40°C). Flow rate at lower ambient temperatures is shown in the table above.



GENERATOR, EXCITER AND VOLTAGE REGULATOR

Generator

The S&S Energy Products generator provides:

- Simple Design
- Low Maintenance
- Operating Efficiency
- 30-Year Design Life

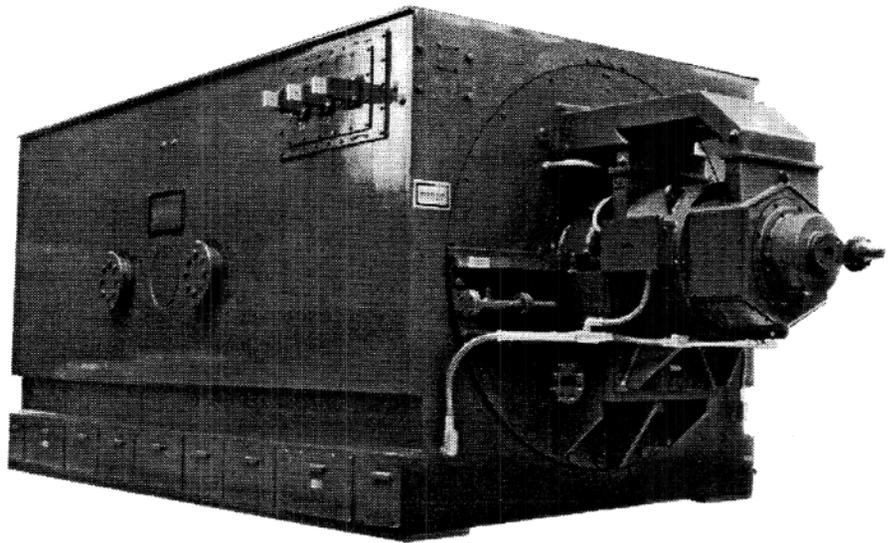
Generator Design

The generator is a synchronous, two-pole, cylindrical rotor machine. It has open-air cooling and a brushless excitation system with permanent magnet generator. The rotor is supported by two split sleeve bearings lubricated by a pressurized mineral oil system.

The generator has a design life of 30 years. The weather-proof acoustic enclosure reduces average noise levels to 90 dB(A) at three feet from unit and five feet (1.5 m) above grade.

The generator is conservatively sized, with capacity to spare. The stator, rotor and exciter have Class F insulation, and the generator can absorb all of the turbine's output power without exceeding Class B temperature rises.

The generator can also supply the following overload or fault currents without measurable loss of life:



S&S Energy Products Uses A Utility Grade Cylindrical Rotor Generator With A Brushless Exciter.

- 110% of normal current for 2 hours out of every 24 hours,
or
- 130% of normal current for one minute,
or
- 300% of normal current into a 3-phase fault for 10 seconds.

Stator Design

Stator Frame

The stator frame is fabricated from mild steel plate to form a rigid structure. The stator is equipped with substantial mounting pads with bolt holes to secure the generator to the I-beam baseplate.

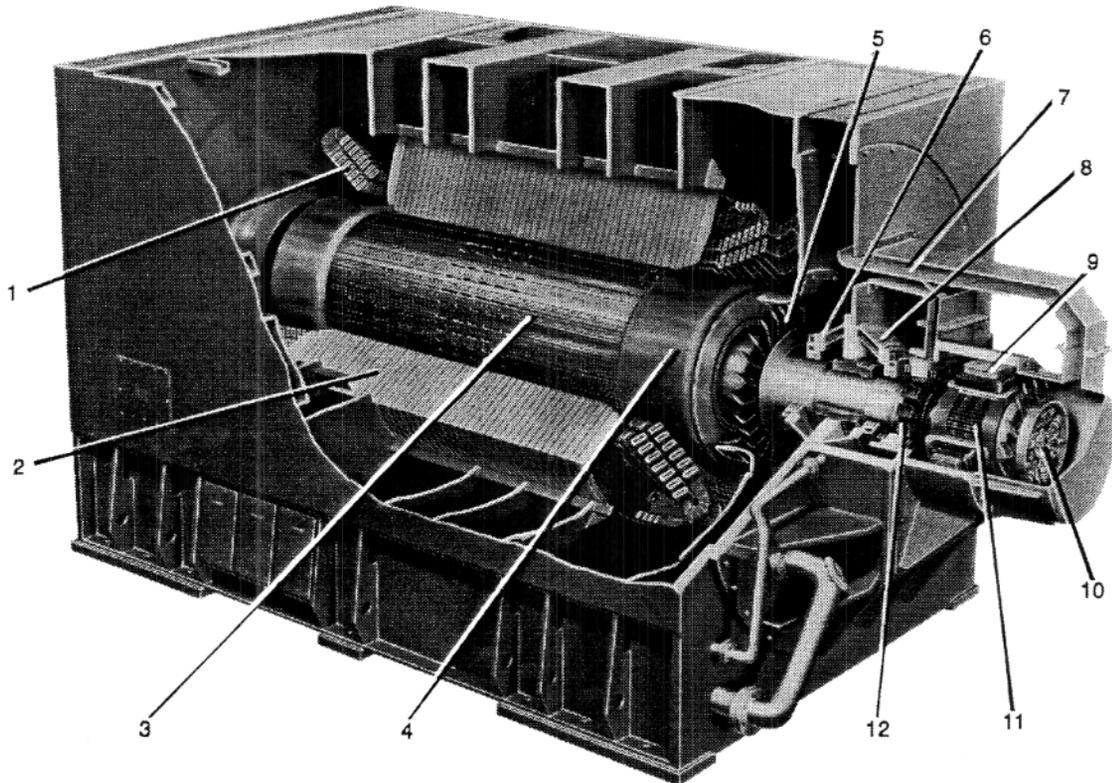
Stator Core

The core is made of segmental laminations of low-loss, high permeability, high silicon content electrical steel, carefully deburred and coated with insulating varnish.

To ensure uniformity, the core is hydraulically pressed at predetermined stages during the building operation, and the finished core is clamped between heavy steel end plates. The core is subjected to a magnetizing test of the windings to check for the soundness of interlaminar insulation and adequate tightness.

Stator Winding

The stator is made of preinsulated half-coils assembled into a two layer diamond array. Eddy current losses are minimized by dividing each conductor into smaller



- 1. Stator Winding
- 2. Stator Core
- 3. Rotor
- 4. Rotor Endcap

- 5. Shaft Mounted Fan
- 6. Bearing Oil Seal
- 7. Exciter Cooling Air Duct
- 8. Endframe Bearing

- 9. Exciter Field Winding
- 10. Rotating Rectifier
- 11. Exciter Armature
- 12. Pilot Exciter

Typical Construction- Air Cooled Generator.

laminations. The laminations are insulated from each other by a resin-impregnated woven glass braid and are transposed to minimize circulating currents.

Insulation System

The insulation system is based on a resin-rich mica glass tape that produces a high performance insulation system capable of continuous oper-

ation at temperatures up to 155°C (311°F) (Class F).

The insulation possesses high dielectric strength, low internal loss and meets all current specifications. The resin system is thermo-setting, so that the resulting insulated coil sides are dimensionally stable. This resin insulation is highly resistant to most common electrical machine

contaminants, such as hydrocarbons, acids, alkalis and tropical molds.

Coil Manufacture

The insulated copper laminations are cut to length, stacked together and the coil ends are formed into shape on a fixture.



The laminations are then clamped tightly together, taped with an initial layer of tape and hot pressed to consolidate the conductor stack.

Following this, the main insulation is applied and pressed to size. The amount of the compression is carefully controlled to ensure correct resin flow and produce consistent void-free insulation.

Each finished half-coil is subjected to dimensional checks to ensure a correct fit in the stator slot, and special tapes are added to the inner and outer coil surfaces to prevent corona discharge.

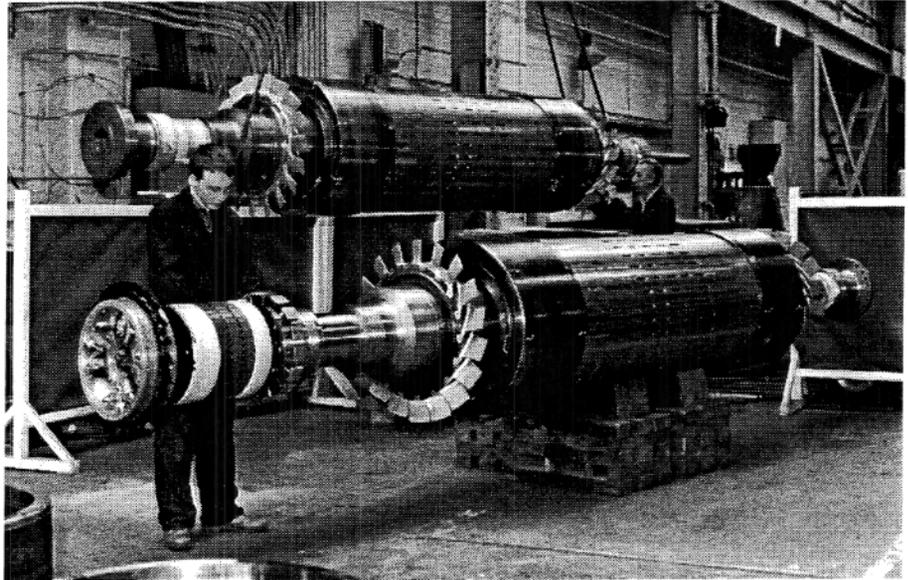
Coil Winding and Connections

The half-coils are placed in the stator slots in two layers and wedged securely in position by synthetic resin bonded wedges prior to connection of the endwinding.

In order to withstand the forces resulting from an accidental short circuit, the endwinding is securely braced to insulated brackets mounted on the stator frame.

Spacer blocks are fitted between adjacent coil sides to produce a strong, resilient, composite structure. Finally, the completed stator is "baked" in an oven to fully cure the insulation. Resistance Temperature Detectors (RTD) are embedded in the windings at selected points, and anti-condensation heaters are fitted into the stator frame.

To ensure electrical performance, the individual coils and the completed windings are given high-voltage tests.



Completed Rotor, Showing Exciter Armature, Rotating Rectifier, And Permanent Magnet Pilot Exciter.

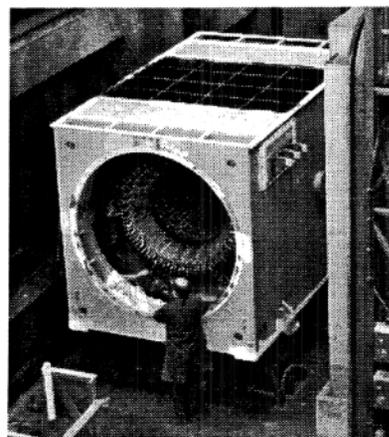
Cylindrical Rotor

The cylindrical rotor is manufactured from an integral forging of vacuum poured nickel-chromium-molybdenum alloy steel. The resulting forging is thermally stable, uniform in composition, and has excellent tensile and mechanical properties. As assembly proceeds, slots are machined in the

rotor surface, and insulated coils of high-conductivity silver-copper strip are pressed into the slots. Then damper windings and wedges are added. Finally, end caps of non-magnetic manganese chromium steel are shrink-fitted to the ends of the rotor body.

The rotor is then balanced dynamically and tested at 120% of normal speed for two minutes.

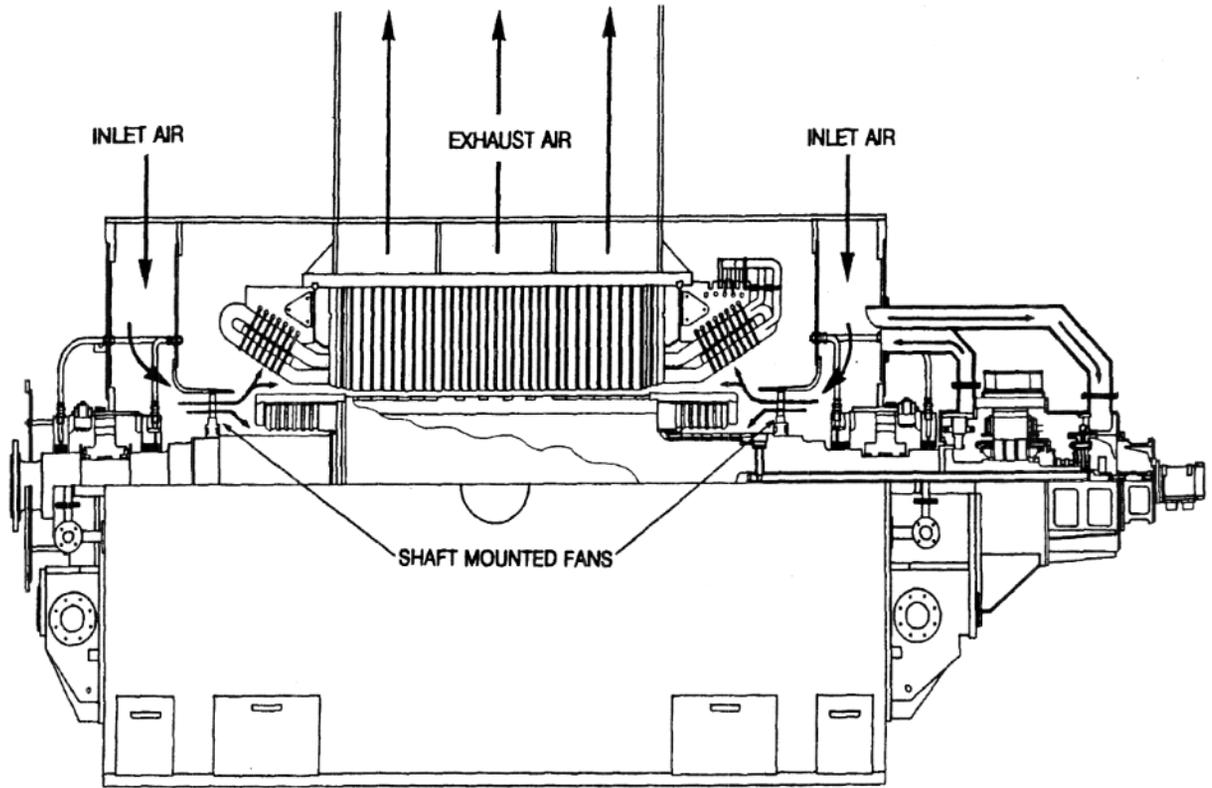
Following high speed testing, the rotor is given a series of high voltage tests to prove the integrity of the insulation system.



Wound Stator In The Oven.

Bearings

The main bearings are conventional, white metal lined, hydrodynamic cylindrical bearings, split on the horizontal center line for ease of inspection and removal. The two halves are bolted and dowelled together.



Cooling Air Flow – Cylindrical Rotor Generator.

Oil is supplied under pressure to the bearings with flow controlled by an orifice in the supply line. Drain oil collects in the bottom of the bearing housing and returns to the generator lube oil reservoir by gravity flow.

The generator bearings are end frame mounted on specially stiffened and reinforced stator frames. A detachable solid ribbed steel plate, split on the bearing horizontal center line, supports the lower half bearing housing. Pressurized air from the downstream side of the generator fans is used to seal the lubricating oil in the bearings. RTDs in the bearing metal and in the oil drain lines provide bearing temperature sensing.

Ventilation Systems

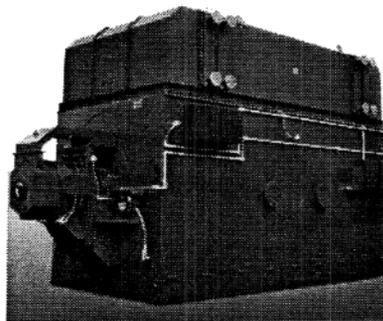
Internal Air Circuit

The generator is cooled by air, forced through ducts in the stator and rotor by two axial fans mounted on the motor shaft.

The cooling air is supplied to the generator from the inlet air filter (standard), or from a totally enclosed water-to-air cooler mounted on top of the generator (TEWAC option). The generator internal air system is similar in either case.

Totally Enclosed Water-to-Air Cooling (TEWAC)

Site conditions, such as extremely salty or chemically contaminated atmospheres, may suggest the use of a closed air cooling circuit. In this case, the generator exhaust air is cooled before being returned to the inlet.



TEWAC Cooler "Canopy" On Air-Cooled Body.



Cooling is accomplished with water cooled heat exchangers with tube nests arranged to permit cleaning in place.

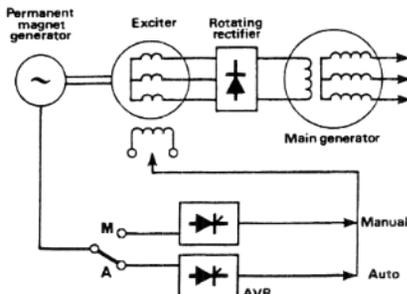
The tube nests can easily be removed for maintenance, if required. They are complete with flanges for connection to the customer's water supply and are arranged to permit part load operation with one or more tube nests out of service.

Brushless Excitation System

The generator is equipped with a low maintenance brushless excitation system consisting of:

- Three phase rotating armature
- Three phase rotating rectifier
- Rotating permanent magnet generator (PMG)
- Exciter field
- Voltage regulator
- Provisions for a Key Phasor

The shaft-mounted PMG powers the voltage regulator and excitation system.



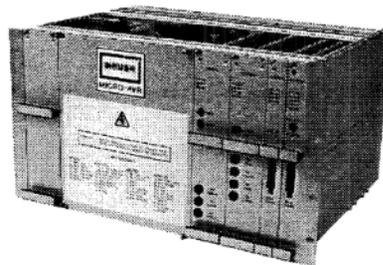
Brushless Excitation System (Simplified Diagram).

Voltage Regulator

The generator is furnished with a microprocessor controlled voltage regulator system. The voltage regulator is rack-mounted in the unit control panel and maintains generator output voltage within $\pm 0.5\%$ under steady state operating conditions.

The voltage regulator utilizes single phase sensing circuitry and includes:

- diode failure alarm
- flux limiter
- over-excitation limiter
- under excitation limiter
- auto follower & null balance
- auto transfer to manual control
- volts per Hz control



Typical Auto/Manual Voltage Regulator.

The voltage regulator can be adjusted manually or by remote signals to:

- raise/lower voltage
- raise/lower VARs or power factor

Generator Accessories

Stator Temperature Detectors

Six duplex temperature detectors (two per phase) are embedded in the stator windings. The detectors are 100 ohm at 0°C platinum type RTDs.

Space Heaters

Space heaters are located inside of the generator to prevent condensation of moisture when the generator is not operating. The space heaters are suitable for operation on three phase, 480 VAC power, 60 Hz. (Or 380V power at 50 Hz). Automatic ON/OFF control for the space heater is provided by the unit control panel that controls a contactor in the motor control center.

Vibration Detectors

Two vibration detectors are mounted 90° apart at each radial bearing (Total 4). The proximeters and cables are wired to the Main Generator Terminal Box (MGTB) in the generator compartment. Monitoring equipment is provided in the unit control panel.

Ground Fault Monitoring

This control system provides continuous electronic monitoring of the generator rotor winding and its connections. Indication of a ground fault is shown on the unit control panel.

**TYPICAL GENERATOR CHARACTERISTICS**

Manufacturer	Brush Electrical Machines Ltd. or Equal
Type	2-Pole, Synchronous, Cylindrical Rotor
Method of Cooling	Fully Filtered Ambient Air

	60 Hz
Model	BDAX 7-290ERT
Speed	3600 RPM
Power Factor	0.85
Voltage	13,800 V
Rated MW	60.500 MW
Rated MVA	71.176 MVA
Rating Temperature	59° F (15° C)
Insulation Class	ANSI Class F
Temperature Rise	Class B
National Standard	ANSI C50.14
Voltage Adjustment	+/- 5%
Voltage Regulation a) Steady State b) Load Regulation	+/- 0.5% 1% (No load to full load)
Telephone Influence Factor a) Balanced b) Residual	70 Max 50 Max
Total Harmonic Content	5% Max
Deviation Factor (Line-Line & Line-Neutral)	10% Max
Short Circuit Capability	300% for 10 sec.

**TYPICAL GENERATOR CHARACTERISTICS****Generator Reactances**

		60 Hz
Unsaturated Synchronous Reactance	$X_{d(i)}$	235%
Saturated Transient Reactance	$X'_{d(v)}$	20% +/- 10%
Saturated Subtransient Reactance	$X''_{d(v)}$	14.4% +/- 10%
Unsaturated Negative Sequence Reactance	$X_{2(i)}$	17.6%
Unsaturated Zero Sequence Reactance	X_0	9.5%
Quadrature Synchronous Reactance	$X_{q(i)}$	215%
Quadrature Transient Reactance	$X'_{q(v)}$	24.0%
Quadrature Subtransient Reactance	$X''_{q(v)}$	17.0%
Short Circuit Ratio		0.48

Generator Time Constants @ 20° C

Transient Open Circuit Time Constant	T'_{do}	9.7 sec.
Transient Short Circuit Time Constant	T'_d	0.65 sec.
Subtransient Open Circuit Time Constant	T''_{do}	0.05 sec.
Subtransient Short Circuit Time Constant	T''_d	0.04 sec.

Inertia

Moment of Inertia - WR^2		970 kg-m ²
Inertia Constant - H	kW-sec/KVA	0.97

Excitation

Excitation current at no load, rated voltage - Amps		325
Excitation voltage at no load, rated voltage - Volts		44
Excitation current at rated load and power factor - Amps		952
Excitation voltage at rated load and power factor - Volts		186
Inherent voltage regulation - Full Load to No Load		36%



INLET AIR SYSTEM

Inlet Air System Multi-Stage Design

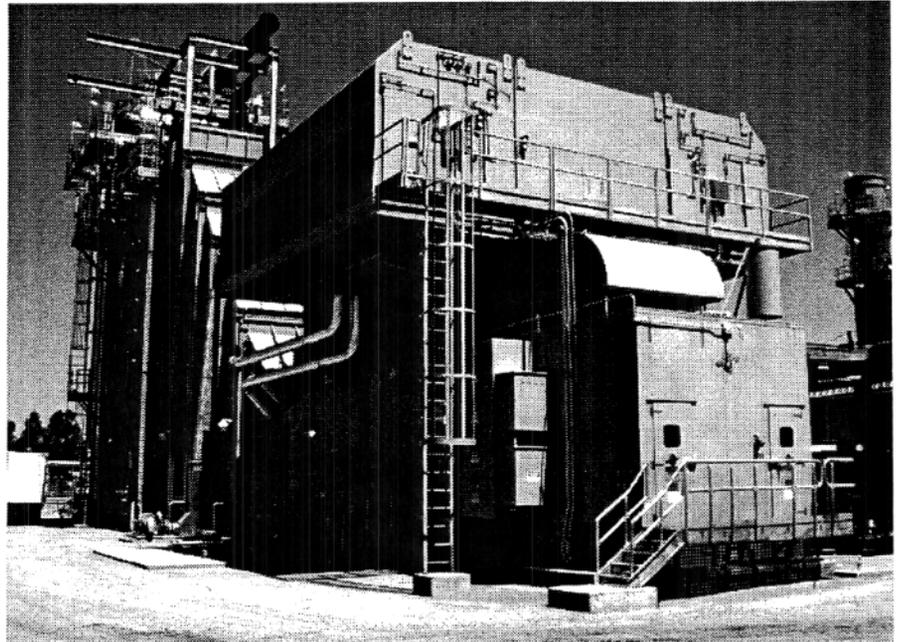
The S&S Energy Products air inlet system:

- Provides clean, filtered air for combustion and ventilation.
- Protects the gas turbine, generator and equipment from effects of air-borne dirt, contamination and foreign objects.
- Includes inlet air anti-icing and cooling options.

Filtration Specification

The LM6000 two-stage air inlet filter removes more than 99.9 percent of all particles 5.0 micron and larger.

- Typical Air Flow:
320,000 SCFM Total
(516,000 Nm³/h)
- Engine Combustion Air
225,000 SCFM
(362,800 Nm³/h)
- Turbine Ventilation Air
60,000 SCFM
(96,800 Nm³/h)
- Generator Ventilation Air
35,000 SCFM
(56,466 Nm³/h)



LM6000 Inlet Air Filter Mounts Above Enclosure.

Filter House Construction

General Arrangement

The S&S Energy Products' three-section Inlet Air Filter mounts directly above the turbine enclosure, conserving space and providing compact, low-loss ducting to the turbine inlet.

The filtered air is divided into two air streams within the filter assembly, providing:

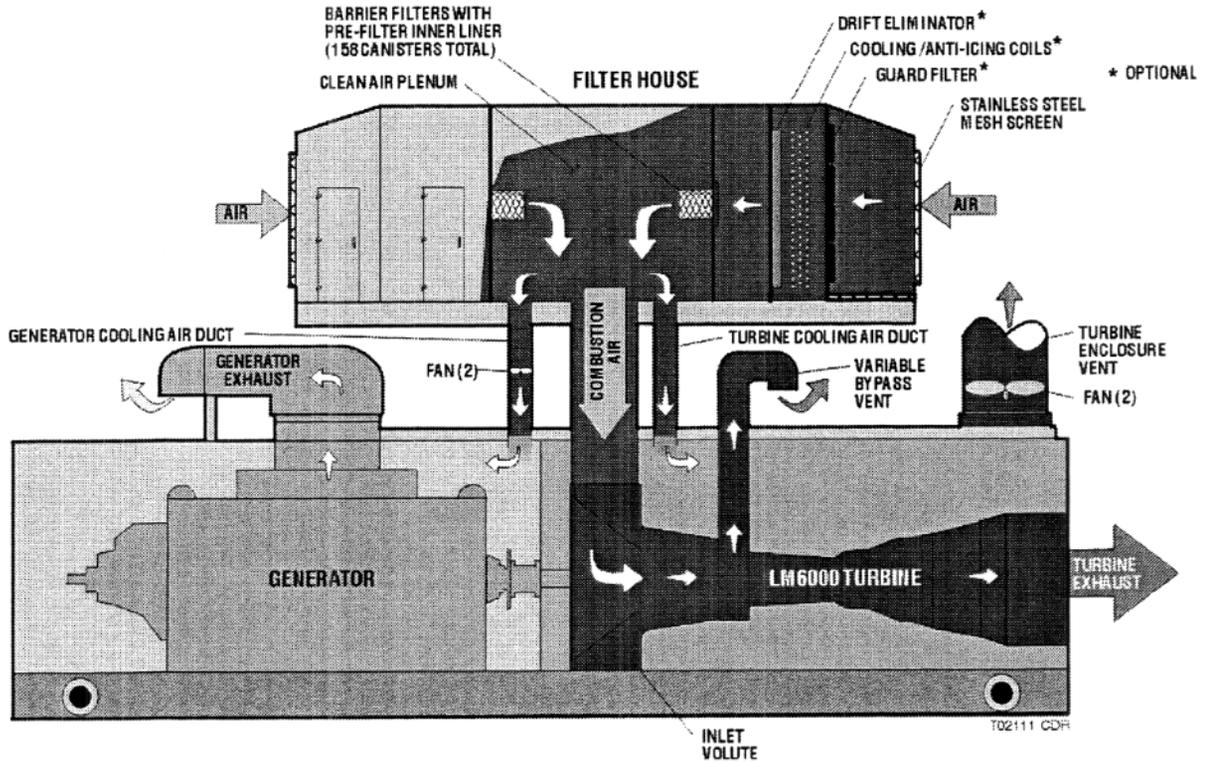
- Combustion air for the gas turbine.
- Ventilation air flow for the turbine and generator compartments.

The filter is designed for easy maintenance. We furnish a ladder and platforms for access to service doors on each filter section. Lighted internal walkways provide generous working room for operator changeout of filter elements.

Filter House Materials

The filter housing is constructed of 3/16 in. (4.76 mm) steel plate. Two coats of protective paint are applied to the exterior and interior carbon steel surfaces.

Floors and drain pans downstream of the optional evaporative cooler coils or optional inlet air chiller are stainless steel to resist corrosion.



Simplified Diagram – Inlet Filter Air Flow
Cooling Options Can Be Added To Increase Turbine Power Output.

Filtration System Details

Inlet Screens

Air enters the filter through stainless steel mesh screens on the Right and Left sections. The screens keep out paper, leaves and wind-blown trash.

Guard Filter (Option)

After the Inlet Screen, the air passes through the (Optional) Guard Filters. These filters are disposable pad elements mounted on hinged doors ahead of any heating/cooling coils. The Guard Filters prevent buildup of air-borne contaminants on the surface and fins of the coils.

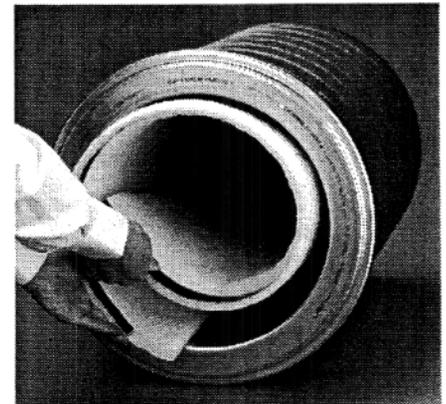
During “icing conditions,” when ice could build up on the Guard Filter pads, the mounting doors can be swung open to bypass the Guard Filters and allow the inlet air stream to flow directly to the anti-icing/heating coils.

Cooling/Anti-Icing Options

Downstream of the (optional) Guard Filter, the inlet air passes through the “cooling/anti-icing” section of the filter. In this section S&S Energy Products mounts optional cooling coils, anti-icing coils, or evaporative cooling equipment. These options prevent icing or lower the inlet air temperature to increase turbine output.

Prefilter

The prefilter is a synthetic fiber mat installed as an inner liner inside the barrier filter. The prefilter is designed to remove 75%- 85% of airborne particulates. The prefilter can be replaced during operation, simplifying maintenance and extending the life of the barrier filter.



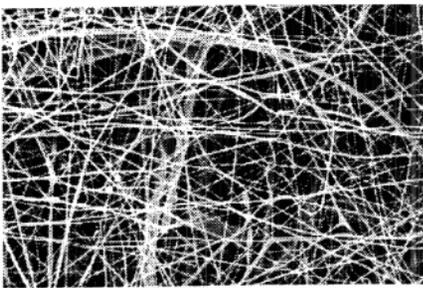
Prefilter Mounts Inside Barrier Filter Canister.



Barrier Filter

158 rugged canisters form the final barrier filter. The canisters are mounted in the wall of the inner walkway and extend into the clean air plenum. The canisters have extended surface area, large dirt holding capacity and low pressure drop. Air flows through the canisters from inside to outside. Dirt is trapped safely inside the canister.

Sub-Micron Fiber Mesh In Barrier



Filter Canister.

The canister has two filter layers. The inner layer is a fine matrix of synthetic fibers. These sub-micron fibers trap particles as small as 0.3 microns. The outer layer of the canister is a stiff synthetic medium that traps fine particles that penetrate the Prefilter and inner layer.

Clean Air Plenum

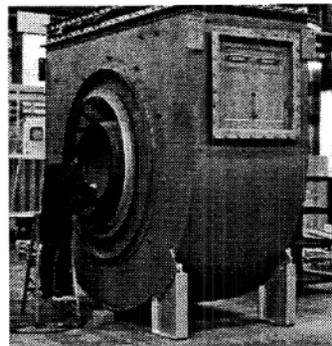
Air passes through the Barrier Filters and enters the Clean Air Plenum. This fabricated structure is the center section of the Inlet Filter. Ducts from the Clean Air Plenum take filtered air downward to the turbine and generator compartments for ventilation and through the inlet volute to the turbine inlet for combustion air.

Inlet Silencer

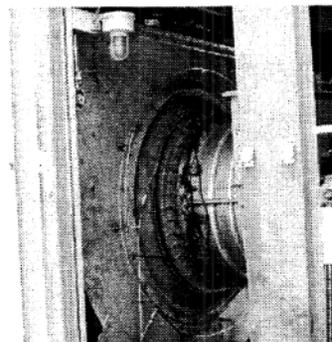
The Inlet Silencer is a low-pressure-drop device located in the combustion air duct between the Clean Air Plenum and the Inlet Volute. The silencer attenuates noise from the turbine and helps maintain the unit's low noise level.

Inlet Volute

The Inlet Volute takes the combustion air flowing down from the filter and turns it 90 degrees to flow horizontally into the turbine inlet. Vanes within the volute smooth the flow and present a balanced air-stream to the turbine bellmouth.



Technician Inspects Inlet Volute.



Turbine Bellmouth Bolts To Inlet Volute.

Inlet Air Anti-Ice System (Optional)

S&S Energy Products recommends an anti-ice system to allow safe operation during icing conditions.

Option 1

We add heating coils ahead of the Pre-filter to protect the turbine. The customer circulates hot water through the chiller coils to raise the inlet air temperature 15°F (8.3°C) above ambient. The coils cover the full filter face and heat both the ventilation and combustion air.

Hot water heating coils are built with copper tubes and aluminum fins. Customer provides 1650 gpm (6246 l/min) of water/glycol at 80-100°F (27-38°C) to flanged connections on the coils.

Option 2

We add a steel shroud over the exhaust duct and force air over the duct surface with fans to recover exhaust heat. The heated air is ducted to the turbine inlet filter to raise the inlet air temperature.

High Performance Cooling (Optional)

In many locations an inlet air cooling system can significantly increase turbine output (see chart). S&S Energy Products provides (optional) High Performance Cooling coils for this purpose.



The coils increase turbine output when ambient temperatures are above 42°F (5.5°C). This cooling also improves the turbine fuel efficiency.

Typical flow and temperature requirements for the anti-icing/cooling coils are shown below:

ANTI-ICING MODE

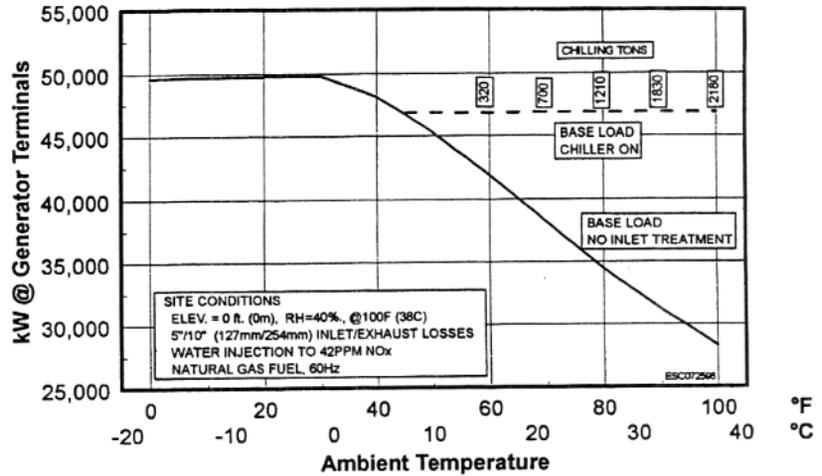
- Inlet Water/Glycol 90°F(32°C)
- Outlet Water/Glycol..... 55°F (13°C)
- Supply Pressure ... 60 PSIG (414 kPa (g))
- Flow 1650 GPM (6246 l/min)
- Ambient Temp(See Chart)
- Relative Humidity(See Chart)

CHILLING MODE

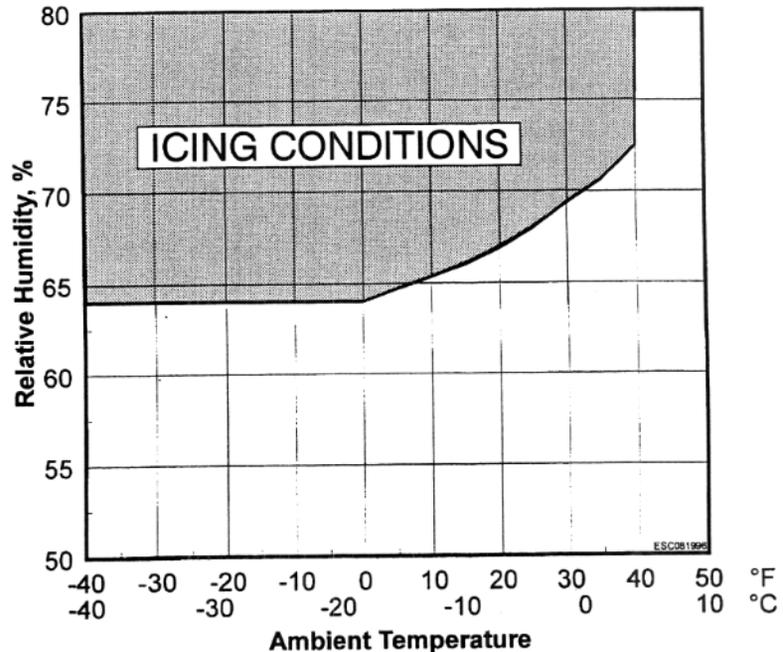
- Inlet Water/Glycol 35°F(1.6°C)
- Outlet Water/Glycol..... 45°F(7.2°C)
- Supply Pressure ... 60 PSIG (414 kPa (g))
- Flow 3300 GPM (12,492l/min)
- Ambient Temp. 100°F(37.8°C)
- Relative Humidity40%

Customer supplies heated/chilled water-glycol solution at constant flow to coils, plus the heaters, chillers, pumps, piping, valves, and controls exterior to the coils. Water-glycol temperature is varied to control engine inlet air temperature.

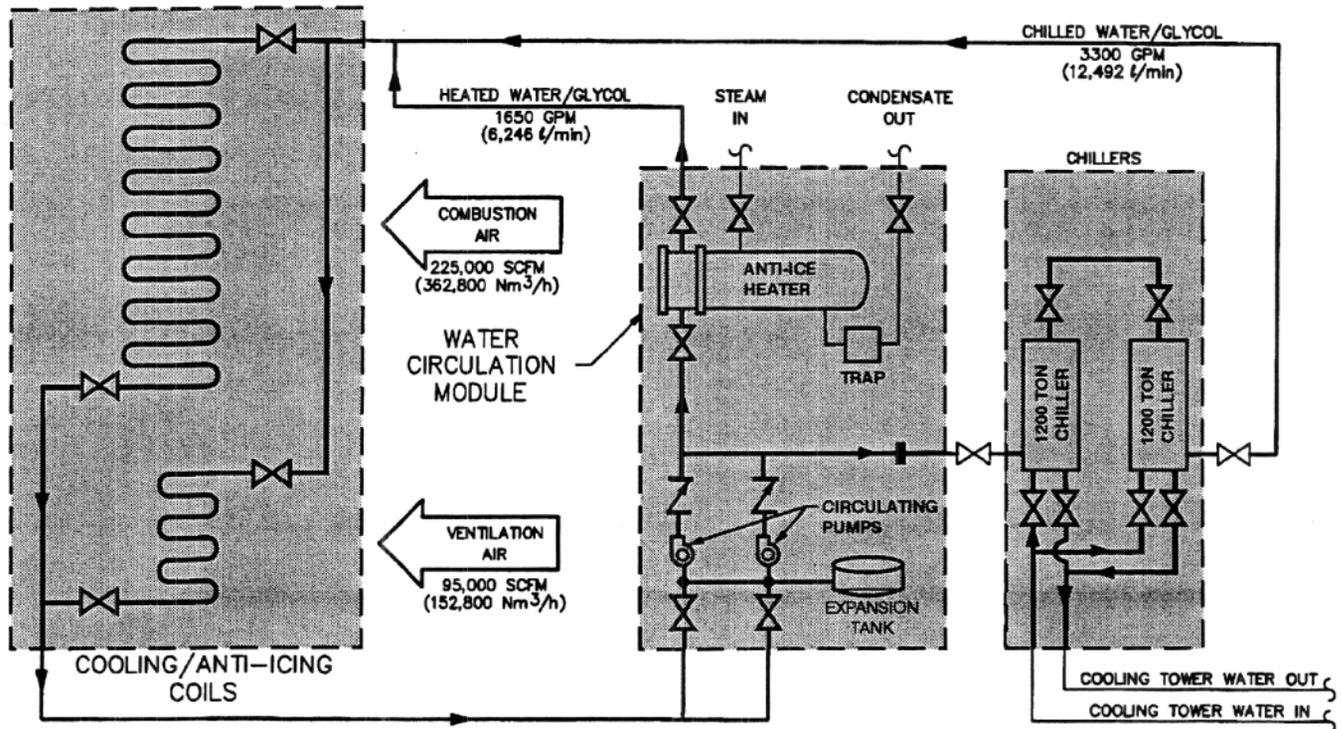
LM6000 GENERATOR SET PERFORMANCE
INLET CONDITIONING
FOR IMPROVED PERFORMANCE



LM6000 Generator Set Performance With Inlet Cooling For Improved Performance.



Protection Is Recommended During Icing Conditions.



Simplified Schematic - Optional Anti-Icing/Cooling System.

**Optional Anti-Icing/
Cooling Package**

To simplify customer's installation, S&S Energy Products offers packaged equipment to complete the Inlet Anti-Icing/ Cooling system. If steam is available, we propose a shell and tube heater system (see schematic). On other projects, we offer an air-to-air heater system utilizing exhaust heat.

Water Circulation Module including:

- Circulating Water Pumps (2 @ 1650 GPM each) (6246 l/min)

- Expansion Tank
- Shell & tube heat exchanger to heat water/glycol for anti-icing (if required).
- Structural base with drain pan.
- PLC control system

1200 Ton Mechanical Chiller (1 or 2) including:

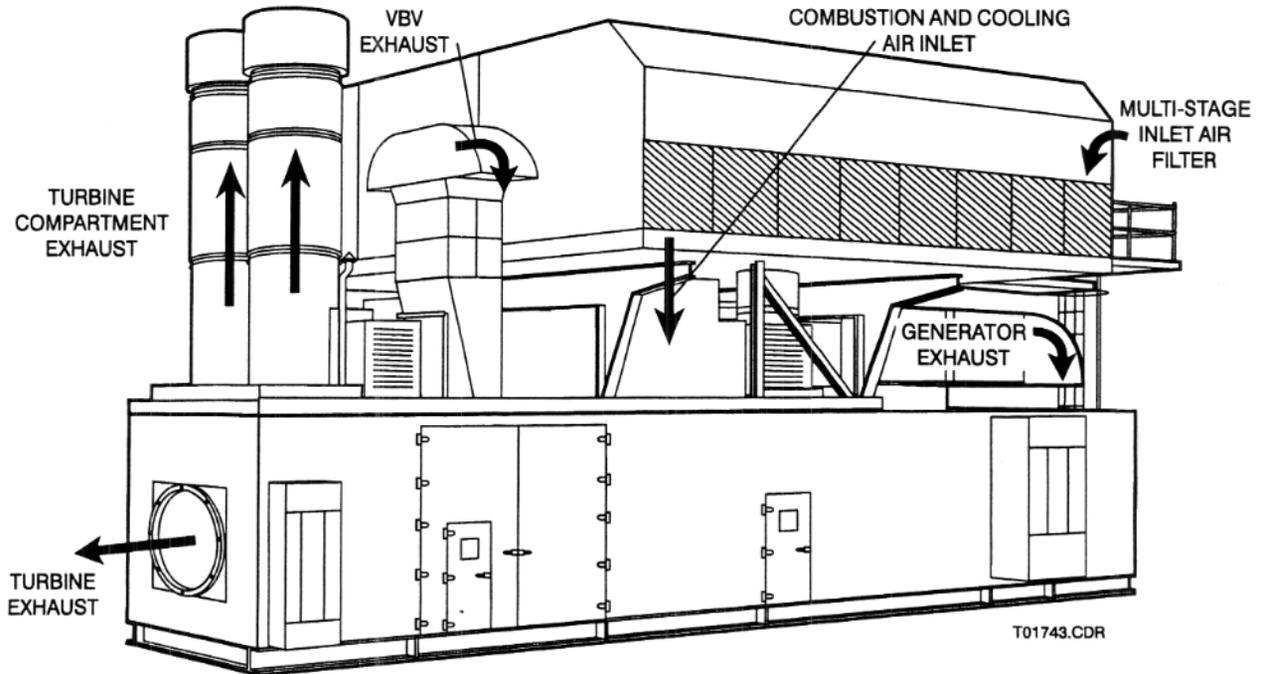
- Electric motor powered centrifugal compressors.

Customer Furnishes:

- Steam for heating water/glycol (if required)
- Cooling tower
- Cooling water for chiller heat rejection



ENCLOSURE, VENTILATION AND NOISE CONTROL



Combustion And Cooling Air Flow For The LM6000 Package.

Enclosure

The unit enclosure is designed for outdoor installation with wind loads up to 100 mph (161 km/h). The enclosure has separate compartments for the generator and the gas turbine.

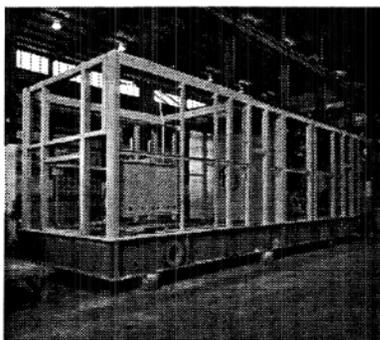
Each compartment is provided with access doors. Compartments include AC and optional emergency DC lighting.

The engine compartment contains an integral overhead bridge crane to facilitate engine removal.

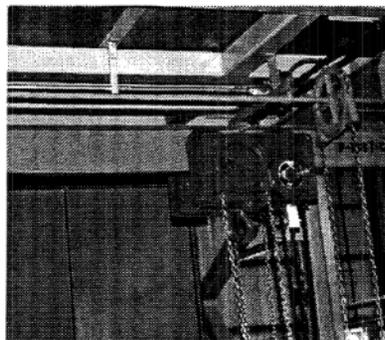
The enclosure walls are a sandwich construction filled with insulation blankets of high temperature sound attention material. The inner wall panel is fabricated from perforated 18-gauge (1.21 mm) stainless steel. The outer wall panel is 14-gauge (1.9 mm) cold rolled carbon steel.

The turbine and generator compartment walls are supported by a structural steel framework and will withstand external wind loading plus the internal pressure developed by the fire extinguishing system.

All hinges, latches and mounting hardware are stainless steel or chrome plated.



Turbine Steel Members Support Insulated Wall Panels.



Integral Bridge Crane Speeds Turbine Removal.



Ventilation

The ventilation system removes heat from the turbine and generator compartments and reduces the hazards in the event of a fuel system failure. Both the engine compartment and generator compartment are fully ventilated by redundant fans.

Ventilation air is filtered to the same quality levels as the gas turbine combustion air.

Turbine Compartment Ventilation

Ventilation air enters the turbine compartment at the front corners of the room, near the bottom of the front wall. Dual 125 HP (93 kW) exhaust fans (1 running - 1 standby) create an induced-draft airflow of approximately 60,000 SCFM (96,800 Nm³/h). If the engine compartment temperature exceeds 140°F (60°C), the second fan will automatically turn on.

Generator Compartment Ventilation

Filtered air is forced into the generator compartment by (2) 75 HP forced draft fans (1 running, 1 stand-by) through ducts from the inlet air filter. The 35,000 SCFM (56,000 Nm³/h) flow cools the generator and the generator compartment.

If the compartment temperature exceeds 125°F (51.6°C), then the stand-by fan turns on automatically to provide additional ventilation.

The ventilation fans provide a positive pressure in the generator compartment, providing additional isolation from the engine compartment for fire protection purposes (See Section 13). This contributes to classification of the generator compartment as a non-hazardous area.



Fiberglass Insulation Reduces Noise.

Noise Control

The S&S Energy Products enclosure and air inlet silencer reduce the average near field noise to 90 dB(A) at three feet from the enclosure and five feet above grade.

Far-field noise levels will be determined by the design of the customer-furnished heat recovery system or exhaust silencer. For most applications, steady-state noise levels emanating from one standard LM6000 60 Hz generator package will be approximately 59 dB(A) at 400 feet (122 m) from the unit.*

Lower noise limits can be provided with additional silencing. Noise control will depend on the scope of the equipment supplied, the site plan, and project specific requirements. Noise control may be selected either to meet today's noise requirements, or at a level to allow for future site expansion.

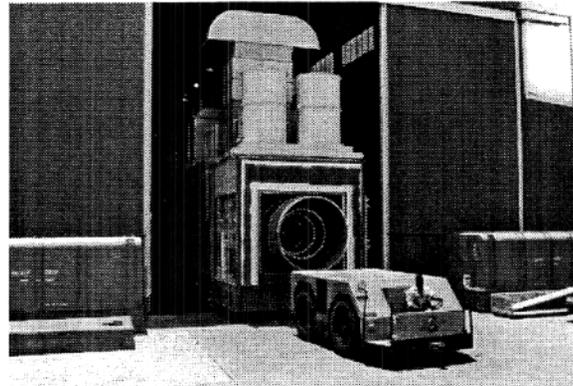
*Measured according to ANSI Specification B-133.8.



TURBINE EXHAUST SYSTEM AND EMISSIONS

Exhaust Arrangement

The LM6000 exhausts through a flange located in the end of the turbine enclosure. This axial exhaust provides low restrictions and a direct path into customer-supplied heat recovery equipment. The turbine exhaust flange is the limit of S&S Energy Products scope of supply. The customer furnishes all external expansion joints, ducting, supports and mounting devices. The customer-supplied heat recovery equipment should include noise attenuation provisions suitable for the location.



Straight-Line Exhaust For Low Pressure Drop.

Supplemental firing can be added to the HRSG to increase steam production for peak demands or for when the LM6000 is operating at low power levels.

The exhaust of all combustion engines contains components, which are generally regarded as air pollutants.

The United States and other countries, as well as state and local authorities, have passed laws and regulations to control the mass or concentration of certain engine emissions.

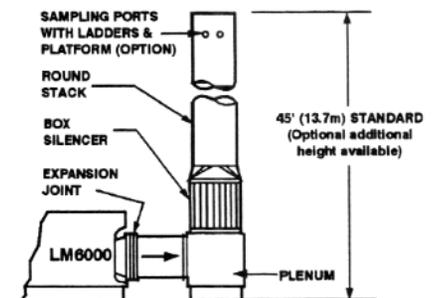
To meet these requirements, S&S Energy Products has developed the following types of emission control systems for the LM6000 gas turbine.

- Steam Injection
- Water Injection
- Dry Low Emission System (DLE)

Each system has particular merits, and the customer's choice is determined by the needs of the individual job site. (See Section 12.)

Exhaust Silencer and Stack Assembly

S&S Energy Products can furnish an optional exhaust silencer and stack assembly including exhaust expansion joint, transition duct, a 90 dB(A) silencer with 409 stainless steel lining and an exhaust stack with 45' (13.7m) overall height. Structural support and mounting hardware are included.



Typical Silencer And Stack Assembly (Option).

Options include additional stack height, EPA sampling ports with ladders and platforms, and a diverter valve with connections for customer's HRSG duct.

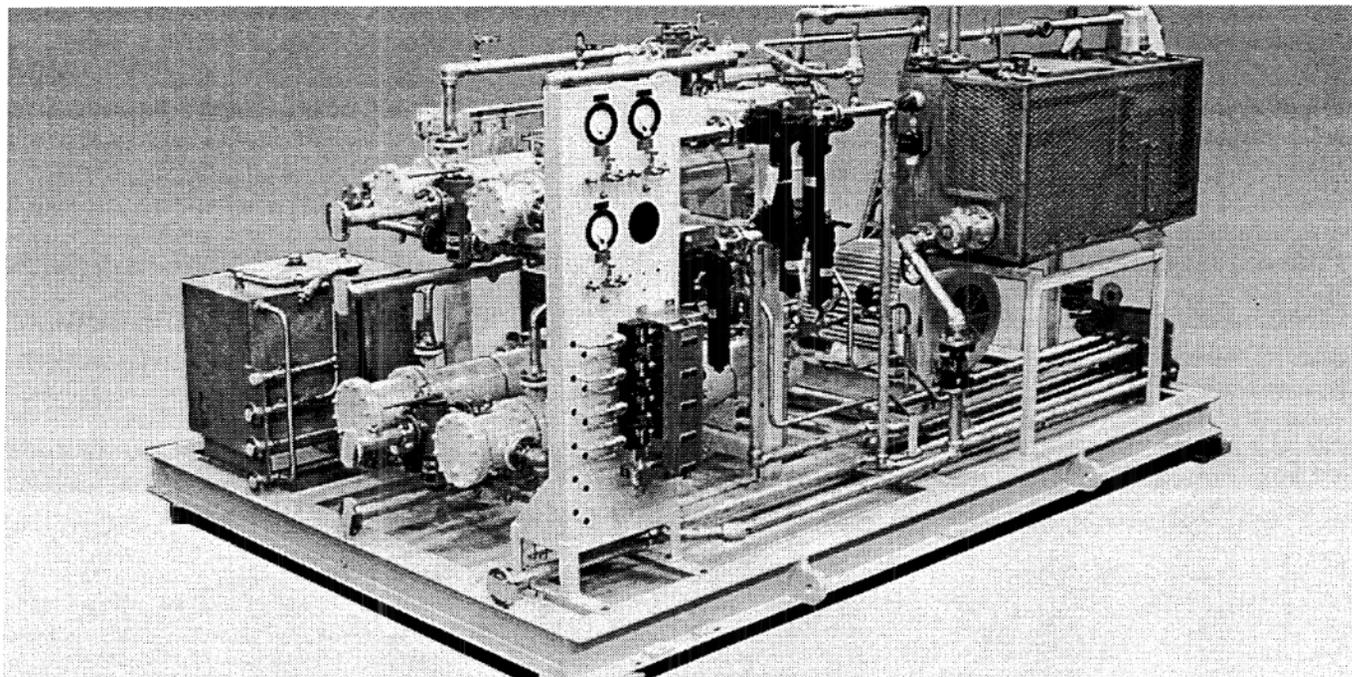
Heat Recovery

The LM6000 efficiency and heat rate improve when useful heat is recovered from the exhaust stream with a heat recovery steam generator (HRSG). The steam is useful for a variety of applications, including:

- **High Pressure Steam** for:
 - Process use
 - Steam turbine power (combined-cycle)
- **Low Pressure Steam** for:
 - Direct process use
 - Absorption Chilling
 - Product drying
 - Indirect heating of working fluids



AUXILIARY MODULE



Auxiliary Module Simplifies Maintenance On LM6000.

Auxiliary Module

The LM6000 requires several auxiliary systems to operate. These include:

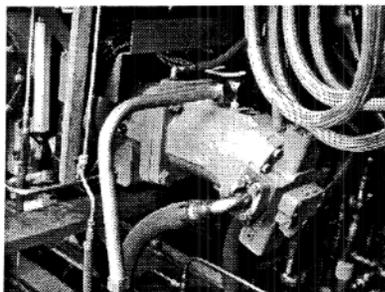
- Starting System
- Lube Oil Systems
- Water Wash System

To simplify maintenance, S&S Energy Products mounts parts of these systems on the Auxiliary Module. This separate baseplate is installed next to the main unit.

S&S Energy Products supplies flanged, flexible tubing lines to connect between the two baseplates.

Starting System

The LM6000 turbine is started by an electro-hydraulic system, including an electric motor, a pump, a hydraulic starter motor, and other equipment described below. This starting system rotates the LM6000 high-pressure compressor shaft for purging, engine starting and water wash sequences.



Hydraulic Starting Motor On Auxiliary Gearbox.

Hydraulic Starting System Equipment Details

The hydraulic starting system consists of:

- Hydraulic starting motor (Mounted on turbine auxiliary gearbox).

and equipment mounted on the Auxiliary Module:

- 200 HP (150 kW) electric motor
- Variable displacement hydraulic pump
- 40 gal. (151 l) hydraulic reservoir
- Air/Oil Cooler with hydraulic powered fan
- Filter

The hydraulic circuit is a closed loop design with a 40-gallon



(151 l) reservoir. The system requires an initial fill of approximately 35 gallons (132 l) of ISO VG 46 premium, anti-wear petroleum-based hydraulic fluid.

A charge-pump portion of the main pump draws fluid from the reservoir each start cycle to prime the system and supply control oil. Controls modulate the pump flow from zero to approximately 55 gpm (208 l/m) during the starting cycle. This permits accurate control of gas generator speed for purging, ignition and acceleration. The Air/Oil cooler prevents overheating of the hydraulic oil and permits extended cranking for cooldown or water wash.

Starting System Operation

To start the gas turbine, the hydraulic motor must:

- rotate the gas generator to purge the engine
- accelerate the gas generator to ignition speed
- continue acceleration to self-sustaining speed

The starter accelerates the gas generator to 2300 RPM and cranks for two minutes*. This forces purge air through the gas turbine and exhaust stack to remove hydrocarbons that may have accumulated during shutdown.

* Units with HRSG require a longer purge cycle, typically 15 to 30 minutes.

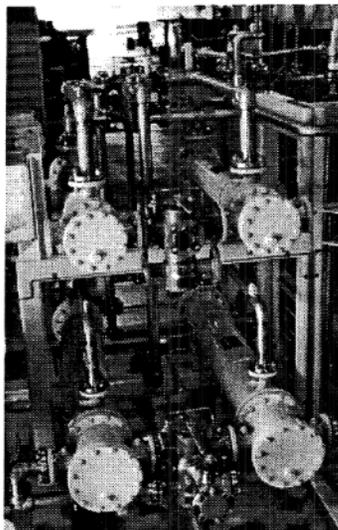
Air flow during the purge cycle is approximately 10 lbs./sec (7842 SCFM) (12,600 Nm³/h).

After the purge cycle, the gas generator is slowed to 1700 RPM for light off. Fuel and igniters are turned on, the turbine fires and ignition is proved.

Then, the starter and the combustion accelerate the gas generator to 4500 RPM, where the starter disengages automatically.

The gas generator continues to accelerate until it reaches idle speed. The turbine is now self-sustaining.

Lube Oil Components



Duplex Lube Oil Coolers.

The following portions of the Lube Oil systems are mounted on the Auxiliary Module.

- Turbine duplex shell-and-tube lube oil coolers
- Generator duplex shell-and-tube lube oil coolers (60 Hz units only)

- Turbine oil filters
- Turbine lube oil reservoir - 150-gallon (568 l)

(Please see Section 11)

Water Wash System

S&S Energy Products LM6000 units include two water wash systems to remove deposits from the compressor airfoils.

- An "On-line" cleaning system to remove deposits while the turbine is running. This system extends the intervals between crank-soak cleanings and reduces downtime.
- A "Crank-soak" system for more thorough removal of built-up deposits. This system requires the turbine to be off-line for a short time.

Water Washing Equipment

S&S Energy Products mounts both "On-line" and "Crank-soak" spray nozzles on the Inlet Air Volute on the main baseplate.

The remaining Water Wash equipment below is mounted on the Auxiliary Module:

- Stainless steel reservoir
- Manual air and water supply valves
- Solenoid valves to sequence water wash and purging
- Motor-driven pressurizing pump
- Electric heater in tank (optional)



Cleaning Solution Specifications

Cleaning agents that conform to GE Specification MID-TD-0000-5 are recommended for washing the gas generator section of the engine. The solvents are mixed with water and sprayed into the turbine inlet. Water is then sprayed in the inlet to rinse the turbine.

A water/anti-freeze mixture must be used for dilution and rinsing in ambient temperatures of 50°F (10°C), or below. See above GE specification for suitable anti-freeze recommendations.

Water Quality Standards

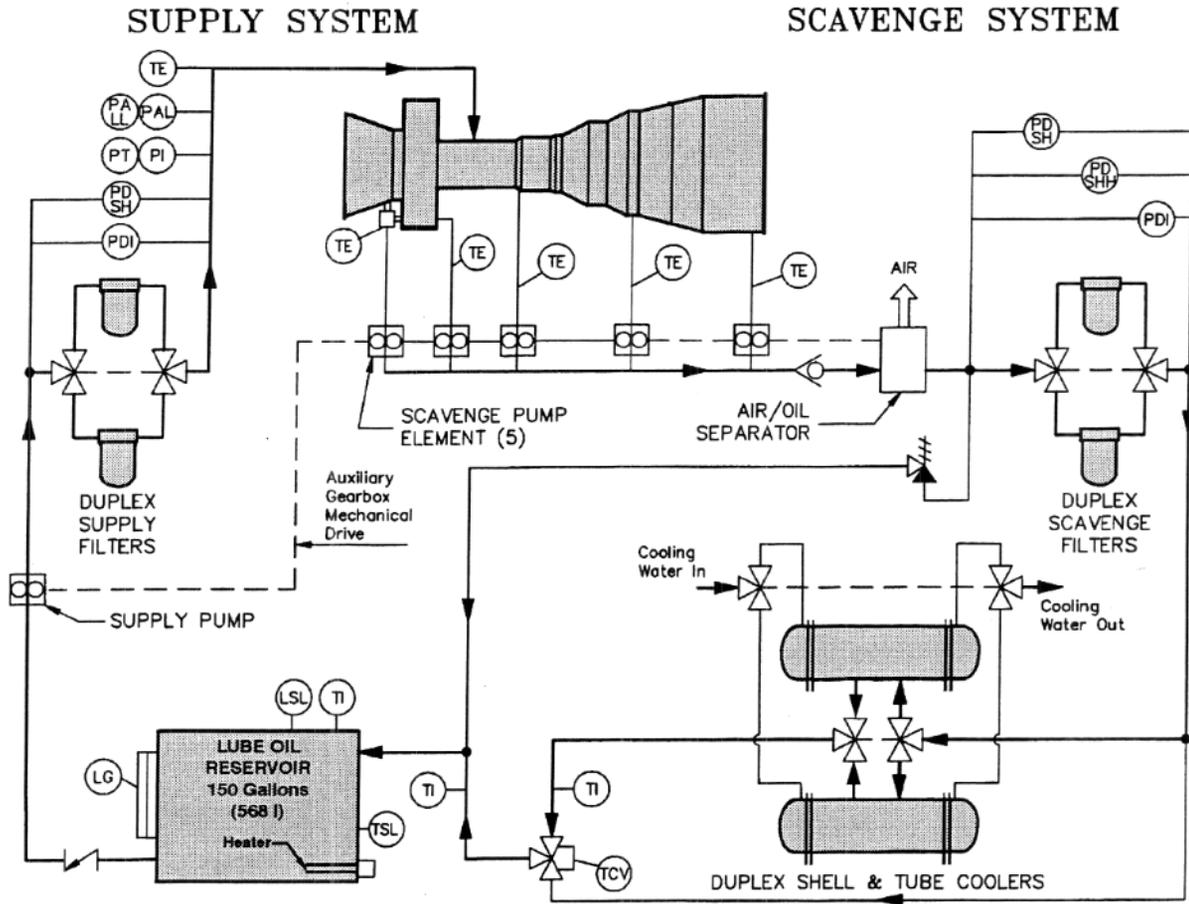
The following criteria have been established for wash water (Per GE Specification MID-TD-0000-4):

<u>Item</u>	<u>Limit</u>	<u>Test Method</u>
Total Matter, PPM, Max	100	ASTM 1888
pH	6.5-8.5	ASTM 1293
Sodium + Potassium PPM, Max	25	ASTM 1428

Filtered to 100 microns, absolute.



TURBINE LUBE OIL SYSTEM



Simplified Schematic – LM6000 Turbine Lube Oil System.

Independent Lube Oil Systems

The LM6000 gas turbine is lubricated with synthetic lube oil (MIL-L-23699). A separate mineral oil system lubricates the generator (and gearbox in 50 Hz units).

Dual shell & tube coolers with valves for on-line changeover are used to cool both turbine and generator lube oil systems. For 60 Hz units, the coolers for both turbine and generator are mounted on the auxiliary module. For 50 Hz units,

the generator and gearbox cooler are mounted on a separate base-plate.

The lube oil piping, fittings and reservoirs are Type 304 Stainless Steel. Valves have stainless steel trim.

Gas Turbine Lube Oil System

The Gas Turbine lube oil system has two separate lube oil circuits:

1. Supply System - Provides clean, cool oil to the turbine bearings.

2. Scavenge System - Recovers (scavenges) the lube oil from the bearing drain sumps. It also filters and cools the oil and returns it to the reservoir.

These two circuits cool, lubricate and protect the turbine. They are described in more detail below:

Supply System

Approximately 130 U.S. (492 l) gallons of synthetic lube oil are stored in the 150 U.S. (568 l) gallon capacity stainless steel reservoir mounted on the Auxiliary Module.

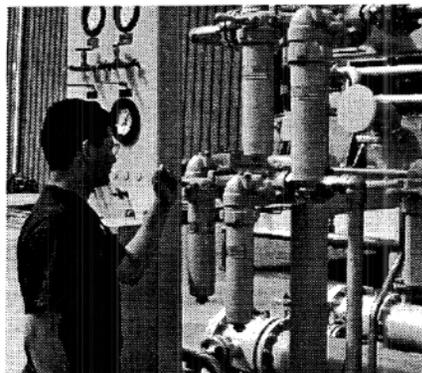


The reservoir is fitted with a low level alarm switch, a level gauge, and a filler connection with a vent demister cap.

The reservoir also includes a thermostatically controlled heater and a low lube oil temperature alarm switch.

A positive displacement lube oil pump, mounted on the gas turbine accessory drive gearbox, takes suction from the lube oil reservoir. The pump discharge is filtered by a duplex, 6 micron, full-flow filter is located on the Auxiliary Module. Filter elements can be changed while the turbine is running.

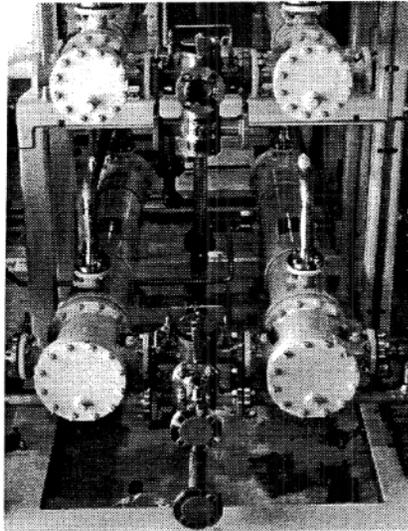
The lube oil supply passes through an anti-siphon check valve and is distributed to the bearing chambers, here oil is sprayed onto each engine bearing.



Turbine Duplex Lube Oil Filters Can Be Changed On-Line.

Pressure switches provide low-pressure alarm and shutdown signals to protect the turbine. Chip detectors in the A and B sumps and in the common scavenge return provide alarms if metal chips are detected in the lube oil.

An alarm switch senses filter differential pressure and warns the operator of dirty filter conditions. A local differential pressure gauge is also provided.



Dual Shell & Tube Coolers Located On The Auxiliary Module.

Lube oil supply temperature is measured by an RTD. The unit control panel provides temperature indication, plus high temperature alarm and shutdown.

Scavenge System

Oil flows through the turbine bearings and accumulates in bearing sumps. A 5-element scavenge pump is connected to a low point drain in each sump. Whenever the engine is running the scavenge pump is working to remove oil from the sump drains.

The scavenge pump discharge flows through a 6 micron (absolute) duplex filter, then is cooled by duplex Shell & Tube coolers, (one

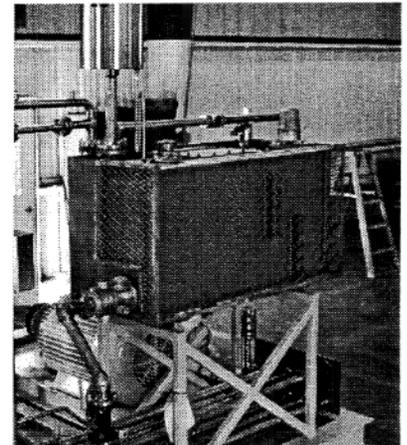
running and one standby) and then returns to the reservoir.

Customer provides cooled water to the lube oil coolers. Approximate cooling water requirement - 120 GPM @ 95 ° F (454 l/min @ 35°C).

Fin-fan lube oil coolers are available as an option and are mounted on a separate off-skid module. Interconnecting piping is customer furnished.

An RTD on each scavenge line measures temperature, with read-out, alarm and shutdown at the unit control panel. A check valve on the pump discharge prevents siphoning of oil back into the engine during shutdown.

Each bearing sump is vented by the air/oil separator system, consisting of a pre-separator, air-to-air cooler, and a final separator. Recovered oil drains back to the reservoir. The

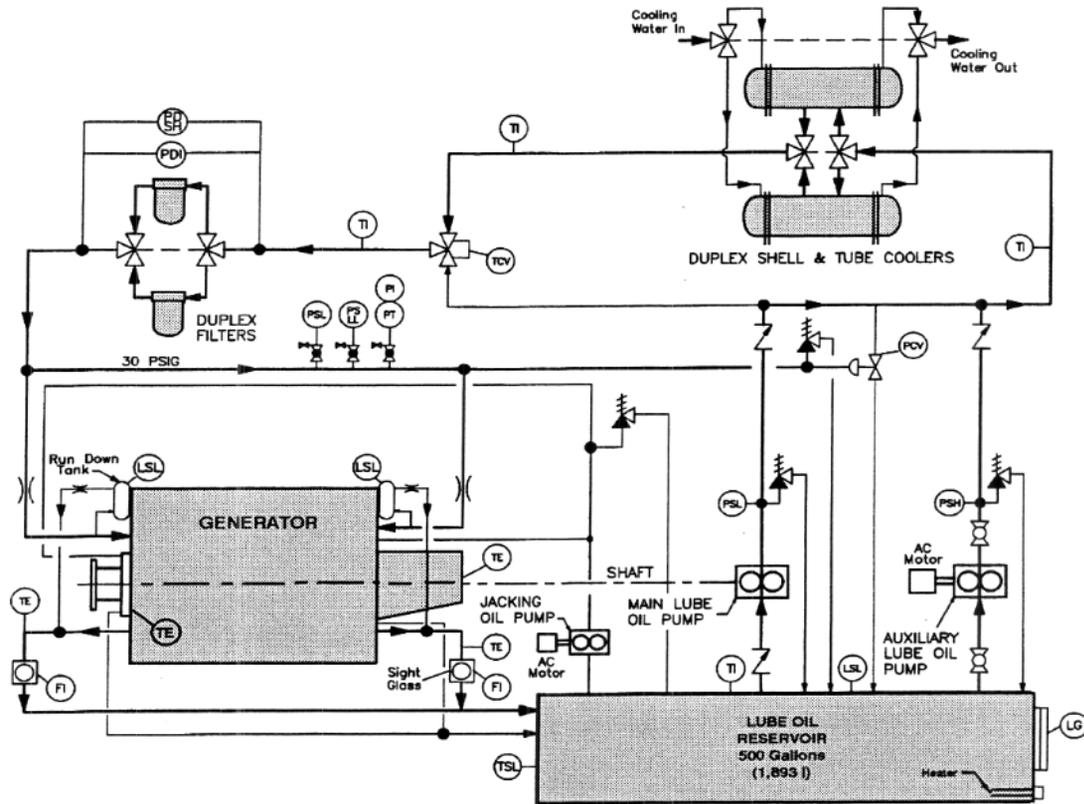


system reduces emissions and conserves oil.

Turbine Lube Oil Reservoir On Auxiliary Module.



GENERATOR LUBE OIL SYSTEM



Simplified Schematic - 60 Hz Generator Lube Oil System.

60 Hz Generator Lube Oil System

The 60 Hz generator lubrication system provides approximately 46 GPM (174 l/min) of cooled and filtered oil to the generator bearings.

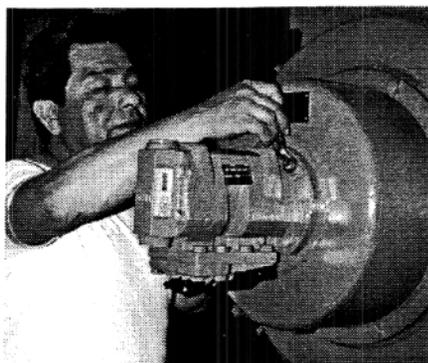
The generator lube oil reservoir, pumps and filters are located in the generator compartment. The lube oil filters may be changed while the unit is operating.

The duplex shell/tube coolers serving the generator lube oil system are located on the auxiliary equipment module. They have carbon steel shells. Cooling water flows through

stainless steel tubes. Valves have stainless steel trim.

Generator Lube Oil Supply

The stainless steel reservoir includes a sight level gauge, fill connection and drain valve. A switch provides a low-level alarm at



Generator Main Lube Oil Pump Is Shaft Driven.

the unit control panel. An immersion heater turns on at 90°F (32°C) falling temperature to keep the oil heated when the unit is stopped.

The main oil pump is a gear type and is mechanically coupled to the generator shaft outboard of the exciter. An AC motor-driven auxiliary lube oil pump is used during the start/stop sequencing and as a backup to the main pump.

Rundown tanks provide additional lubrication during coastdown, if the AC lube pumps should fail, or if AC power is lost.

The oil flows through the orifice and into the bearings and forms a film that cools and lubricates the



journal. Pressure switches at the bearing supply header provide low pressure alarm and shutdown signals to the unit control panel.

If the supply pressure drops, a low lube oil pressure switch automatically starts the auxiliary lube oil pump. An annunciator alarm indicates that the auxiliary pump is running. If the lube oil pressure falls to a lower level, the turbine generator set shuts down.

The primary and auxiliary lube oil pumps can each supply 100% of the generator lube oil requirements. Each pump is equipped with a pressure relief valve piped to the reservoir. Lube oil pressure at the supply header is controlled by a pressure-regulating valve, which bypasses excessive oil flow to the reservoir.

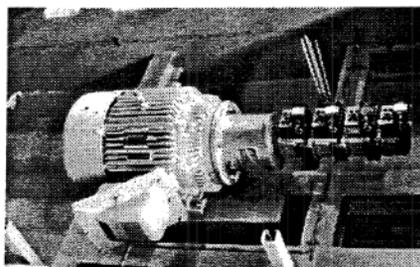
Duplex coolers are provided to reject 187,800 Btu/hr (198.1 MJ/hr) from the generator lube oil circuit. The amount of hot oil that bypasses the cooler is regulated by a thermostatic valve.

The duplex generator lube oil filters (6 micron absolute) are mounted in the generator enclosure. Filters may be replaced during operation by switching the manual transfer valve. A pressure switch senses high filter differential pressure and provides alarm at 20 PSIG (138 kPa) d/p.

Generator Lube Oil Return

Each bearing has a gravity drain and sight glass to visually verify oil flow. A dual element RTD is embedded in each bearing to measure the actual metal temperature.

These RTDs are continuously monitored at the unit control panel and provide alarm and trip signals at 197°F and 203°F (91.6°C and 95°C), respectively.

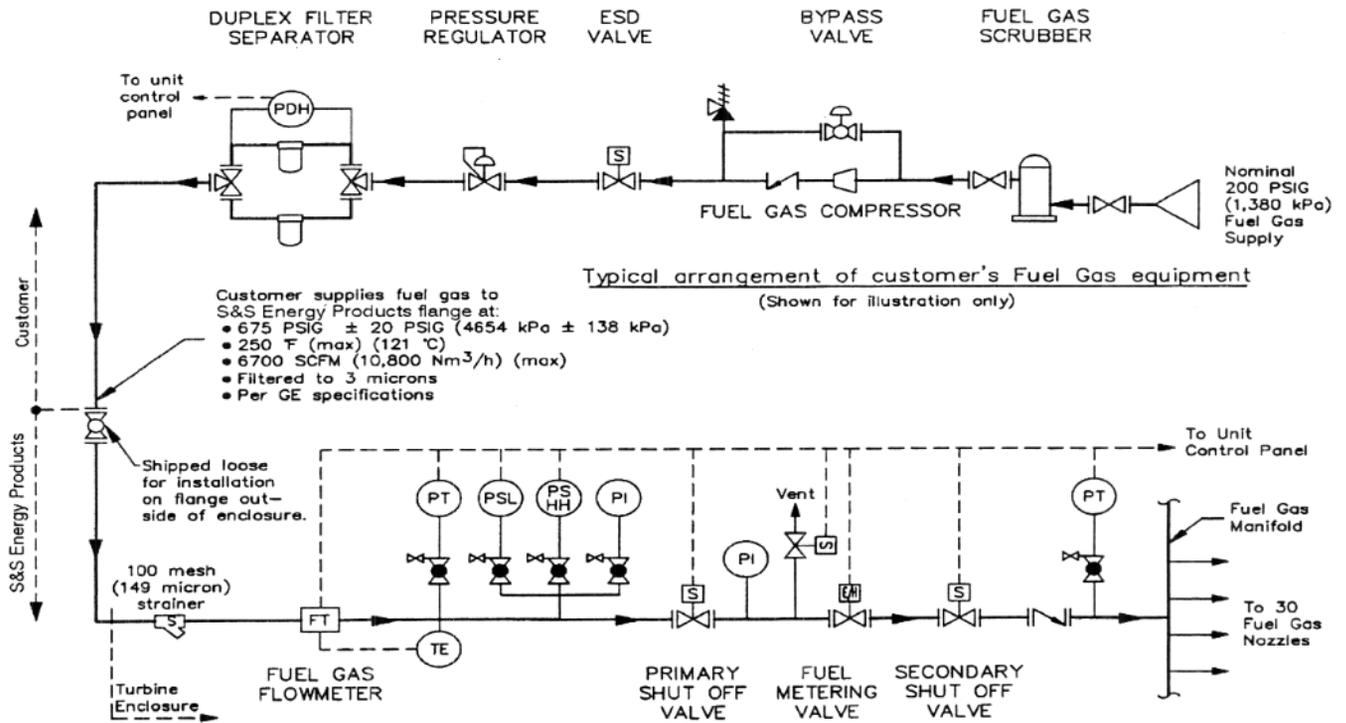


Jacking Oil Pump.

For starting, we lift the generator rotor off of the bearing seats with a film of high pressure oil from a small “jacking oil” pump. The oil film reduces bearing friction and helps the rotor “break away” and begin turning. The pump turns off when the rotor begins to turn.



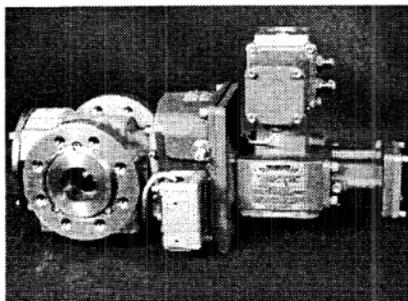
FUEL SYSTEMS AND NO_x CONTROL



Simplified Schematic - LM6000 Turbine Gaseous Fuel System.

Turbine Fuel Systems

The LM6000 gas turbine can be configured for gaseous, liquid or dual fuel operation. Turbine exhaust emissions can be controlled with optional Water Injection, Steam Injection or Dry Low Emission (DLE) systems.



Typical Gas Fuel Valve.

Gas Fuel Systems

The following fuel equipment is mounted in the turbine enclosure:

- Fuel gas strainer
- Fuel gas flowmeter
- Instrumentation
- Primary shut-off valve
- Fuel metering valve
- Secondary shut-off valve
- Fuel gas manifold
- 30 fuel nozzles

Customer supplies fuel gas to the S&S Energy Products baseplate connection. For pipeline quality natural gas (1000 Btu/scf, LHV) nominal fuel supply pressure required is 675 psig \pm 20 psig (4654 kPa \pm 138 kPa).

A customer supplied filter, pressure regulator, pressure relief valve and manually operated shut-off valve should be installed in the customer fuel supply system as close as practical to the S&S Energy Products baseplate.

An electrically-controlled fuel valve with hydraulic actuation provides accurate, non-pulsating fuel flow to the turbine during starting, steady-state operation and dynamic load changes.

The gaseous fuel system has pressure sensors located upstream and downstream of the fuel control valve to protect the turbine against high and low fuel pressure.



“Bootstrap” Starting with Low Fuel Gas Pressure

Low fuel gas pressure starting is possible, using the electrical output of the LM6000 to power a fuel gas compressor.

The LM6000 will start on minimum 200 psig (1380 kPa) fuel gas pressure. At this pressure the LM6000 produces enough electrical power to start a fuel gas compressor. The compressor then builds the fuel gas pressure up to 675 psig required for full power output.

This “bootstrap” starting simplifies gas utility requirements and eliminates high electrical “demand charges” for starting the gas compressor motors.

General Requirements - Gaseous Fuel Quality ¹

- Filtered to 3 micron
- Naphthalene, gas hydrates and solid/semi-solid hydrocarbons to be at least 50°F (28°C) above dew point.
- Water content of the gas not to exceed the saturation amount by more than 0.25% by weight.
- Total amount of Sodium + Potassium + Lithium in the fuel not to exceed 0.1 PPM.
- Fuel temperature 35°F (1.6°C) to 250°F (121°C).
- Fuel Pressure 675 +/- 20 psig (4654 kPa ± 138 kPa).

¹ For specific gaseous fuel quality requirements please see GE Specification MID-TD-0000-1.



NO_x CONTROL SYSTEMS

NO_x Control

Many installations require control of NO_x, CO and other components of turbine exhaust gasses. S&S Energy Products provides three optional systems to control these emissions:

- Water Injection
- Steam Injection
- DLE Combustor

Each of the systems is described below.

Water Injection System (Optional)

A water injection metering system can be added to the LM6000 to reduce NO_x emissions from gaseous fuel, liquid fuel, or dual fuel units. Demineralized water is injected into the combustor through ports in the fuel nozzles to suppress NO_x production. Water is supplied to the nozzles by a special water manifold or mixed with liquid fuel in secondary manifold.

Water Injection System - Scope of Supply

S&S Energy Products provides the necessary controls, metering equipment, and interconnecting piping within the turbine enclosure. All piping and valves are stainless steel. The customer provides the pressurized water supply in accordance with the following specifications:

Injection Water Quality Specifications

The water injection system can be calibrated to flow any water-to-fuel weight ratios up to 1.25 for natural gas fuel, 1.4 for liquid fuel (approximately 50-60 GPM) (190-230 l/m). Pressure required at the customer's connection ranges from 500-1400 psig (3450-9650 kPa), depending upon the amount of injection desired and the type of fuel. Water should be supplied at a temperature of 50-150°F (10-65.5°C).

Water purity requirements¹ are as follows:

	Limit	Test Method
Total Matter,	5 PPM, Max	ASTM D1888
Dissolved Matter	3 PPM, Max	ASTM D1888
pH*	6.0-8.0	ASTM D1293
Conductivity*, micromhos/cm 25°C, Max	0.5-1.0	ASTM D1125
Na + K	0.1 PPM	ASTM D1428
Silicon dioxide	0.1 PPM Max	ASTM D859
Chlorides,	0.5 PPM Max	ASTM D512
Sulphates,	0.5 PPM Max	ASTM D516

*Measured when water is free of carbon dioxide.

The maximum particle size shall not exceed 20 microns absolute.

1. For specific water quality requirements, please see GE Specification MID-TD-0000-3.



FIRE & GAS DETECTION AND EXTINGUISHING SYSTEM

General

The S&S Energy Products LM6000 turbine generator set includes controls to detect fire, unsafe temperatures or explosive atmospheres in the equipment enclosure. The system releases CO₂ extinguishant if fire is detected.

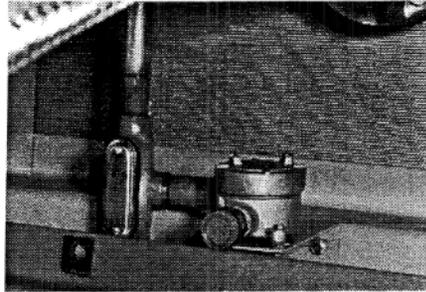
The package enclosure is designed to reduce the hazard of fire and explosion. A wall separates the turbine and generator compartments to provide isolation. Ventilation systems, with redundant fans, create a positive pressure in the generator compartment and a negative pressure in the turbine compartment. This maintains separation and forces hydrocarbons away from the generator.

The enclosure is protected by gas detectors, thermal detectors, optical flame detectors and a CO₂ extinguishing system conforming to NFPA 12.

Unit Mounted

Gas Detectors

Two hydrocarbon gas detectors are located in the turbine compartment near the ceiling. A third detector is located in the front of the generator compartment. If any gas detector

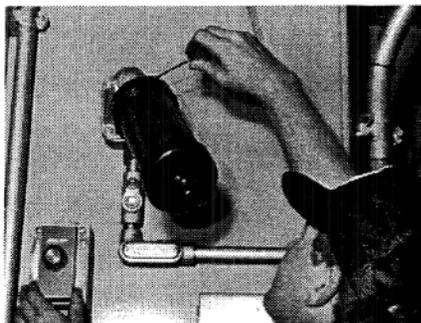


Gas Detectors Sense Hydrocarbon Vapors.

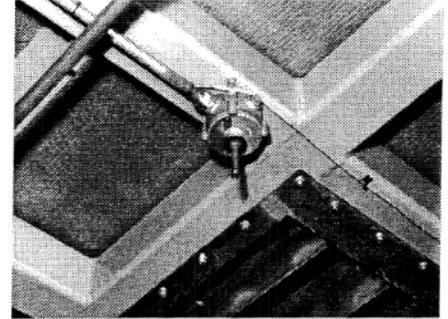
senses a gas concentration of 15% LEL, a warning is initiated. If a sensor detects a gas concentration of 60% LEL, an emergency shutdown is initiated.

Optical Flame Detectors

There are 4 optical flame detectors. Three are mounted in the front of the engine compartment, and one optical flame detector is mounted in the generator compartment. A flame indication by the generator room sensor or any two engine room sensors causes an emergency shutdown and release of extinguishant.



Optical Flame Detectors Protect The Engine And Generator Compartments.



Temperature Sensors Include Rate-Of-Rise Protection.

Thermal Detectors

The enclosure temperatures are monitored by thermal detectors as follows:

Turbine Enclosure:

- 1 Ceiling RTD-Alarm at 200°F (93.3°C). 2nd vent fan turns on.
- 1 Floor RTD-Alarm at 140°F (60°C) 2nd vent fan turns on.
- 2 Spot temperature detectors Shutdown at 450°F (232.2°C).

Generator Enclosure:

- RTD. Alarm at 125°F (51.7°C) and 2nd fan turns on. Slow to min. load at 150°F (65.5°C).
- 2 Spot temperature detectors. Shutdown at 225°F (107.2°C).

In addition to alarm and shutdown functions, the RTDs provide enclosure temperature signals for the unit control panel CRT. The spot temperature detectors are bi-metallic and respond to both temperature and rate-of-rise. They cause a unit shutdown and release of the extinguishant when tripped.



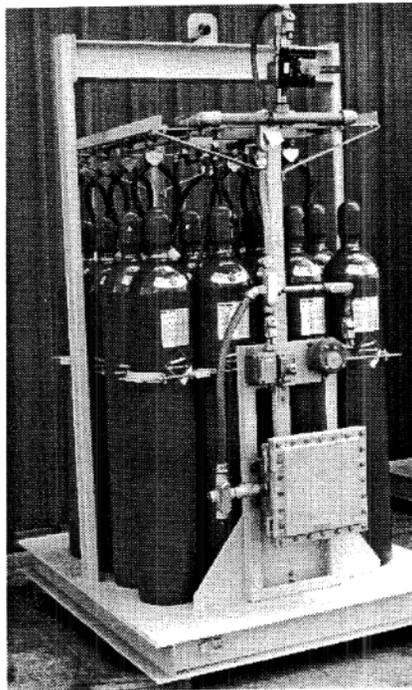
Manual System Trip

Three manual trip stations are located on the main enclosure; one on each side near the center of the package, and the third at the exciter end of the generator.

CO₂ Extinguishing System

A CO₂ extinguishing system is provided with the S&S Energy Products LM6000 package. The system components include:

- Main CO₂ storage cylinders
- Reserve CO₂ storage cylinders
- Necessary valves, piping and wiring



**CO₂ Storage Module
For 50 Hz Units**

The pressurized CO₂ bottles are stored on a separate rack for 50 Hz units. For 60 Hz units the CO₂ bottles are mounted on the outside of the main enclosure.

The reserve cylinders are an “automatic backup,” and are released, if detectors still indicate a hazard, 90 seconds after release of the main cylinders.

S&S Energy Products installs all piping within the main enclosure—from the pressure connection to the nozzles in the turbine and generator compartment. Release of the CO₂ is controlled by the fire system control panel or by a manual valve at the unit.

Fire System Controls

Signals from the equipment-mounted sensors are monitored by solid-state modules in the control panel. The panel-mounted unit includes logic, memory and output functions to complete the system.

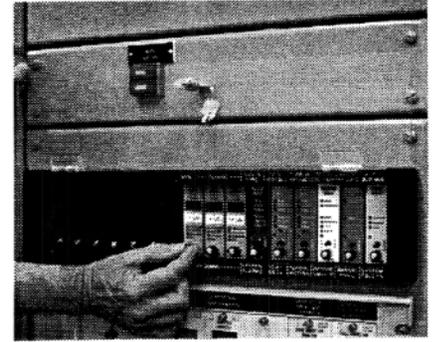
Dedicated Power Supply

S&S Energy Products furnishes a dedicated 24 VDC battery system with charger, to power the fire and gas protection system. This battery system conforms to NFPA 12 requirements.

Sense Monitoring

A solid state monitor mounted in the Unit Control Panel compares the signal from each sensor to alarm and shutdown set-points. Meters provide a readout of each gas detector signal. Any alarm signal sounds an alarm at the control panel and in the turbine enclosure.

Any shutdown signal from a gas detector, optical detector, thermal detector, or manual station closes a contact and causes an emergency shutdown.



**Fire & Gas Monitor Mounts
In Unit Control Panel**

Defective Sensor Protection

Each sensor is connected with closed loop circuitry to verify its readiness. Should the sensor or its wiring become defective, a “fault” condition is indicated on the control panel. A faulty sensor will not trip the unit nor initiate a CO₂ release.

CO₂ Release Logic

When a shutdown signal is received the control system turns off the ventilation fans and sounds an alarm horn at the panel and inside and outside the turbine enclosure. After a time delay, CO₂ extinguishant is released into the generator and turbine compartments.

A CO₂ concentration sufficient to extinguish flames is reached in approximately 30 seconds. If the primary cylinders should fail to discharge within four seconds, then the reserve cylinders are discharged.

If flames are still being detected 90 seconds after the primary CO₂ cylinders have been discharged, the reserve cylinders are discharged.



DIGITAL CONTROL AND MONITORING SYSTEM

General Description

The LM6000 control system provides simple and reliable control of the gas turbine and generator.

The control system supplies automatic starting and loading of the turbine and generator, plus interlocks, alarms and shutdowns to protect the equipment.

The system includes:

- Unit Control Panel
- Sensors and Controls on the Turbine and Generator
- Control Batteries and Chargers
- Wet Gauge Panels (local)

Unit Control Panel

The unit control panel is the focal point for operating the gas turbine generator system. The panel uses solid state electronics and is suitable for installation in a non-hazardous local control room near the gas turbine generator.

The Unit Control Panel includes:

- Microprocessor based
 - Digital fuel controller
 - Digital sequencer
- Vibration monitor
- Multi-function generator protective relay system



Typical Unit Control Panel
Integrated Controls For Both Turbine And Generator.

- Auto/Manual Voltage Regulator
- Auto and Manual Synchronization
- Multi-function digital meter for electrical power values
- Industrial or desktop PC for HMI. Color monitor provides graphic "screens"
- Operator control switches and push buttons
- Serial output data port for customer's DCS, remote terminal
- Parallel printer port

Cabinet Construction

The Unit Control Panel is housed in a free standing cabinet, constructed of welded cold rolled steel. The cabinet is designed for front access and can be mounted directly against a wall. A spacious termina-

tion cubicle simplifies wiring, testing and maintenance.

Typical cabinet dimensions are 90 in. H x 114 in. L x 30 in. D (2286 mm H x 2895 mm L x 762 mm D).

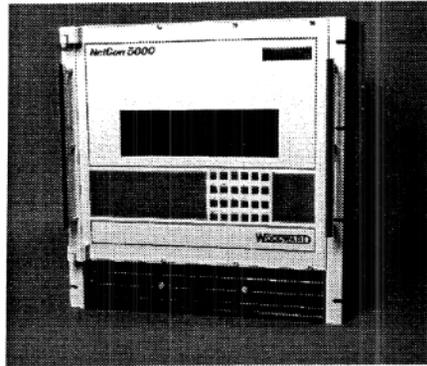
Special care is given to panel appearance and finish. High quality corrosion protection, primary painting and finish painting are employed. The standard finish is textured semi-gloss ANSI gray color paint.

Fuel Controller

The Fuel Controller in the unit control panel provides fuel management and air flow control for the LM6000 package, controlling light-off, acceleration, deceleration and frequency control.



Password protected parameters can be adjusted during operation with a display and push-button on the front panel. Plug-in modules provide flexibility of operation and permit future system expansion.



Typical Fuel Controller.

Fuel Management

The Fuel Controller provides the following fuel management functions:

Light Off Fuel Control

Accurately controls minimum fuel flow for reliable engine light off.

Acceleration Schedule

Controls the rate of acceleration of the engine. Acceleration Schedule continuously checks the rate of speed increase to prevent over-fueling and conditions that could damage the engine.

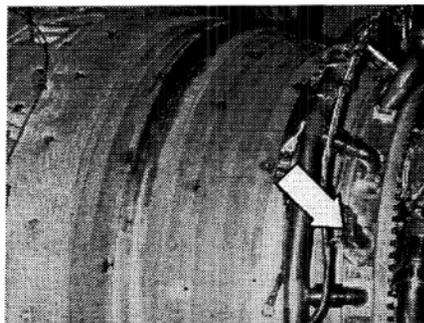
Deceleration Schedule

Prevents flameout by controlling the fuel valve-closing rate. The Deceleration Schedule automatically compensates for changes in

the turbine inlet temperature and minimum speed set point.

Temperature Control

The control system controls engine temperature by monitoring 8 duplex chromel-alumel (Type K) thermocouples in the inlet to the Low Pressure Turbine. Turbine temperature is held at lower limits during starting and acceleration, then increased for full power output when the turbine reaches operating speed. High turbine temperature produces alarm or shutdown.



Eight Type K Thermocouples Sense Turbine Temperature at inlet to LPT.

Speed Governing

The fuel control system controls engine speed with the fuel metering valve. An electric signal from the fuel controller positions the hydraulically actuated fuel valve. This modulates the fuel flow and regulates the generator frequency and the amount of power exported to the grid.

The protection system incorporates "low signal select" circuitry in the speed control loop to improve stability and safety. The speed circuit uses the *lowest* of these signals to control speed:

- High Pressure Compressor speed set point

- Low Pressure Compressor speed set point
- Maximum Temperature limit
- Acceleration Schedule
- DN/dt control

Sequence Control System

The Digital Sequencer controls automatic starting, running and stopping of the turbine, generator and auxiliaries.

The Digital Sequencer is mounted in the unit control panel and stores its programs in password protected ladder logic. This permits field modification by trained personnel if sequence functions require modification. The Sequencer is housed in a modular rack to provide for future system expansion.

Starting Sequence

A "ready to start" indication shows that all trips have been reset, the start permissive sequence has been accomplished, and the unit is ready to be started.

When the operator turns the "start" switch, the sequencer produces the following automatic start and load sequence:

- The primary ventilation fans turn on to purge the enclosures
- The generator AC pump turns on and builds pressure in the generator bearings
- Fuel forwarding systems turn on



- The starter motor turns on and cranks the engine at 2300 RPM to purge the exhaust system
- Engine is slowed to 1700 RPM
- The fuel system shutoff valves open and admit fuel
- The ignitors turn on
- The turbine fires and accelerates to 4500 RPM
- The starter disengages, and the turbine accelerates under its own power to idle speed
- The ignitors turn off
- The turbine warms up at idle speed for a pre-set time, then ramps to synchronous speed
- Generator voltage builds
- The automatic synchronizer matches generator speed, phase and voltage to the electrical bus
- The synchronizer issues a "breaker-close" command (verified by two "synch-check" relays) and closes the breaker
- The "ready to load" indicator turns on and loading begins (manual or automatic)

Sequence events must be completed within preset times or the start will be aborted. Pressing the "Stop" button causes a similar automatic shutdown sequence.

Additional Control System Functions

The control system includes the following equipment and control functions:

Low Pressure Compressor Speed

Low-Pressure shaft speed is sensed by two eddy-current sensors and two magnetic pickups. These sensors provide electrical signals to the fuel controller to control acceleration and speed and to actuate over-speed and under-speed switches. The LPC speed is indicated on the panel CRT.

Low Pressure Compressor Inlet Temperature and Pressure

Probes measure the total inlet temperature and pressure. Values are shown on the Unit Control Panel CRT.

High Pressure Compressor (HPC) Speed

Two magnetic pickups in the accessory gearbox sense HPC speed. The speed signals are used by the fuel controller to control acceleration/ deceleration and to activate switches in the control sequence, including overspeed alarm and shutdown. The HPC speed is shown on the panel CRT.

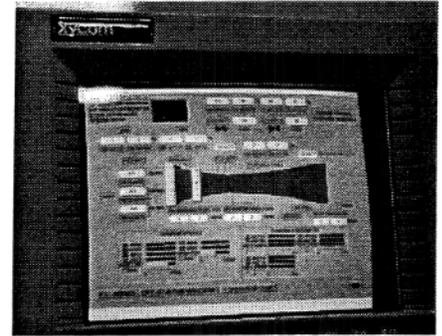
High Pressure Compressor Inlet Pressure and Temperature

Probes sense High-Pressure Compressor total inlet pressure and temperature. Values are shown on Unit Control Panel CRT.

Alarm and Shutdown System

A comprehensive alarm and shutdown system protects the turbine generator set and its auxiliaries. Field-mounted sensing devices (level, pressure, temperature, etc.) provide signals to the sequencer. If an abnormal condition is detected, then the sequencer provides alarm

and/or shutdown signals, and read-out on the panel CRT display. An optional hard copy printer records a sequential history of alarms and shutdowns.



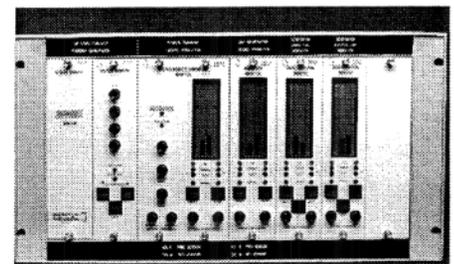
CRT Monitor Shows Alarms, Shutdowns And Unit Status.

An Acknowledge push button silences the panel alarm, and a Reset button clears the CRT display if the system faults have been corrected.

To prevent damage to the equipment, the operator must acknowledge and reset all shutdowns before restarting the turbine after a malfunction shutdown.

Vibration Monitoring

Turbine and generator vibration are monitored in the Unit Panel.



Typical Vibration Monitor In Unit Panel.

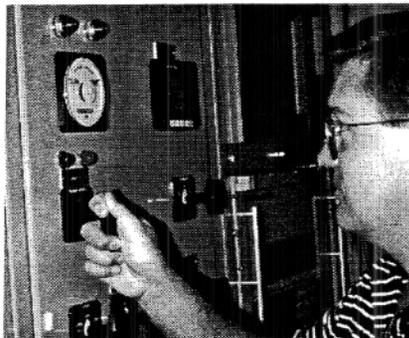


The monitor receives signals from two accelerometers on the LM6000 casing and two Bently Nevada proximity probes at each generator bearing. Excessive vibration causes alarm or shutdown.

Synchronization Control

The operator can manually synchronize the generator to the grid or he can select Auto Synchronization.

The auto synchronizer matches the generator's frequency, phase and



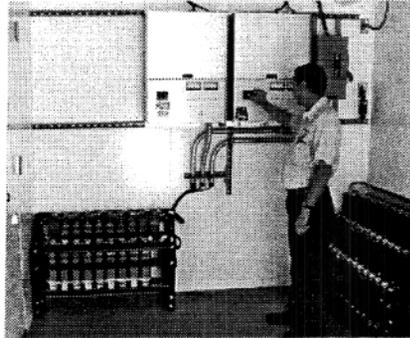
Operator Can Select Manual Or Auto Synchronization.

voltage with the bus and issues a "breaker close" command. Two independent "synch check relays" verify synchronization before the breaker is closed.

Control Batteries and Charger Assembly

A 24-volt DC nickel-cadmium battery system, complete with dual chargers and integral protection equipment is furnished. The battery can supply the control loads for at least three hours without recharging. The battery rack is made of steel, properly insulated and painted with two coats of acid resistant paint.

The two, 100% battery chargers have a 208 volt, 60 Hz, 1 phase power supply. The chargers are the static rectifier type. Either charger, operating alone, can maintain the battery fully charged at all times.



Dual 100% Chargers For 24 Volt Control Battery.

Fire and Gas Detection System

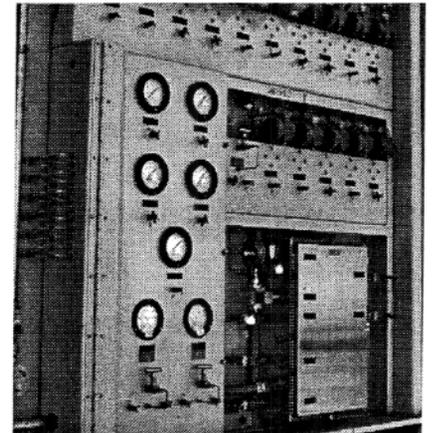
A solid-state Fire & Gas System controller in the Unit Control Panel monitors the optical flame detectors, thermal detectors and gas detectors mounted on the unit. The fire and gas detection system has its own independent 24V DC battery system with charger. (See Section 13.)



Fire & Gas System Monitor In Unit Control Panel.

Gas Turbine Wet Gauge Panel (Local)

Gauges showing system pressures are mounted in a panel on the side of the main enclosure.



Turbine Wet Gauge Panel.

Generator Wet Gauge Panel (Local)

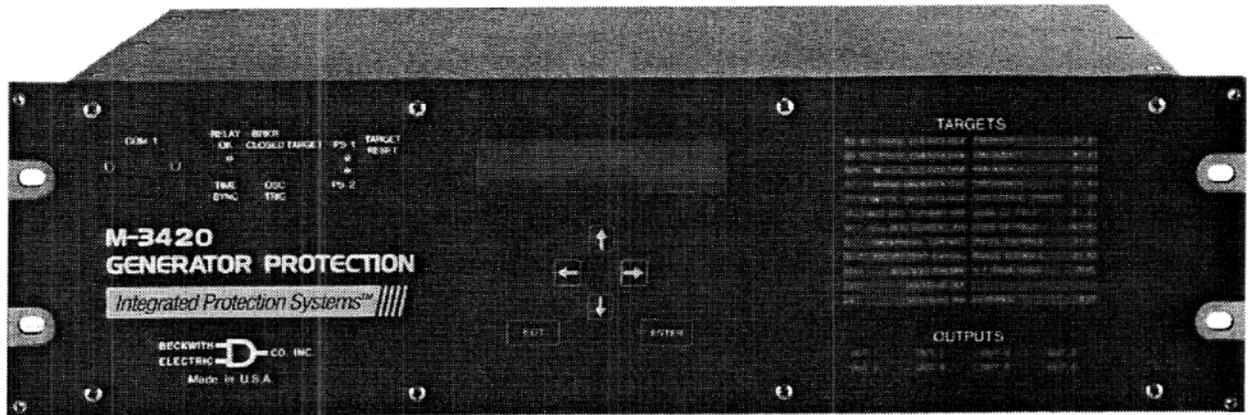
Gauges for the generator lube oil system are located on a small panel adjacent to the generator lube oil reservoir. The gauges can be seen without entering the generator compartment.

Dual Fuel Capability (Optional)

Dual fuel controls permit changing from the primary fuel to a secondary fuel while operating at a reduced load. A fuel transfer selector switch, with a visual indication of the selected fuel, is provided.

Generator Protective Relays

Generator electrical protection is provided by a microprocessor-based Digital Generator Protection system mounted in the Unit Control Panel.



Typical Generator Protective Relay System.

The protective relay system is an integrated, microprocessor-based solid state control providing the following protective functions:*

- Generator Differential (87G)
- Generator Ground Differential (87GD)
- Current Unbalance (46)
- PT fuse loss (60 FL)
- Generator Breaker Failure (50BF)
- Loss of Excitation (40)
- Anti-motoring (32)
- Overcurrent (50)
- Overcurrent - with voltage restraint (51V)
- Stator Ground (59N)
- Neutral Overcurrent (50N)
- Neutral Inverse-Time Overcurrent (51N)
- Over Excitation - with Volts/Hz (24)
- Over Voltage (59)
- Under Voltage (27)
- Over Frequency (81-O)
- Under Frequency (81-U)
- Inadvertent Excitation (50/27)

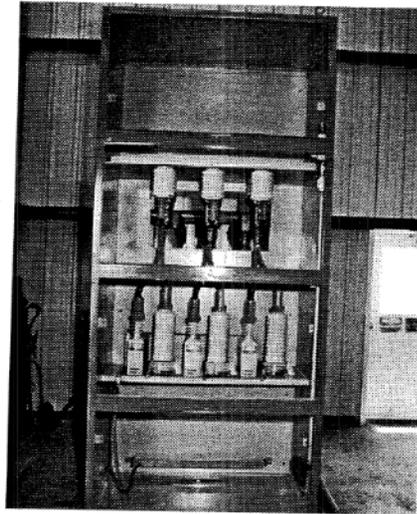
* Some of the protective functions listed may not be applicable for every project. Please see our project One-Line Drawing for specific details.



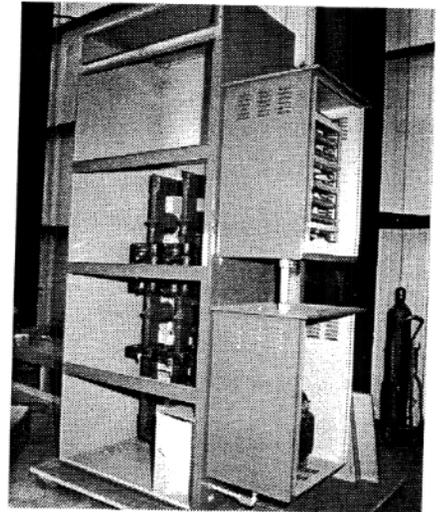
ELECTRICAL EQUIPMENT



Turbine compartment devices are wired to the large junction box.



Lineside Cubicle Includes Surge Protection.



Neutral Cubicle With CTs And Neutral Grounding Transformer.

Customer Electrical Interface

The LM6000 package is arranged to simplify customer field connections. Electrical devices on the main module are wired to two large junction boxes, one for Turbine enclosure devices and one for Generator enclosure equipment.

Customer installs interconnecting wiring between these junction boxes and the Unit Control Panel and other off-baseplate equipment. Solid-state modules transmit most I/O signals to the panel. This greatly reduces field installation wiring.

S&S Energy Products also furnishes three lightning arrestors and three surge capacitors mounted in the line side cubicle.

Electric Motors

60 Hz AC electric motors 5 HP (3.75 kW) and larger are 460V AC TEFC design with a 1.15 service factor. (50 Hz motors have voltage to suit site requirements.) Continuously running motors are the "high efficiency" type. Nameplate ratings and normal operating loads for the unit motors are tabulated at the back of this proposal section.

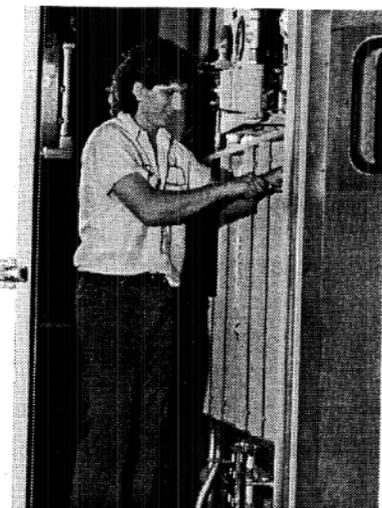
Neutral and Lineside Cubicles

Neutral and Lineside cubicles are bolted onto the outside of the generator enclosure for the customer's power connections.

S&S Energy Products furnishes 4 current transformers in the Neutral cubicle, as follows:

Service	Class
3 Metering, Relaying, Differentials	C400*
1 Voltage Regulator	C100

* These CTs can easily serve several functions, since their only burden is two high-impedance devices.



Generator Enclosure Wiring Terminates In Convenient Box.



Area Classifications

Electrical components located inside the turbine compartment are suitable for Class I, Group D, Division 2 areas. This applies primarily to switches, sensors and electrically actuated valves. Engine mounted instruments and the 115V AC ignition system used during start-up are constructed to aircraft standards, and, in general, meet the requirements of Class I, Group D, Div. 2, but are not so qualified or stamped.

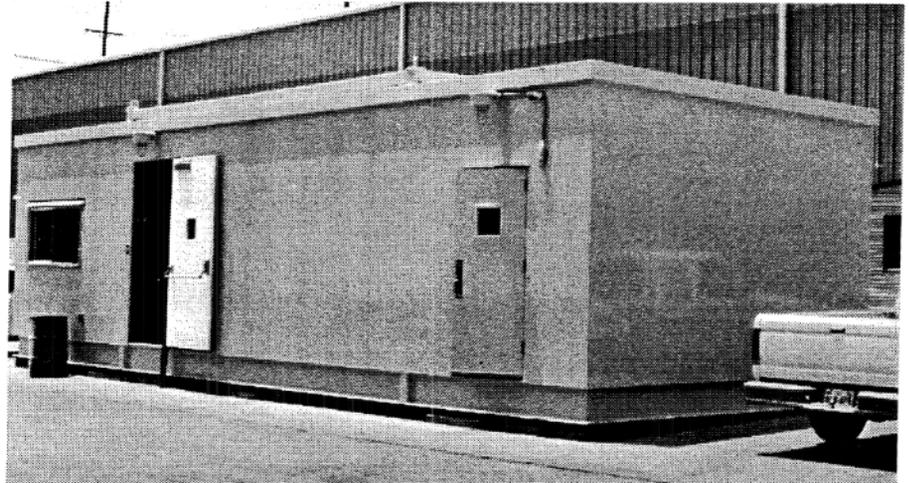
The filter house, roof-mounted fans, generator compartment, starter skid, and optional control house are classified as non-hazardous areas.

Enclosure Lighting

S&S Energy Products furnishes AC lighting for the interior of the gas turbine compartment, filter house and generator compartment. Emergency DC lighting is also provided in the turbine and generator enclosures. When a motor control center is provided by S&S Energy Products, (see Page 16-4) it includes a panel to distribute power to the lights in the S&S Energy Products lighting equipment.

Modular Control Room

S&S Energy Products can supply an optional, control house, with air conditioning and heating prewired to simplify field installation.



Modular Control Room Includes Control Panel, Protective Relays And Motor Control Center.

Structural Design

The modular control room base is fabricated with 8 in. (2440 mm) wide-flange beams welded into a rigid baseplate. The control room walls are a "sandwich construction," consisting of 14 gauge (1.9 mm) carbon steel outer panel, 3 in. (76 mm) of fiberglass insulation and an inner panel of 18 gauge (1.2 mm) galvanized steel. The floorplate is 1/4 in. (6.35 mm) carbon steel.

Air Conditioning/Heating

The control module is equipped with redundant air conditioning and heating units.

Lighting

The modular control room is complete with ceiling-mounted fluorescent lighting fixtures and switches at each entrance door.

Equipment in Control Room

The modular control room is designed to accommodate the electrical and control equipment required to operate the turbine and generator. This includes:

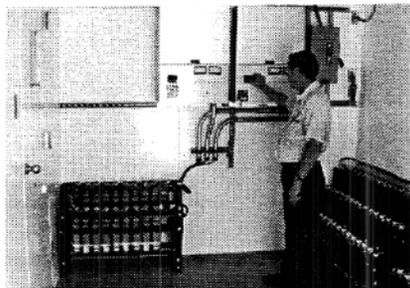
- Equipment included in unit price:
 - Unit Control Panel
 - Control and Fire Battery systems
- Optional equipment described below:
 - Unit Motor Control Center
 - Customer supplied DCS panel and other balance-of-plant controls.*

* Review space requirements with S&S Energy Products.



Battery Room

The modular control room contains a separate, ventilated area for battery racks and charger assemblies.



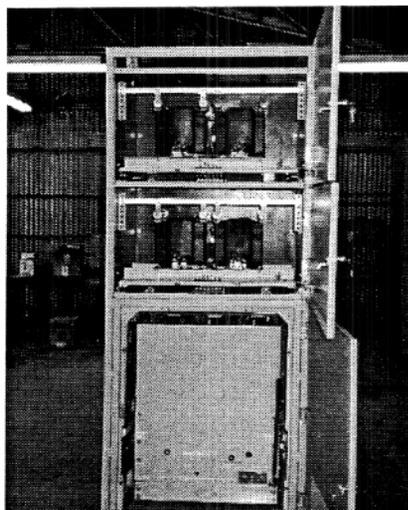
Dual, 100% Chargers For 24 Volt Control Battery.

The basic scope-of-supply includes a 330 ampere-hour, 24 VDC battery system with dual 208V AC chargers. This battery system powers the unit control panel. A dedicated 24V DC battery system for the fire and gas protection system is also furnished.

A separate 125V DC battery/charger assembly to power the switchgear can be provided as an option. All chargers are wall-mounted near the battery room and wired to the rack-mounted batteries.

Switchgear (Optional)

S&S Energy Products can furnish metal clad switchgear, including generator circuit breaker, 2 draw-out potential transformers (PTs) and high-voltage current transformers for generator differential relaying. The switchgear is supplied as ship-loose cubicles for outdoor installation by others at the job site.



Metalclad Switchgear Includes Circuit Breaker, PTs And CTs.

The main generator breaker and auxiliaries are mounted in a sheet metal cubicle approximately 36 in. W x 80 in. D x 90 in. H (914 mm W x 2032 mm D x 2286 mm H), with:

- 1 - 3000 AMP, 3 pole, 15 kV, 1000 MVA - electrically operated drawout type, vacuum type circuit breaker, 125V DC close and trip. (GE VBB-1-15-1000-30 or equal)
- 1 - 3000 AMP, 3 phase, 3 wire, main bus system, copper, fully insulated for 15 KV
- 1 - 1/4 in. x 2 in. (6.35 mm x 51 mm) copper ground bus
- 1 - Breaker control switch
- 2 - Breaker status indicating lights
- 1 - AC ammeter & switch
- 2 - Drawout type PTs (for synchronization and metering)
- 3 - CTs (for generator differential protection)

Unit Motor Control Center (Optional)

S&S Energy Products can furnish a motor control center for all the motors in the turbine-generator package. The MCC is built in accordance with NEMA 1, Class 1, with Type B wiring.

The MCC can be arranged as a free-standing unit, or can be incorporated into a modular control room furnished by S&S Energy Products. (See Section 16-2).

The standard MCC includes:

- Modular, plug-in starters or contactors for each motor or 480-volt load in the S&S Energy Products package.
- Lighting transformer, 30 to 45 KVA, 3 Phase, dry type, 480/208/120 volt with 100 AMP, 3 pole, molded case circuit breaker (mounted separately).
- Lighting distribution panel with circuit breakers for individual 208/120 volt loads in the S&S Energy Products package.

Additional optional equipment can be furnished as part of the MCC. Consult S&S Energy Products for details.



TYPICAL AUXILIARY POWER LOADS 60 HZ GENERATOR

	Qty	Nameplate HP Each	Normal Operating Load		Required for Black Starting	
			Total Qty	KW	Total Qty	KW
Standard Electric Loads						
Turbine Vent Fans	2	125	1	83	1	83
Generator Vent Fans	2	100	1	67	1	67
Hydraulic Start Pump	1	200	0	0	1	132
Generator Aux. L.O. Pump	1	7.5	0	0	1	4
Generator Jacking Oil Pump	1	15	0	0	1	10
Gas Turbine Lube Oil Heater	1	3 KW	0	0	1	3
Generator L.O. Heater	2	4 KW	0	0	2	8
Hyd. Starter L.O. Heater	1	3 KW	0	0	1	3
Generator Space Heater	1	4 KW	0	0	1	4
Turbine Air/Oil Separator	1	1	1	0.6	1	0.6
Lighting & Low Voltage Distribution System	1	30 KVA	1	25	1	25
Totals - KW				176		340
Optional Electrical Loads						
Auxiliary Skid Vent Fan	2	5	1	3	1	3
Liquid Fuel Pump	1	100	1	65	1	65
Water Inj. Pump - Gas Fuel	1	75	1	50	0	0
Water Inj. Pump - Liq. Fuel	1	125	1	81	0	0
Oil Cooler Fans	2	7.5	1	5	1	5
Evap Cooler Recirc. Pump	1	3	1	2	0	0
Heat Tracing	1	5 KW	0	0	1	5
Auxiliary Skid Heater	1	5 KW	0	0	1	5
Turb/Gen Comp. Heaters	4	5 KW	0	0	4	20
Chiller Circ. Pump	2	125	2	93	0	0
Chiller Compressor**	2	880 KW	2	1760	0	0
Gen. Vent Fans-TEWAC	2	25	1	18	1	18
Control House A/C	2	21 KW	1	21	1	21

**Max Value. Requirements Vary. 4160 V Motor

SCR / OXIDATION CATALYST

PRODUCT INFORMATION & GUARANTEE

ENGELHARDHIGH TEMP SCR CATALYST
AND CO CATALYST101 WOOD AVENUE
ISELIN, NJ 08830
732-205-5000POWER GENERATION SALES:
ENGELHARD CORPORATION
2205 CHEQUERS COURT
BEL AIR, MD 21015
PHONE 410-569-0297
FAX 410-569-1841

E-Mail Fred_Booth@ENGELHARD.COM

DATE:	July 29, 1999	NO. PAGES	4 (INCLUDING COVER)
TO:	BLACK & VEATCH ATTN: Greg Holscher	FAX 913-458-2934	
	ENGELHARD ATTN: Nancy Ellison		
FROM:	Fred Booth	Ph 410-569-0297 // FAX 410-569-1841	

RE: B & V Project 61433 / Black Hills Simple Cycle
CAMET® CO Oxidation Systems
NOxCAT™ ZNX™ SCR Catalyst Systems
Engelhard Budgetary Proposal EPB99527-Rev. 2

Dear Mr. Holscher,

Per your request, we provide revised Engelhard Budgetary Proposal EPB99527-Rev. 2 for Engelhard CAMET® CO Oxidation Systems and NOxCAT™ ZNX™ zeolite SCR Catalyst modules and ammonia system components.

Our Proposal is based on:

- CO Catalysts for 90% CO Reduction. Note – we have matched the CO Catalyst cross section to the SCR cross section.
- SCR Catalysts for 80% and 90% NOx reductions from 25 ppmvd @ 15% O₂ with ammonia slip of 10 ppmvd @ 15% O₂;
- Scope as noted – SCR Catalyst module support frame, SCR Catalyst modules, and ammonia delivery system components – anhydrous ammonia to skid.
- 4" WG pressure drop through SCR system. Note – we provide required cross section inside liner sheets.
- Three (3) year Performance guarantee – expected life 5 – 7 years.

We request the opportunity to work with you on this project.

Sincerely yours,

ENGELHARD CORPORATION



Frederick A. Booth
Senior Sales Engineer

cc: Nancy Ellison - Proposal Administrator

ENGELHARD CORPORATION
CAMET® CO OXIDATION SYSTEMS
NOxCAT™ ZNX™ SCR NOx ABATEMENT CATALYST SYSTEM

Engelhard Corporation ("Engelhard") offers to supply to Buyer the NOxCAT™ ZNX™ ceramic substrate zeolite SCR systems summarized per the technical data and site conditions provided.

Scope of Supply

1. Engelhard CAMET® CO Oxidation Catalyst modules with support frame;
2. Engelhard NOxCAT™ ZNX™ SCR catalyst in modules with internal support frame;
3. Ammonia Delivery System Components - Anhydrous ammonia to skid

BUDGET PRICES:

See Performance data

WARRANTY AND GUARANTEE:

Mechanical Warranty:

One year of operation* or 1.5 years after catalyst delivery, whichever occurs first.

Performance Guarantee:

Three (3) years of operation* or 3.5 years after catalyst delivery, whichever occurs first. Catalyst warranty is prorated over the guaranteed life.

Expected Life

5 - 7 years

SCR SYSTEM DESIGN BASIS:

Gas Flow from:

LM6000 Combustion Turbine

Gas Flow:

Horizontal

Fuel:

Natural Gas

Gas Flow Rate (At catalyst face):

See Performance data - Designed for Gas Velocities within $\pm 15\%$ at the reactor inlet

Temperature (At catalyst face):

See Performance Data

CO Inlet (At catalyst face):

25 ppmvd @ 15% O₂

CO Reduction :

90%

NOx Inlet (At catalyst face):

25 ppmvd @ 15% O₂

NOx Reduction :

80% and 90%

NH₃ Slip:

10 ppmvd @ 15%O₂

Delta P:

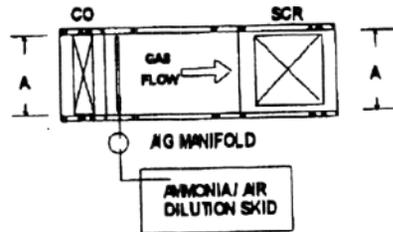
4"WG

Performance Data

GIVEN // CALC. DATA	
CASE	1
AMBIENT	47
FUEL	NG
LOAD	BASE
TURBINE EXHAUST FLOW, lb/hr	873,936
TURBINE EXHAUST GAS ANALYSIS, % VOL. N ₂	75.56
O ₂	14.50
CO ₂	2.98
H ₂ O	6.01
Ar	0.95
CALCULATED GAS MOL. WT.	28.59
GIVEN TURBINE CO, ppmvd @ 15% O ₂	25.0
CALC. TURBINE CO, lb/hr	18.7
GIVEN: TURBINE NO _x , ppmvd @ 15% O ₂	25
CALC.: TURBINE NO _x , lb/hr	30.7
GAS TEMP. @ SCR CATALYST, F (+/-20)	847
DESIGN REQUIREMENTS	
CO OUT, ppmvd @ 15% O ₂	2.5
NO _x OUT, ppmvd @ 15% O ₂	5
NH ₃ SLIP, ppmvd @ 15% O ₂	10
SCR PRESSURE DROP, 4" WG - Nom.	
GUARANTEED PERFORMANCE DATA	
CO CONVERSION, % - Min.	90.0%
CO OUT, ppmvd @ 15% O ₂ - Max.	2.5
CO OUT, lb/hr - Max.	1.9
CO PRESSURE DROP, "WG - Max.	0.6
NO _x CONVERSION, % - Min.	80.0%
NO _x OUT, ppmvd @ 15% O ₂ - Max.	5
NO _x OUT, lb/hr - Max.	6.1
EXPECTED ANHYDROUS NH ₃ FLOW, lb/hr	14
NH ₃ SLIP, ppmvd @ 15% O ₂ - Max.	10
SCR PRESSURE DROP, "WG - Max.	4.0
REQUIRED CROSS SECTION - A x B, sq ft	480
CO SYSTEM	\$420,000
REPLACEMENT CO MODULES	\$300,000
SCR SYSTEM	\$889,200
REPLACEMENT SCR MODULES	\$536,400

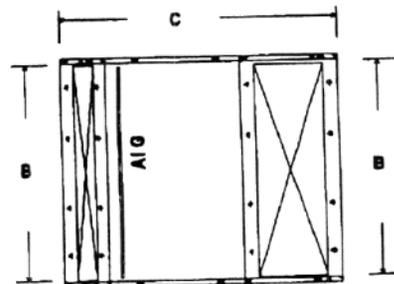
Scope of Supply: The equipment supplied is installed by others in accordance with Engelhard design and installation instructions.

- Engelhard CAMET® CO Oxidation Catalyst modules with support frame;
- Engelhard NOxCAT™ ZNX™ SCR catalyst in modules;
- Internal support frames for catalyst modules - installed inside internally insulated casing (casing by others);
- Ammonia Delivery System Components: Anhydrous Ammonia to skid
 - Ammonia Injection Grid (AIG);
 - AIG manifold with flow control valves ;
 - NH₃/Air dilution skid: Pre-piped & wired (including all valves and fittings)
 - Two (2) dilution air fans, one for back-up purposes
 - Panel mounted system controls for:
 - Blowers (on/off/flow indicators)
 - Air/ammonia flow indicator and controller
 - System pressure indicators
 - Main power disconnect switch



Assumed Dimensions:

Inside Liner Width x Height	A x B
Reactor Depth	
90% CO + 80% SCR	(C) 15' - 0"
90% CO + 90% SCR	(C) 15' - 6"



Excluded from Scope of Supply:

- Ammonia storage and pumping
- Internally insulated reactor Housing
- Any transitions to and from reactor
- Any interconnecting field piping or wiring
- Electrical grounding equipment
- Utilities
- Foundations
- All Monitors
- All other items not specifically listed in Scope of Supply

Solutions for NOx and Ammonia



Engelhard *NOxCat* SCR catalysts

Engelhard researched and developed Selective Catalytic Reduction (SCR) and obtained the first patents in 1957. Quite simply, (SCR) is a process by which ammonia (NH_3) is added to an exhaust stream and reacts with NO_x within the catalyst bed to produce nitrogen (N_2) and water (H_2O). This technology has proven to reduce NO_x emissions by up to 90% or more.

The SCR Catalysts

- [VNX Catalysts](#)
- [ZNX Catalysts](#)

NSCR Catalyst Solutions Engelhard Non-selective Catalytic Reduction

- Decolorizes nitric acid tail gas
- Abates NO_x
- Controls NO_x from rich burning engines
- Highly active precious metal catalytic coatings
- Ceramic structures in composite honeycomb configurations

Ammonia Catalyst Solutions Engelhard *NOxCat LoSlip* Ammonia Destruction Catalyst

- Ideal for lower temperature applications
- 355°F to 550°F optimum temperature range
- Converts up to 90% plus of ammonia to nitrogen and water

For more information, contact
etginfo@engelhard.com

[Markets](#) | [What's New](#) | [Contact Us](#)
[To Engelhard Corporate Site](#) | [Home](#) | [Trademarks](#) | [Disclaimers](#)

ENGELHARD
Change the nature of things.

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The SCR Catalysts

Markets

What's New

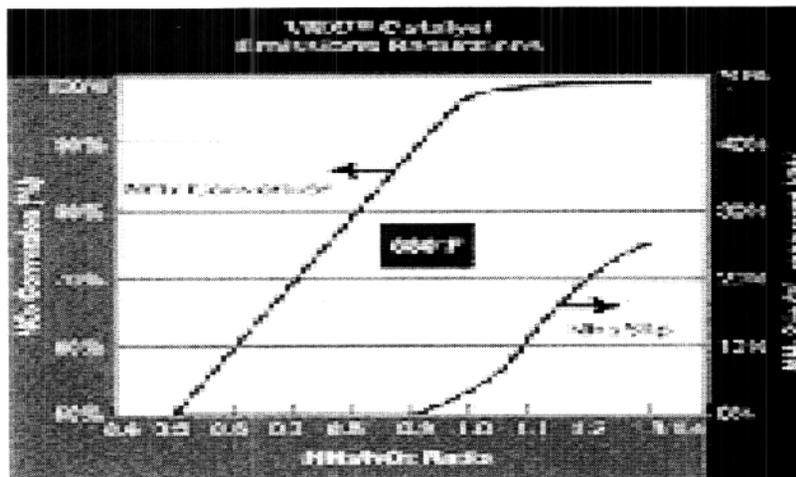
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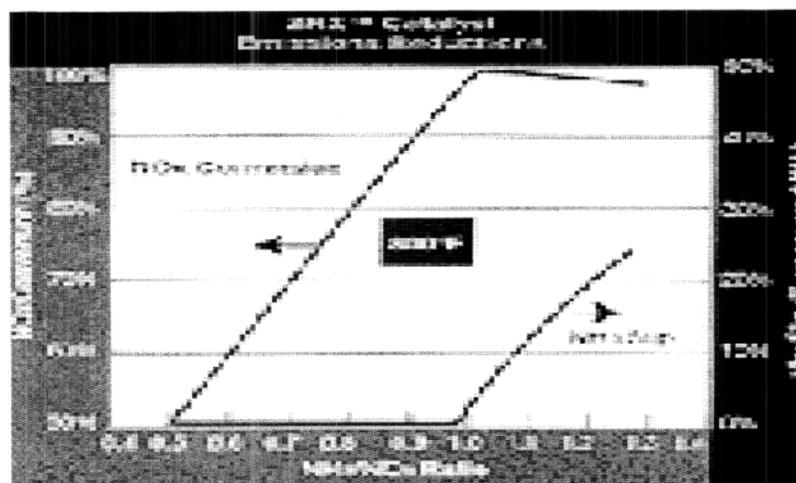
VNX Catalysts

- Ideal for reciprocating engines, gas turbines, utility/industrial boilers and chemical process applications
- 550°F to 800°F optimum temperature range
- NH_3 reacts with NO_x to form nitrogen and water
- Highly active vanadia/titania catalytic coatings
- Ceramic structures in composite honeycomb configurations



ZNX Catalysts

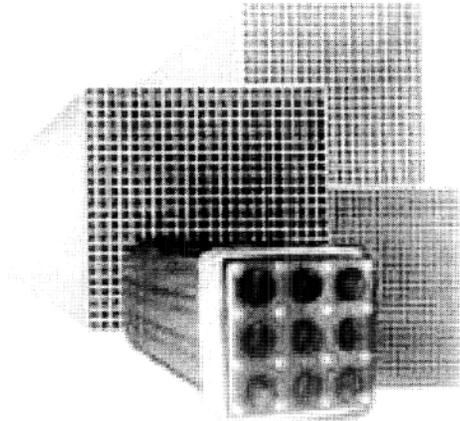
- Ideal for higher temperature applications
- 675° to 1,075°F optimum temperature range
- NH_3 reacts with NO_x to form nitrogen and water
- Highly active zeolitic catalytic coatings
- Ceramic structures in composite honeycomb configurations



For more information, contact
etginfo@engelhard.com

Catalytic Converter

Power Generation



Manufacturer
Engelhard Corporation

Model
ZNX™ Catalyst

Websites
<http://www.engelhard.com>

Target Pollutant
NOx

Stage of Development
Available

Source of Information
Engelhard Corporation

Posted - 03/04/1999

Description

The SCR catalyst system works on exhaust gases as they pass through SCR catalyst honeycombs to promote NO and NO₂ reduction, with added urea to produce nitrogen and water. Ammonia can also be used.

Testing/Performance

The ZNX™ Catalyst can reduce NOx emissions by up to 99%.

Technical Specifications

The ZNX™ Catalyst is most effective between 675°F to 1,100°F. The composite honeycomb configurations are ceramic structures. The SCR catalysts are designed for reciprocating engines, to produce less soot buildup, low ammonia slip and longer catalyst life.

Cost & Maintenance

The ZNX™ Catalyst requires low maintenance and assures reliable operation. The cost of the ZNX™ Catalyst can be acquired by contacting Engelhard Corporation.

Emission Reductions and Environmental Significance

The levels of NOx emissions are reduced by up to 99%.

Current and Future Applications

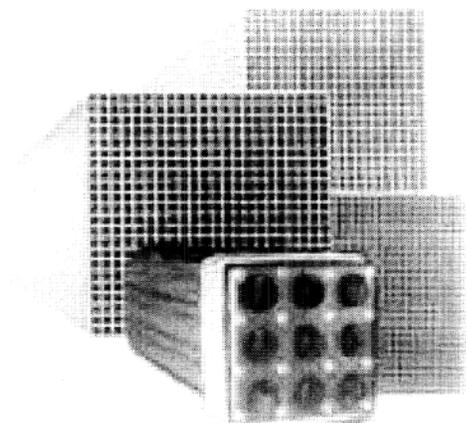
The ZNX™ Catalyst can be used in facilities using diesel and natural gas engines for power generation.

Further Information

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Manufacturer
Engelhard Corporation

Model
VNX™ Catalyst

Websites
<http://www.engelhard.com>

Target Pollutant
NOx

Stage of Development
Available

Source of Information
Engelhard Corporation

Posted - 03/04/1999

Description

The SCR catalyst system works on exhaust gases as they pass through SCR catalyst honeycombs to promote NO and NO₂ reduction, with added urea to produce nitrogen and water. Ammonia can also be used.

Testing/Performance

The VNX™ Catalyst can reduce NOx emissions by up to 99%.

Technical Specifications

The VNX™ Catalyst is most effective at temperatures between 550°F and 800°F. It has highly active vanadia/titania catalytic coatings. The composite honeycomb configurations are made of ceramic structures. The Engelhard's integrated design incorporates particulate traps and oxidation catalyst. The VNX™ Catalyst was designed for reciprocating engines to produce less soot buildup, low ammonia slip and longer catalyst life.

Cost & Maintenance

The VNX™ Catalyst design assures reliable operation and low maintenance. The cost of the system can be acquired by contacting Engelhard Corporation.

Emission Reductions and Environmental Significance

NOx emissions can be reduced by up to 99%.

Current and Future Applications

The VNX™ Catalyst can be used for reciprocating engines, gas turbines, utility/industrial boilers, and chemical process applications.

Further Information

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Engelhard Stationary Engine Catalyst Systems

Stationary diesel and natural gas engine customers are being faced with strict regulations that demand low emission levels of NO_x, CO, and HC. In some cases these engines cannot meet state regulation emission levels without the use of after-treatment devices.

Engelhard, a leader in clean air technology, has spent the last three decades developing and selling emission control technologies that not only meet state and federal government requirements for emission reductions, but also meet the customers expectations for quality and long term durability.

To comply with the increasing challenges of today's clean air requirements, Engelhard has developed a complete line of products that meet both environmental and customer requirements.

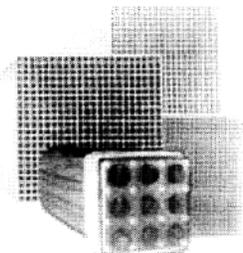
ENGELHARD

SCR Systems for NO_x Control

Engelhard researched and developed Selective Catalytic Reduction (SCR) and obtained the first patents in 1957. To better provide for today's customer needs, Engelhard has brought the Swiss-designed, Hug Engineering system to the U.S. and Asian markets. The system has been proven in over 400 installations throughout Europe and Asia since 1986, with over 30,000 tons of NO_x reduced annually.

Nitrogen oxides are reduced by the SCR system. SCR is a process by which a nitrogen based reductant, in this case urea, is added to an exhaust stream and reacts with NO_x within the catalyst bed to produce nitrogen and water. This technology has proven to reduce NO_x emissions by up to 90% or more.

The system is engineered to cost effectively meet regulations, and complies Mandatory Available Control Technology (MACT), Reasonably Available Control Technology (RACT) and other qualifying standards.



Honeycomb catalyst substrates

System Features and Benefits

SCR Catalyst

When considering catalyst technology it is very important to understand its limitations in both performance and long term thermal stability. All catalysts are not created equal.

Engelhard has two catalyst technologies that can meet any emission or exhaust condition requirements for a wide range of applications.

Vanadia Titania Catalyst

- Ideal for reciprocating engines, gas turbines, utility/industrial boilers and chemical process applications
- Up to 850°F optimum temperature range
- Ceramic structures in composite honeycomb configurations

ZNX™ Catalyst

- Ideal for today's high temperature engine and turbine applications
- 675 to 1,100°F optimum temperature range
- Ceramic structures in composite honeycomb configurations

Urea Reductant

- Safe storage and handling
- Economical
- Easy transport

The Engelhard-Hug system works almost exclusively with urea as the reductant, although ammonia injection is available upon request.

System Control

- System control strategy strictly regulates reductant dosing
- Optional NO_x sensor allows visual inspection of performance
- Optional modem allows remote access

Maintenance and Installation

- Modular design allows installation into almost any application
- Modular design allows future system expansion
- Easy access panels allows quick maintenance by one person

GEN™ Diesel Oxidation Catalyst

GEN™ Diesel Oxidation Catalyst is intended primarily for hydrocarbon and CO abatement from diesel engines with secondary particulate reduction.

COCat™ Oxidation Catalyst

The COCat™ is an oxidation catalyst designed for superior CO abatement from natural gas and LPG engines.

TWX™ Three Way Catalyst

TWX™ three way catalyst provides simultaneous control of NO_x, CO and HC in rich burn natural gas engines.

ENGELHARD

Engelhard offers a wide variety of emission control products for:

- Diesel and natural gas generators
- Diesel-powered heavy machinery
- Gas pumping stations

Engelhard can provide products for most fuel powered engines, including Number 2 Diesel, LPG, natural gas and dual fuel. Engelhard products feature:

- Simple design
- Economic construction
- Metallic foil with unique coating process for diesel and TWC
- High CO, NO_x, HC, PM reduction
- Temperature and pressure ports
- Stainless steel construction



Cost Analysis of NO_x Control Alternatives for Stationary Gas Turbines

Contract No. DE-FC02-97CHIO877

Prepared for:

U.S. Department of Energy
Environmental Programs
Chicago Operations Office
9800 South Cass Avenue
Chicago, IL 60439

Prepared by:

**ONSITE SYCOM Energy
Corporation**
701 Palomar Airport Road,
Suite 200
Carlsbad, California 92009

November 5, 1999

PREFACE

This report was prepared by ONSITE SYCOM Energy Corporation as an account of work sponsored by the U.S. Department of Energy. Bill Powers, Principal, Powers Engineering, was the primary investigator of the technical analysis.

The information and results contained in this work illustrate the performance and cost range for gas turbine NO_x control technologies. Emission control and prevention for gas turbines is an evolving process. The information in this report is intended to establish a dialogue among interested parties to examine the environmental impacts and regulatory implications of air-borne emissions from advanced gas turbines and to help guide and prioritize research and development activities in this area. It is not intended to be the basis for detailed engineering or marketing decisions. Mention of trade names and commercial products does not constitute endorsement or recommendation for use.

ACKNOWLEDGEMENTS

ONSITE SYCOM would like to acknowledge the participation of the following individuals whose assistance and contribution was greatly appreciated.

Bill Powers, Principal, Powers Engineering, who was the principal contributor

Rich Armstrong, GE Power Systems

Bill Binford, Rolls-Royce Allison

Fred Booth, Engelhard

Tom Gilmore, Kinetics Technology International

Patricia Hoffman, Program Manager, Office of Industrial Technologies, U.S. DOE

Mark Krush, Siemens- Westinghouse

Ray Patt, GE Industrial and Marine

Boris Reyes, Goal Line Environmental Technologies

Chuck Solt, Catalytica Combustion Systems

Stephen Waslo, Senior Program Manager, U.S. DOE, Chicago Operations Office

Leslie Witherspoon, Solar Turbines

Sam Yang, Mitsubishi Heavy Industries America

EXECUTIVE SUMMARY

This study compares the costs of the principal emission control technologies being employed or nearing commercialization for control of oxides of nitrogen (NO_x) in stationary gas turbines. Cost data is expressed as “\$/ton NO_x removed” (“\$/ton”) and “¢/kWh” for gas turbines in the 5 MW, 25 MW and 150 MW output ranges. The reference document for this study is the “Alternative Control Techniques Document – NO_x Emissions from Stationary Gas Turbines” EPA-453/R-93-007, (“1993 NO_x ACT document”) prepared by the U.S. EPA in 1993. Gas turbine manufacturers and NO_x control technology vendors that participated in the 1993 study were contacted to determine current costs. The NO_x control technologies evaluated in the 1993 NO_x ACT document include water/steam injection, dry low NO_x (DLN) combustion, and selective catalytic reduction (SCR). Current cost data is also provided for new control technologies that were not available in 1993, including low and high temperature SCR, catalytic combustion, and SCONO_xTM.

Shown in Table S-1, cost data is developed in “\$/ton” and “¢/kWh” formats. The “\$/ton” values indicate the typical cost of a control technology to remove a ton of NO_x from the exhaust gas. The “\$/ton” value is determined by dividing the owning cost of the control technology by the tons of NO_x removed. Owning costs consist of capital, operating and maintenance costs. A “\$/ton” value that is relatively lower means that the technology is more efficient in removing NO_x than alternative control technologies.

The “\$/ton” value is a useful comparative indicator when the inlet and outlet concentrations are the same for each group of technologies being evaluated. NO_x can be controlled to within a feasible limit for a specific control technology and is largely independent of a gas turbine’s uncontrolled NO_x emission rate. Therefore the uncontrolled NO_x exhaust concentrations must be considered when evaluating the “\$/ton” cost effectiveness values applied to different makes/models of turbines to obtain a meaningful comparison.

Table S-1
Cost Impact Factors for Selected NO_x Control Technologies (1999)

Turbine Output	5 MW Class		25 MW Class		150 MW Class	
	\$/ton	¢/kWh	\$/ton	¢/kWh	\$/ton	¢/kWh
NO_x EMISSION CONTROL TECHNOLOGY						
DLN (25 ppm)	260	0.075	210	0.124	122 *	0.054 *
Catalytic Combustion (3 ppm)	957	0.317	692	0.215	371	0.146
Water/Steam Injection (42 ppm)	1,652	0.410	984	0.240	476	0.152
Conventional SCR (9 ppm)	6,274	0.469	3,541	0.204	1,938	0.117
High Temperature SCR (9 ppm)	7,148	0.530	3,841	0.221	2,359	0.134
SCONox (2 ppm)	16,327	0.847	11,554	0.462	6,938	0.289
Low Temperature SCR (9 ppm)	5,894	1.060	2,202	0.429		

* 9-25 ppm

"¢/kWh" based on 8,000 full load hours

The "¢/kWh" value provides the electricity cost impact of a particular NO_x control technology, and is independent of the tons of NO_x removed. The "¢/kWh" represents a unit cost for NO_x control that must be added to other owning costs associated with the gas turbine project. The "¢/kWh" value is determined by dividing the owning cost of the NO_x control technology by the amount of electricity generated by the gas turbine. A comparison between "¢/kWh" values is most meaningful for technologies that control NO_x to an equivalent "ppm" concentration.

When performing cost impact comparisons among technologies that do not control NO_x with an equivalent inlet/outlet emission rate, it must be recognized that there may be capital and operating cost adjustments required to perform the analysis on an equivalent basis. In this study, capital and operating costs provided by manufacturers were restricted to turbine projects readily available at the time of the inquiry and explains the use of various gas turbine models and inlet/outlet NO_x emission rates. Manufacturers that consider certain cost numbers as proprietary also prevented an equitable comparison in some cases.

Figures S-1 and S-2 compare the “¢/kWh” values developed in this study and from the 1993 NO_x ACT document, respectively. Controlled NO_x concentrations are indicated below each technology in the figures. In general, results shown in the figures are ordered from highest cost to lowest cost impact.

The “\$/ton” and “¢/kWh” cost impact factors are based on 8,000 full load operating hours, as used in the 1993 NO_x ACT document. The majority of base-loaded gas turbines typically operate at lower full load hours; therefore actual cost impacts could be significantly higher.

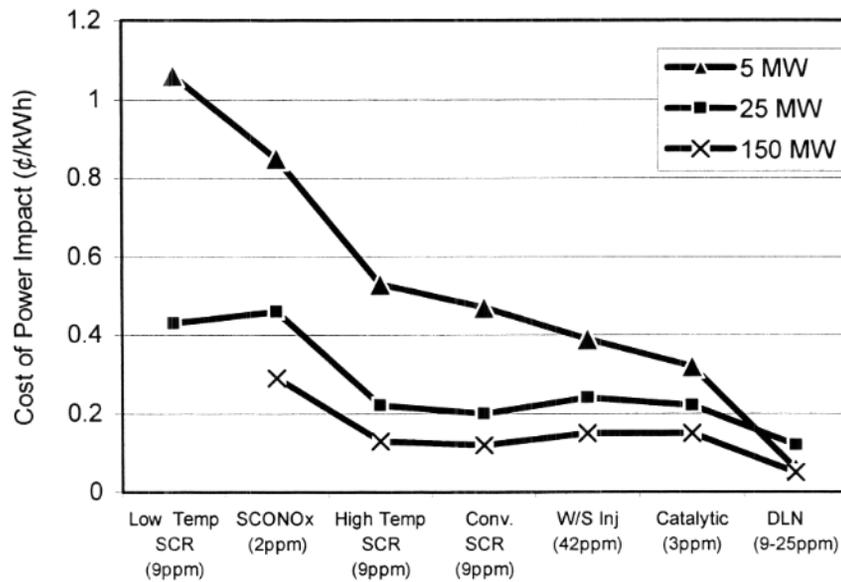


Figure S-1. 1999 Comparison of NO_x Control Technologies

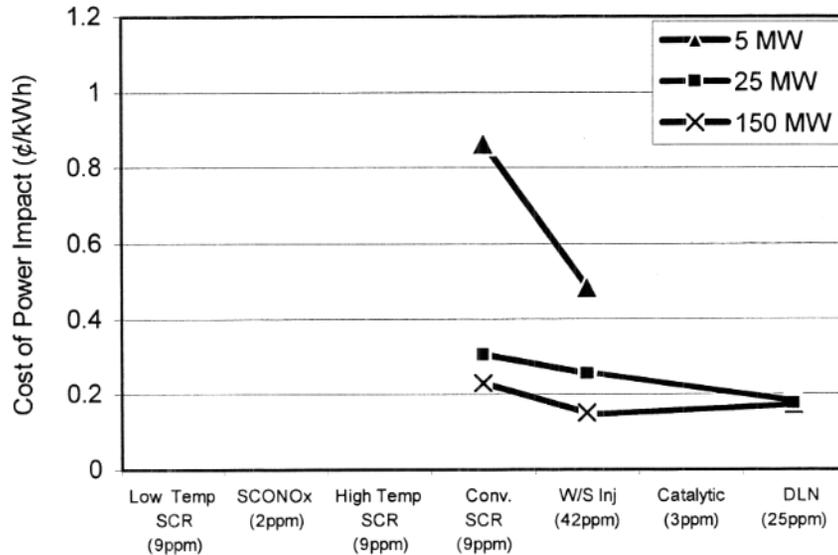


Figure S-2. 1993 EPA Comparison of NO_x Control Technologies

The “¢/kWh” values for water/steam injection have remained fairly constant between the 1993 NO_x ACT document and the evaluation performed in this study. This is consistent with the fact that water/steam injection was a mature technology in 1993. Considerable innovation has occurred with DLN and SCR and this is reflected in a 50-100% reduction in the “¢/kWh” values for these two technologies between 1993 and 1999.

High temperature SCR is only about 10 percent more costly than conventional SCR. Low temperature SCR and SCONO_x[™] are typically 2 times more costly than conventional SCR. Each SCR technology fills a unique technical “niche”; cost impact may be of secondary significance. Low temperature SCR is the only SCR technology that can operate effectively below 400 °F. High temperature SCR is the only SCR technology that can operate effectively from 800 to 1,100 °F. SCONO_x[™] is the only post-combustion NO_x control technology that does not require ammonia injection to achieve NO_x levels less than 5 ppm and can operate effectively from 300-700°F.

Projected costs for catalytic combustors indicate that the “¢/kWh” cost is 2 to 3 times higher than a DLN combustor alone. The catalytic combustor can achieve NO_x levels of less than 3 ppm, while the most advanced DLN combustor can achieve NO_x levels down to 9 ppm. To reach NO_x levels below 5 ppm, the DLN-equipped turbine requires post-combustion NO_x control device such as SCR or SCONO_x[™]. Catalytic combustion is not commercialized and the durability of the catalyst is unproved. In addition, the capital cost of adding catalytic combustion to a turbine combustor will be a strong function of individual turbine designs and therefore will vary significantly.

Figure S-1 indicates that the cost impact is highest when emission control technologies are applied to small industrial turbines (5 MW); a conclusion that was applicable in the 1993 NO_x ACT document as well. This is particularly true for the post-combustion technologies (SCR and SCONO_x[™]) where the cost impact is roughly twice that for larger turbines (25 MW and 150 MW). In ozone non-attainment areas, strict environmental regulations have mandated add-on controls for gas turbines. These regulations have a disproportionate impact on the construction of small gas turbine systems that may be too expensive to build when add-on controls are mandated.

DLN technology and prospects for catalytic combustion exhibit lower cost impacts than add-on controls for both small and large gas turbines as shown in Figure S-1. Research and development has focused on these technologies to further improve the environmental signature of gas turbines. As an example, a new generation of gas turbines and emission control technologies is being developed with the assistance of the U.S. Department of Energy (DOE) under the Advanced Turbine Systems (ATS) program. These gas turbines will exhibit significantly improved environmental and efficiency characteristics over currently available systems. These systems are being developed during a period of electric utility restructuring and proliferation of gas turbines for base-load power. The coming competitive power industry offers opportunities for both small and large gas turbine systems, filling niche markets - distributed generation and IPP/merchant plants, respectively. Although economics may favor development, the former market, distributed generation, is threatened by strict environmental regulations that impose costly post-combustion emission controls.

APPENDIX A

NO_x CONTROL TECHNOLOGY COST COMPARISON TABLES

TABLE A-1
SUMMARY OF COST IMPACT FACTORS FOR
SELECTED NO_x CONTROL TECHNOLOGIES (1999)

Turbine Output	5 MW Class		25 MW Class		150 MW Class	
	\$/ton	¢/kWh	\$/ton	¢/kWh	\$/ton	¢/kWh
Median value						
NO _x EMISSION CONTROL TECHNOLOGY						
DLN (25 ppm)	260	0.075	210	0.124	122 *	0.054 *
Catalytic Combustion (3 ppm)	957	0.317	692	0.215	371	0.146
Water/Steam Injection (42 ppm)	1,652	0.410	984	0.240	476	0.152
Conventional SCR (9 ppm)	6,274	0.469	3,541	0.204	1,938	0.117
High Temperature SCR (9 ppm)	7,148	0.530	3,841	0.221	2,359	0.134
SCONO _x (2 ppm)	16,327	0.847	11,554	0.462	6,938	0.289
Low Temperature SCR (9 ppm)	5,894	1.060	2,202	0.429		

* 9-25 ppm

"¢/kWh" based on 8,000 full load hours

**TABLE A-2
1999 DLN COST COMPARISON**

(Incremental Annual Cost Compared to Conventional Uncontrolled Diffusion Combustor)

		5 MW Class			25 MW Class	150 MW Class	
Turbine Model		Allison 501-KB7	Solar Centaur 50	Solar Taurus 60	GE LM2500	GE Frame 7FA	GE Frame 7FA
Turbine Output		4.9 MW	4.0 MW	5.2 MW	22.7 MW	169.9 MW	169.9 MW
Heat Rate	Btu/kWhr	12,400	12,400	11,240	9,220	9,481	9,481
Heat Content	Btu/lb	20,160	20,610	20,610	20,610	20,610	20,610
Fuel flow	lb/hr	3,014	2,407	2,836	10,155	78,157	78,157
Hours of Operation	hrs	8,000	8,000	8,000	8,000	8,000	8,000
Fuel flow	MMBtu/yr	486,080	396,800	467,584	1,674,352	12,886,575	12,886,575
CAPITAL COST		\$20,000	\$190,000	\$190,000	\$800,000	\$4,500,000	\$4,750,000
ANNUAL COST							
Equipment Life	yrs	15	15	15	15	15	15
Interest Rate	%	10%	10%	10%	10%	10%	10%
Capital Recovery Factor		0.1315	0.1315	0.1315	0.1315	0.1315	0.1315
Capital Recovery		\$2,629	\$24,980	\$24,980	\$105,179	\$591,632	\$624,500
Catalyst Replacement		\$0	\$0	\$0	\$0	\$0	\$0
Other Parts and Repairs		\$32,000	proprietary	proprietary	\$120,000	\$120,000	\$120,000
Total Annual Cost		\$34,629	\$24,980	\$24,980	\$225,179	\$711,632	\$744,500
Uncontrolled	ppmv	155	134	143	174	210	210
Uncontrolled	tons/yr	154.4	106.6	134.1	584.1	5,426	5,426
Controlled	ppmv	25	25	25	25	25	9
Controlled	tons/yr	24.9	19.9	23.4	83.9	645.9	232.5
NOx Removed	tons/yr	129.5	86.7	110.6	500.2	4779.9	5193.3
Cost Effectiveness	\$/ton	\$267	\$288	\$226	\$210	\$124	\$120
Electricity Cost Impact	¢/kWhr	0.088	0.078	0.060	0.124	0.052	0.055

Note: O&M cost for LM2500 DLN used for Frame 7FA as default.

**TABLE A-3
1999 CATALYTIC COMBUSTION COST COMPARISON**

**(Incremental Annual Cost Compared to Conventional Uncontrolled Diffusion
Combustor)**

		5 MW Class	25 MW Class	150 MW Class
Turbine Model		Generic	GE Frame 5	GE Frame 7FA
Turbine Output		5.2 MW	26.3 MW	169.9 MW
Heat Rate	Btu/kWhr	11,240	12,189	9,481
Heat Content	Btu/lb	20,610	20,610	20,610
Fuel flow	lb/hr	2,836	15,554	78,157
Hours of Operation	hrs	8,000	8,000	8,000
Fuel flow	MMBtu/yr	467,584	2,564,626	12,886,575
CAPITAL COST		\$217,100	\$523,808	\$1,443,629
ANNUAL COST				
Equipment Life	yrs	15	15	15
Interest Rate	%	10%	10%	10%
Capital Recovery Factor		0.1315	0.1315	0.1315
Capital Recovery		\$28,543	\$68,867	\$189,799
Catalyst Replacement		\$66,100	\$253,740	\$1,193,676
Other Parts and Repairs		\$8,320	\$42,080	\$271,840
Annual Maintenance Contract		\$5,000	\$5,000	\$5,000
Major Failure Impact		\$15,293	\$61,052	\$265,425
Taxes and Insurance		\$8,684	\$20,952	\$57,745
Total Annual Cost		\$131,940	\$451,691	\$1,983,486
Uncontrolled	ppmv	150	130	210
Uncontrolled	tons/yr	140.6	668.5	5,426
Controlled	ppmv	3	3	3
Controlled	tons/yr	2.8	15.4	77.5
NOx Removed	tons/yr	137.8	653.0	5348.3
Cost Effectiveness	\$/ton	\$957	\$692	\$371
Electricity Cost Impact	¢/kWhr	0.317	0.215	0.146

Note: O&M cost for LM2500 DLN used for Frame 7FA as default.
Costs based on Catalytica Combustion Systems's Xonor™ technology.

**TABLE A-4
1999 WATER/STEAM INJECTION COST**

		5 MW Class		25 MW Class	150 MW Class*
		Water Injection	Water Injection	Water Injection	Steam Injection
Turbine Model		Solar Centaur 50	Allison 501-KB5	GE LM2500	GE MS7001F
Turbine Output		4.2 MW	4.0 MW	22.7 MW	161 MW
Heat Rate	Btu/kWhr	11,700	12,700	9,220	9,500
Heat Content	Btu/lb	20,610	20,610	20,610	20,610
Fuel flow	lb/hr	2,404	2,465	10,155	74,212
Hours of Operation	hrs	8,000	8,000	8,000	8,000
Fuel flow	MMBtu/yr	396,396	406,400	1,674,352	12,236,000
lb water/lb fuel		0.61	0.8	0.73	1.34
Water flow	gpm	2.93	3.95	14.83	198.97
Water Treatment Capacity	gpm	4.92	6.62	24.87	333.67
CAPITAL COST					
Injection Nozzles		\$96,000	\$0	\$107,500	\$1,130,000
Injection System		\$20,700	\$27,800	\$104,500	
Total Injection System		\$117,000	\$27,800	\$212,000	\$1,130,000
Water Treatment System		\$97,400	\$113,000	\$219,000	\$802,000
Total System		\$214,400	\$140,800	\$431,000	\$1,932,000
Taxes and Freight		\$17,200	\$11,300	\$34,500	\$154,600
Installation - Direct		\$50,000	\$50,000	\$209,475	\$938,970
Installation - Indirect		\$56,300	\$40,400	\$227,700	\$1,003,400
Contingency		\$67,600	\$48,500	\$180,500	\$805,800
Total		\$405,500	\$291,000	\$1,083,175	\$4,834,770
ANNUAL QUANTITIES					
Percent Performance Loss		3.50%	3.50%	3.50%	1.00%
Energy Content		Btu/cubic ft	940	940	940
Unit Fuel Cost		\$/1000 cuft	3.88	3.88	3.88
Unit Electricity Cost		\$/kWhr	0.06	0.06	0.06
Water Waste			29%	29%	29%
Water Cost		\$/1000 gal	0.384	0.384	0.384
Water Treatment Cost		\$/1000 gal	1.97	1.97	1.97
Labor Cost		\$/1000 gal	0.7	0.7	0.7
Water Disposal Cost		\$/1000 gal	3.82	3.82	3.82
G&A, taxes, insurance		%	4%	4%	4%
Equipment Life		yrs	15	15	15
Interest Rate		%	10%	10%	10%
Capital Recovery Factor			0.1315	0.1315	0.1315
ANNUAL COSTS					
Fuel Penalty		\$35,000	\$47,000	\$177,000	\$677,000
Pumping Electricity		\$227	\$305	\$1,146	\$15,376
Added Maintenance		\$16,000	\$24,000	\$28,000	\$0
Plant Overhead		\$4,800	\$7,200	\$8,400	\$0
Water Cost		\$698	\$938	\$3,527	\$47,309
Water Treatment Cost		\$3,579	\$4,813	\$18,093	\$242,704
Labor Cost		\$1,272	\$1,710	\$6,429	\$43,120
Water Disposal Cost		\$1,560	\$2,098	\$7,887	\$105,799
G&A, taxes, insurance		\$16,220	\$11,640	\$43,327	\$193,391
Capital Recovery		\$53,000	\$38,000	\$142,000	\$636,000
Total Annual Cost		\$132,000	\$138,000	\$436,000	\$1,961,000
Uncontrolled		ppmv	134	155	174
Uncontrolled		tons/yr	106	126	584
Controlled		ppmv	42	42	42
Controlled		tons/yr	33	34	141
NOx Removed		tons/yr	73	92	443
Cost Effectiveness		\$/ton	\$1,805	\$1,499	\$984
Electricity Cost Impact		¢/kWhr	0.390	0.431	0.240

* (1993 data) Only the first baseload Frame 7F turbine (operational in 1990) has been sold with steam injection. All subsequent baseload units are equipped with DLN.

**TABLE A-5
1999 CONVENTIONAL SCR COST COMPARISON**

		5 MW Class	25 MW Class	150 MW Class
Turbine Model		Solar Centaur 50	GE LM2500	GE Frame 7FA
Turbine Output		4.2 MW	23 MW	161 MW
Direct Capital Costs (DC):	<u>Source</u>			
Purchased Equip. Cost (PE):	MHIA			
Basic Equipment (A):	MHIA	\$240,000	\$660,000	\$2,100,000
Ammonia injection skid and storage	MHIA	included	included	included
Instrumentation	0.00 x A OAQPS	included	included	included
Taxes and freight:	0.08 A x B OAQPS	\$19,015	\$52,746	\$169,530
PE Total:		\$256,704	\$712,066	\$2,288,649
Direct Installation Costs (DI):*				
Foundation & supports:	0.08 x PE OAQPS	\$20,536	\$56,965	\$183,092
Handling and erection:	0.14 x PE OAQPS	\$35,939	\$99,689	\$320,411
Electrical:	0.04 x PE OAQPS	\$10,268	\$28,483	\$91,546
Piping:	0.02 x PE OAQPS	\$5,134	\$14,241	\$45,773
Insulation:	0.01 x PE OAQPS	\$2,567	\$7,121	\$22,886
Painting:	0.01 x PE OAQPS	\$2,567	\$7,121	\$22,886
DI Total:		\$77,011	\$213,620	\$686,595
DC Total:		\$333,716	\$925,686	\$2,975,244
Indirect Costs (IC):				
Engineering:	0.10 x PE OAQPS	\$25,670	\$71,207	\$100,000
Construction and field expenses:	0.05 x PE OAQPS	\$12,835	\$35,603	\$114,432
Contractor fees:	0.10 x PE OAQPS	\$25,670	\$71,207	\$228,865
Start-up:	0.02 x PE OAQPS	\$5,134	\$14,241	\$45,773
Performance testing:	0.01 x PE OAQPS	\$2,567	\$7,121	\$22,886
Contingencies:	0.03 x PE OAQPS	\$7,701	\$21,362	\$68,659
IC Total:		\$79,578	\$220,741	\$580,616
Total Capital Investment (TCI = DC + IC):		\$413,294	\$1,146,427	\$3,555,861
Direct Annual Costs (DAC):				
Operating Costs (O):	24 hrs/day, 7 days/week, 50 weeks/yr			
Operator:	0.5 hr/shift: 25 \$/hr for operator pay OAQPS	\$13,125	\$13,125	\$13,125
Supervisor:	15% of operator OAQPS	\$1,969	\$1,969	\$1,969
Maintenance Costs (M):				
Labor:	0.5 hr/shift: 25 \$/hr for labor pay OAQPS	\$13,125	\$13,125	\$13,125
Material:	100% of labor cost: OAQPS	\$13,125	\$13,125	\$13,125
Utility Costs:	0% thermal eff: 600 (F) operating temp			
Gas usage	0.0 (MMcf/yr): 1,000 (Btu/ft ³) heat value			
Gas cost	3,000 (\$/MMcf) variable			
Perf. loss:	0.5% variable			
Electricity cost	0.06 (\$/kwh) performance loss cost penalty variable	\$10,584	\$57,960	\$405,720
Catalyst replace:	assume 30 ft ³ catalyst per MW, \$400/ft ³ , 7 yr. life MHIA	\$10,352	\$56,690	\$396,833
Catalyst dispose:	\$15/ft ³ 30 ft ³ /MW*MW*.2054 (7 yr amortized) OAQPS	\$388	\$2,126	\$14,881
Ammonia:	360 (\$/ton) [tons NH ₃ = tons NO _x * (17/46)] variable	\$3,510	\$14,820	\$108,257
NH ₃ inject skid:	5 (kW) blower: 5 kw (NH ₃ /H ₂ O pump) MHIA	\$5,040	\$7,560	\$27,720
Total DAC:		\$71,219	\$180,500	\$994,755
Indirect Annual Costs (IAC):				
Overhead:	60% of O&M OAQPS	\$24,806	\$24,806	\$24,806
Administrative:	0.02 x TCI OAQPS	\$8,266	\$22,929	\$71,117
Insurance:	0.01 x TCI OAQPS	\$4,133	\$11,464	\$35,559
Property tax:	0.01 x TCI OAQPS	\$4,133	\$11,464	\$35,559
Capital recovery:	10% interest rate, 15 yrs - period 0.13 x TCI OAQPS	\$52,976	\$143,272	\$415,329
Total IAC:		\$94,314	\$213,935	\$582,370
Total Annual Cost (DAC + IAC):		\$165,533	\$394,435	\$1,577,125
NO _x Emission Rate (tons/yr) at 42 ppm:		33.4	141.0	1030.0
NO _x Removed (tons/yr) at 9 ppm, 79% removal efficiency		26.4	111.4	813.7
Cost Effectiveness (\$/ton):		\$6,274	\$3,541	\$1,938
Electricity Cost Impact (¢/kwh):		0.469	0.204	0.117

*Assume modular SCR is inserted into existing HRSG spool piece

**TABLE A-6
1999 HIGH TEMPERATURE SCR COMPARISON**

	5 MW Class	25 MW Class	150 MW Class
Turbine Model	Solar Taurus 60	GE LM2500	GE Frame 7FA
Turbine Output	5.0 MW	23 MW	170 MW
Direct Capital Costs (DC):			
Purchased Equip. Cost (PE):	Source		
Basic Equipment (A):	Engelhard		
Ammonia injection skid and storage	0.00 x A	Engelhard	\$380,000
Instrumentation	0.00 x A	Engelhard	\$730,000
Taxes and freight:	0.08 A x B	OAQPS	\$30,000
PE Total:			\$58,400
			\$240,000
			\$405,000
Direct Installation Costs (DI):*			\$788,400
Foundation & supports:	0.08 x PE	OAQPS	\$32,400
Handling and erection:	0.14 x PE	OAQPS	\$56,700
Electrical:	0.04 x PE	OAQPS	\$16,200
Piping:	0.02 x PE	OAQPS	\$8,100
Insulation:	0.01 x PE	OAQPS	\$4,050
Painting:	0.01 x PE	OAQPS	\$4,050
DI Total:			\$121,500
DC Total:			\$1,024,920
			\$4,212,000
Indirect Costs (IC):			
Engineering:	0.10 x PE	OAQPS	\$40,500
Construction and field expenses:	0.05 x PE	OAQPS	\$20,250
Contractor fees:	0.10 x PE	OAQPS	\$40,500
Start-up:	0.02 x PE	OAQPS	\$8,100
Performance testing:	0.01 x PE	OAQPS	\$4,050
Contingencies:	0.03 x PE	OAQPS	\$12,150
IC Total:			\$125,550
Total Capital Investment (TCI = DC + IC):			\$244,404
			\$1,004,400
			\$5,216,400
Direct Annual Costs (DAC):			
Operating Costs (O):	24 hrs/day, 7 days/week, 50 weeks/yr		
Operator:	0.5 hr/shift	25 \$/hr for operator pay	OAQPS
Supervisor:	15% of operator		OAQPS
Maintenance Costs (M):			
Labor:	0.5 hr/shift	25 \$/hr for labor pay	OAQPS
Material:	100% of labor cost:		OAQPS
Utility Costs:	0% thermal eff	600 (F) operating temp	
Gas usage	0.0 (MMcf/yr)	1,000 (Btu/ft3) heat value	
Gas cost	3,000 (\$/MMcf)		variable
Perf. loss:	0.5%		
Electricity cost	0.06 (\$/kwh) performance loss cost penalty		variable
Catalyst replace:	assume 30 ft ³ catalyst per MW, \$400/ft ³ , 7 yr. life		Engelhard
Catalyst dispose:	\$15/ft ³ *30 ft ³ /MW*MMW*.2054 (7 yr amortized)		OAQPS
Ammonia:	360 (\$/ton) [tons NH ₃ = tons NO _x * (17/46)]		variable
NH ₃ inject skid:	** (kW) blower	5 kw (NH ₃ /H ₂ O pump)	Engelhard
Total DAC:			\$12,600
			\$57,960
			\$428,400
			\$25,675
			\$70,863
			\$436,475
			\$462
			\$2,126
			\$15,713
			\$4,141
			\$14,820
			\$108,257
			\$5,040
			\$7,560
			\$27,720
			\$89,262
			\$194,672
			\$1,057,909
Indirect Annual Costs (IAC):			
Overhead:	60% of O&M		OAQPS
Administrative:	0.02 x TCI		OAQPS
Insurance:	0.01 x TCI		OAQPS
Property tax:	0.01 x TCI		OAQPS
Capital recovery:	10% interest rate,	15 yrs - period	
	0.13 x TCI		OAQPS
Total IAC:			\$24,806
			\$24,806
			\$13,041
			\$25,386
			\$104,328
			\$6,521
			\$12,693
			\$52,164
			\$6,521
			\$12,693
			\$52,164
			\$82,352
			\$157,566
			\$628,435
			\$133,240
			\$233,145
			\$861,897
Total Annual Cost (DAC + IAC):			\$222,502
			\$427,818
			\$1,919,806
NO _x Emission Rate (tons/yr) at 42 ppm:		39.4	141.0
NO _x Removed (tons/yr) at 9 ppm,	79% removal efficiency	31.1	111.4
			813.7
Cost Effectiveness (\$/ton):		\$7,148	\$3,841
Electricity Cost Impact (¢/kwh):		0.530	0.221
			0.134

*Assume modular SCR is inserted upstream of HRSG or for a simple cycle gas turbine.

** 5, 10, 15 kW blower for 5, 25, 150 MW gas turbine respectively

TABLE A-7
1999 SCONOX™ COST COMPARISON

		5 MW Class	25 MW Class	150 MW Class
Turbine Model		Solar Centaur 50	GE LM2500	GE Frame 7FA
Turbine Output		4.2 MW	23 MW	170 MW
Direct Capital Costs (DC):	Source			
Purchased Equip. Cost (PE):	Goalline			
Basic Equipment (A):	Goalline	\$620,000	\$1,960,000	\$7,700,000
Ammonia injection skid and storage	0.00 x A	included	included	included
Instrumentation	0.00 x A	included	included	included
Taxes and freight:	0.08 A x B	OAQPS \$49,760	\$157,105	\$612,238
PE Total:		\$671,760	\$2,120,916	\$8,265,208
Direct Installation Costs (DI):*				
Foundation & supports:	0.08 x PE	OAQPS \$53,741	\$169,673	\$661,217
Handling and erection:	0.14 x PE	OAQPS \$94,046	\$296,928	\$1,157,129
Electrical:	0.04 x PE	OAQPS \$26,870	\$84,837	\$330,608
Piping:	0.02 x PE	OAQPS \$13,435	\$42,418	\$165,304
Insulation:	0.01 x PE	OAQPS \$6,718	\$21,209	\$82,652
Painting:	0.01 x PE	OAQPS \$6,718	\$21,209	\$82,652
DI Total:		\$201,528	\$636,275	\$2,479,562
DC Total:		\$873,288	\$2,757,191	\$10,744,770
Indirect Costs (IC):				
Engineering:	0.10 x PE	OAQPS \$67,176	\$212,092	\$826,521
Construction and field expenses:	0.05 x PE	OAQPS \$33,588	\$106,046	\$413,260
Contractor fees:	0.10 x PE	OAQPS \$67,176	\$212,092	\$826,521
Start-up:	0.02 x PE	OAQPS \$13,435	\$42,418	\$165,304
Performance testing:	0.01 x PE	OAQPS \$6,718	\$21,209	\$82,652
Contingencies:	0.03 x PE	OAQPS \$20,153	\$63,627	\$247,956
IC Total:		\$208,246	\$657,484	\$2,562,214
Total Capital Investment (TCI = DC + IC):		\$1,081,534	\$3,414,675	\$13,306,985
Direct Annual Costs (DAC):				
Operating Costs (O):	24 hrs/day, 7 days/week, 50 weeks/yr			
Operator:	0.5 hr/shift: 25 \$/hr for operator pay	OAQPS \$13,125	\$13,125	\$13,125
Supervisor:	15% of operator	OAQPS \$1,969	\$1,969	\$1,969
Maintenance Costs (M):				
Labor:	0.5 hr/shift: 25 \$/hr for labor pay	OAQPS \$13,125	\$13,125	\$13,125
Material:	100% of labor cost:	OAQPS \$13,125	\$13,125	\$13,125
Utility Costs:				
Perf. loss:	0.5%			
Electricity cost:	0.06 (\$/kwh) performance loss cost penalty	variable \$10,584	\$57,960	\$428,400
Catalyst replace:	** kcfh/MW	\$25,880	\$106,295	\$785,655
Catalyst dispose:	precious metal recovery = 1/3 replace cost	variable -\$8,618	-\$35,396	-\$261,623
H2 carrier steam:	*** lb/hr (93 lb/hr steam/MW @ \$.006/lb)	variable \$19,686	\$107,806	\$796,824
H2 reforming:	**** CH4 ft3/hr (14ft3/hr/MW @ \$.00388/ft3)	variable \$1,916	\$10,495	\$77,569
H2 skid demand:	***** kW (0.6 kW/MW capacity)	\$1,270	\$6,955	\$51,408
Total DAC:		\$92,063	\$295,458	\$1,919,577
Indirect Annual Costs (IAC):				
Overhead:	60% of O&M	OAQPS \$24,806	\$24,806	\$24,806
Administrative:	0.02 x TCI	OAQPS \$21,631	\$68,293	\$266,140
Insurance:	0.01 x TCI	OAQPS \$10,815	\$34,147	\$133,070
Property tax:	0.01 x TCI	OAQPS \$10,815	\$34,147	\$133,070
Capital recovery:	10% interest rate, 15 yrs - period	OAQPS \$138,791	\$434,965	\$1,646,226
Total IAC:	0.13 x TCI	\$206,858	\$596,358	\$2,203,312
Total Annual Cost (DAC + IAC):		\$298,921	\$891,816	\$4,122,889
NO _x Emission Rate (tons/yr) at 25 ppm:		19.9	83.9	645.9
NO _x Removed (tons/yr) at 2 ppm, 92% removal efficiency		18.3	77.2	594.2
Cost Effectiveness (\$/ton):		\$16,327	\$11,554	\$6,938
Electricity Cost Impact (¢/kwh):		0.847	0.462	0.289

* Assume modular SCONOX unit is inserted downstream of HRSG

** 400, 300, 300 kcfh/MW for 5, 25, 150 MW class respectively (s.v.=20kcfh/ft3, \$1,500/ft3 catalyst, 7 yr. life)

*** 391, 2139, 15810 lb/hr for 5, 25, 150 MW class respectively

**** 59, 322, 2380 CH4ft3/hr for 5, 25, 150 MW class respectively

***** 3, 14, 102 kW for 5, 25, 150 MW class respectively

**TABLE A-8
1999 LOW TEMPERATURE SCR COMPARISON**

				5 MW Class	25 MW Class
Turbine Model				Solar Centaur 50	GE LM2500
Turbine Output				4.0 MW	25 MW
Direct Capital Costs (DC):			<u>Source</u>		
Purchased Equip. Cost (PE):			KTI		
Basic Equipment (A):			KTI	\$700,000	\$1,714,894
Ammonia injection skid and storage	0.00 x A		KTI	included	included
Instrumentation	0.00 x A		OAQPS	included	included
Taxes and freight:	0.08 A x B		OAQPS	\$56,000	\$137,192
PE Total:				\$756,000	\$1,852,085
Direct Installation Costs (DI):*		Allison	Turbo Power		
Foundation & supports:	0.30 x PE		0.08 x PE	OAQPS	\$226,800
Handling and erection:	0.30 x PE		0.14 x PE	OAQPS	\$226,800
Electrical:	0.04 x PE		0.04 x PE	OAQPS	\$30,240
Piping:	0.02 x PE		0.02 x PE	OAQPS	\$15,120
Insulation:	0.01 x PE		0.01 x PE	OAQPS	\$7,560
Painting:	0.01 x PE		0.01 x PE	OAQPS	\$7,560
DI Total:				\$514,080	\$555,626
DC Total:				\$1,270,080	\$2,407,711
Indirect Costs (IC):					
Engineering:	0.10 x PE		0.30 x PE	OAQPS	\$75,600
Construction expenses:	0.05 x PE		0.30 x PE	OAQPS	\$37,800
Contractor fees:	0.10 x PE		0.10 x PE	OAQPS	\$75,600
Start-up:	0.02 x PE		0.02 x PE	OAQPS	\$15,120
Performance testing:	0.01 x PE		0.01 x PE	OAQPS	\$7,560
Contingencies:	0.03 x PE		0.03 x PE	OAQPS	\$22,680
IC Total:				\$234,360	\$1,407,585
Total Capital Investment (TCI = DC + IC):				\$1,504,440	\$3,815,296
Direct Annual Costs (DAC):					
Operating Costs (O):		24 hrs/day, 7 days/week, 50 weeks/yr			
Operator:	0.5 hr/shift:	25 \$/hr for operator pay	OAQPS	\$13,125	\$13,125
Supervisor:	15% of operator		OAQPS	\$1,969	\$1,969
Maintenance Costs (M):					
Labor:	0.5 hr/shift	25 \$/hr for labor pay	OAQPS	\$13,125	\$13,125
Material:	100% of labor cost:		OAQPS	\$13,125	\$13,125
Utility Costs:		0% thermal eff	600 (F) operating temp		
Gas usage	0.0 (MMcf/yr)	1,000 (Btu/ft3) heat value			
Gas cost	3,000 (\$/MMcf)		variable	\$0	\$0
Perf. loss:	0.5%				
Electricity cost	0.06 (\$/kwh) performance loss cost penalty		variable	\$10,080	\$63,000
Catalyst replace:	assume 30 ft ³ catalyst per MW, \$400/ft ³ , 7 yr. life		MHIA	\$9,859	\$56,690
Catalyst dispose:	\$15/ft ³ *30 ft ³ /MW*MW*.2054 (7 yr amortized)		OAQPS	\$370	\$2,126
Ammonia:	360 (\$/ton) [tons NH ₃ = tons NO _x * (17/46)]		variable	\$8,040	\$14,820
NH ₃ inject skid:	5 (kW) blower	5 kw (NH ₃ /H ₂ O pump)	MHIA	\$5,040	\$7,560
Total DAC:				\$74,733	\$180,500
Indirect Annual Costs (IAC):					
Overhead:	60% of O&M		OAQPS	\$24,806	\$24,806
Administrative:	0.02 x TCI		OAQPS	\$30,089	\$76,306
Insurance:	0.01 x TCI		OAQPS	\$15,044	\$38,153
Property tax:	0.01 x TCI		OAQPS	\$15,044	\$38,153
Capital recovery:	10% interest rate, 15 yrs - period				
0.13 x TCI			OAQPS	\$196,498	\$493,510
Total IAC:				\$281,482	\$670,928
Total Annual Cost (DAC + IAC):				\$356,215	\$901,207
NO _x Emission Rate (tons/yr) at 100, 132 ppm, respectively:				76.5	518.0
NO _x Removed (tons/yr) at 9 ppm, 79% removal efficiency				60.4	409.2
Cost Effectiveness (\$/ton):				\$5,894	\$2,202
Electricity Cost Impact (¢/kwh):				1.060	0.429

*Assume modular SCR is placed downstream of HRSG

APPENDIX B

REFERENCES

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**AIR DISPERSION MODELING -
AIR QUALITY IMPACT ANALYSES**

**AIR MODELING REPORT FOR THE
PEGASUS PROJECT
CHINO, CALIFORNIA**

Project No 66561

**Prepared
April 2001**

Introduction

The air quality modeling analysis as presented in the following sections summarizes the modeled impacts of the Pegasus Project being proposed by Pegasus Power Partners, LLC (hereinafter referred to as the "project"). The project will consist of four 45 MW General Electric (GE) LM6000 turbines in simple cycle operation.

Modeling Analysis

The potential to emit (PTE) of all regulated pollutants of the proposed project is below the Prevention of Significant Deterioration (PSD) thresholds for simple cycle operation of the project. However, the PTE for nitrogen oxides (NO_x), particulate matter less than 10 microns in diameter (PM₁₀), and carbon monoxide (CO) exceed the Nonattainment New Source Review (NANSR) thresholds. Therefore, a modeling analysis was performed for all pollutants irrespective of their exceedance of the NANSR thresholds for the proposed facility. The pollutants that were modeled include NO_x, PM₁₀, sulfur dioxide (SO₂), and CO. The air dispersion modeling analyses were conducted in accordance with USEPA's air dispersion modeling guidelines (incorporated as Appendix W of 40 CFR 51).

Air Dispersion Model Selection and Assumptions

The base elevation at the proposed project site location is approximately 635 feet above mean sea level (amsl). Each turbine was assumed to have a stack height of 110 feet (ft) above site grade elevation. For the purposes of this analysis, receptors will be located in simple, intermediate, and complex terrain. Consistent with EPA guidance, the latest version of the Industrial Source Complex Short-Term (ISCST3, Version 00101) air dispersion model was used for modeling all receptors. The highest predicted concentration will be considered the maximum impact(s) from the facility.

Modeling Technique

The ISCST3 model is an USEPA approved, steady state, straight-line gaussian plume model, which may be used to assess pollutant concentrations from a wide variety of sources associated with an industrial source. Necessary for this analysis, ISCST3, unlike its predecessors, incorporates the COMPLEX1 dispersion algorithm for determining intermediate and complex terrain concentration impacts in accordance with USEPA guidance.

The ISCST3 model was used in a refined mode in all cases. The following standard USEPA default regulatory modeling options were utilized in the ISCST3 air dispersion modeling.

- Final Plume rise.
- Stack-dip downwash.
- Buoyancy induced dispersion.
- Default vertical wind profile exponents and vertical potential temperature gradient values.

Per the request of the South Coast Air Quality Management District, the processing of calm hours in the ISCST3 model was not used.

A nested rectangular grid network and actual hourly meteorological data from Pomona, CA for the year 1981 was used in the model to determine the maximum predicted concentration from various emission source operating scenarios. The receptor grid network and meteorological data are discussed in the following sections.

Modeled Source Parameters and Enveloping Discussion

The emission sources modeled include four 45 MW natural gas fired turbines, each operating 7,500 hours annually. Manufacturer's performance and emissions data for LM6000 turbines firing natural gas was used in conjunction with best engineering estimates to obtain input parameters for air dispersion modeling to determine the maximum predicted ground level concentrations from the proposed facility.

The ISCST3 air dispersion model was used to determine the maximum predicted ground-level concentration for each pollutant and applicable averaging period resulting from various operating loads and ambient temperatures (24°F, 66°F, and 114°F). This was accomplished by representing each simple cycle combustion turbine (SCCT) proposed operating load range (i.e., 100, 75, and 50 percent loads and Inlet Air Conditioning scenarios) with a representative set of stack parameters that were conservatively selected from the turbine performance data to produce the worst-case plume dispersion conditions (i.e., lowest exhaust temperature and exit velocity) and thus highest model predicted concentrations. This process is referred to as enveloping and was performed for each turbine.

Modeling was performed for each emission point at a nominal emission rate of 1 gram per second. This was done to minimize the number of modeling runs required for this analysis. The maximum predicted impacts using the nominal emission rate were multiplied by the project specific emission rates to determine the projects impacts for each pollutant (CO, NO_x, PM₁₀, and SO_x) for their respective averaging periods.

Stack parameters and the emission estimates used in the modeling analysis are included in Appendix B of the main document and the modeling result summaries are presented at the end of this attachment.

ISCST3 Meteorological Data

The ISCST3 air dispersion model requires hourly input of surface and upper-air meteorological data. These data include the wind flow vector, wind speed, ambient temperature, stability category, and the mixing height. One year (1981) of meteorological data from Pomona, CA was used for this analysis. Figure 1 presents an annual wind rose for the Pomona, CA meteorological data.

ISCST3 Receptor Grid and Terrain Considerations

The ISCST3 air dispersion modeling receptor locations were established at appropriate distances to ensure sufficient density and aerial extent to adequately characterize the pattern of pollutant impacts in the area. Specifically, a nested rectangular grid network was used that extends 10 km from the center of the proposed facility. The rectangular grid network consisted of 100 m spacing from the proposed fenceline out to 1 km, 500 m spacing from 2 to 5 km, and 1,000 m from 5 km to 10 km. In addition, receptors were spaced at 50 m along the fenceline. Figure 2 presents the site layout and receptor grid that was used in the ISCST3 modeling.

If the maximum modeled impact occurred outside the 100 m spaced grid, a 100 m spaced refined grid was placed surrounding the maximum impact location and remodeled to estimate the impacts.

Terrain elevations for the receptor locations were obtained using 30-meter Digital Elevation Model (DEM) terrain data from 7.5 minute USGS topographic maps. The terrain elevation values were calculated by choosing the highest elevation using four DEM terrain elevations that encompass each receptor.

GEP and Building Downwash Evaluation

The buildings and structures of the proposed project were analyzed to determine their potential for influencing dispersion from the emission sources in the ISCST3 air dispersion model. The USEPA's Guideline for Determination of GEP Stack Height guidance document was followed in this evaluation.

The maximum building height at the proposed project relative to the turbine stacks is currently estimated to be 50 feet for the catalyst section of the turbine set. This structure results in a GEP stack height of 213 feet. However, a stack height of 110 feet was used in the analysis.

Because the proposed stack height of 110 ft is less than the GEP stack height, building downwash effects have been included in this modeling analyses.

Land Use Dispersion Coefficients

Based on visual inspection of the USGS 7.5-minute topographic map of the proposed site location, it was concluded that over 50 percent of the area surrounding the proposed project is urban. Accordingly, the urban dispersion modeling option was used in the modeling.

Class I Area Air Quality Impact Analysis

Air dispersion modeling was performed to determine the project's maximum predicted impact at the closest boundaries of the Agua Tibia Wilderness Area, Cucamonga Wilderness Area, San Gabriel Wilderness Area, San Gorgonio Wilderness Area, and the San Jacinto Wilderness Area. The ISCST3 air dispersion model was used to determine the maximum predicted impacts of NO_x, SO_x and PM₁₀ at the respective park boundaries. The one year meteorological data set, model options, and operating scenario emission rates that were used in the refined modeling analysis, were also used in the Class I air quality impact analyses. As shown on Figure 3, receptors were placed at the closest boundary point of each park with respect to the Project.

The Class I modeling result summaries which are attached to this section of Attachment II present the results of the Class I SIL modeling for each pollutant and the applicable averaging period. In these tables, the maximum predicted concentrations are compared with the Class I SILs. The Class I SILs were calculated as 4 percent of the PSD Class I

increments, as recommended by the National Park Service. As the results indicate, the maximum predicted concentrations of NO_x , SO_x and PM_{10} are considerably less than the applicable Class I SILs.

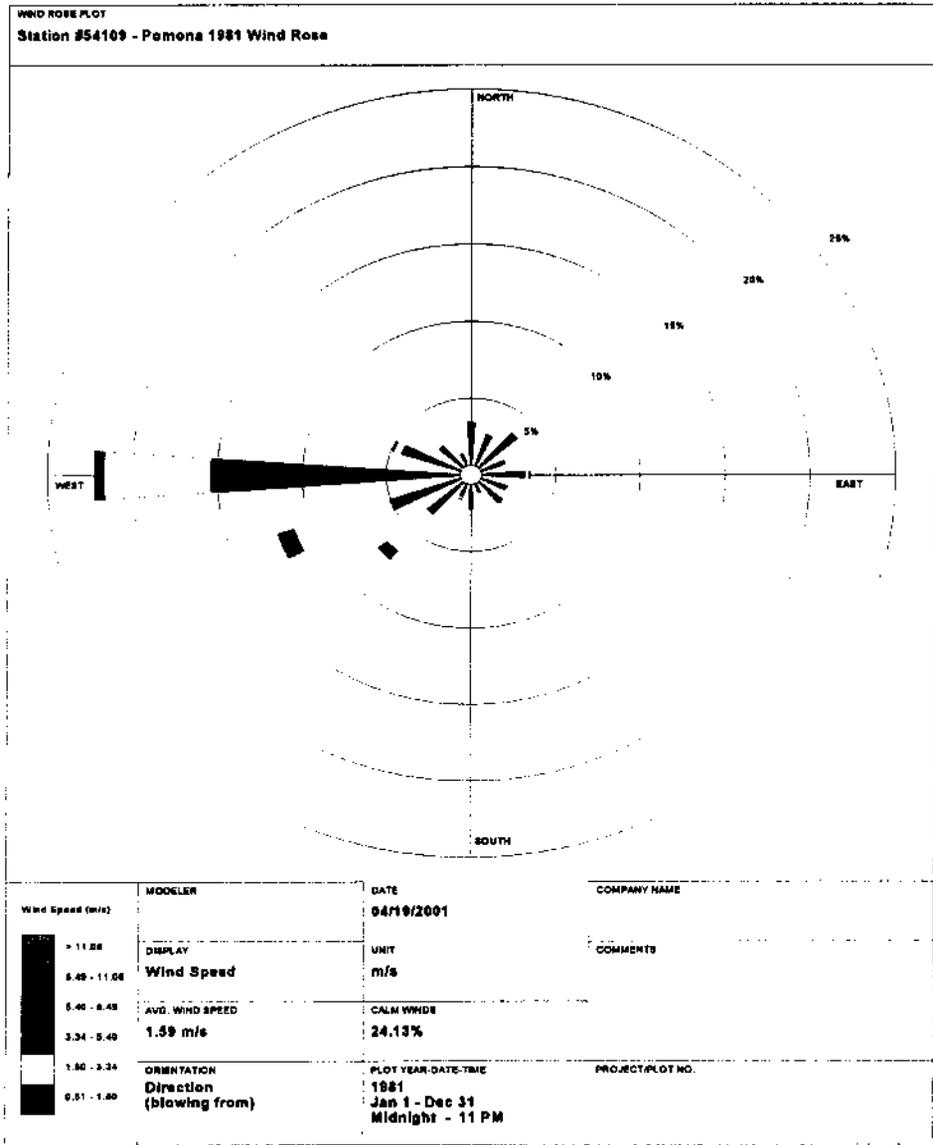


Figure 1
Annualized Wind Rose for 1981 Pomona, CA
Meteorological Station

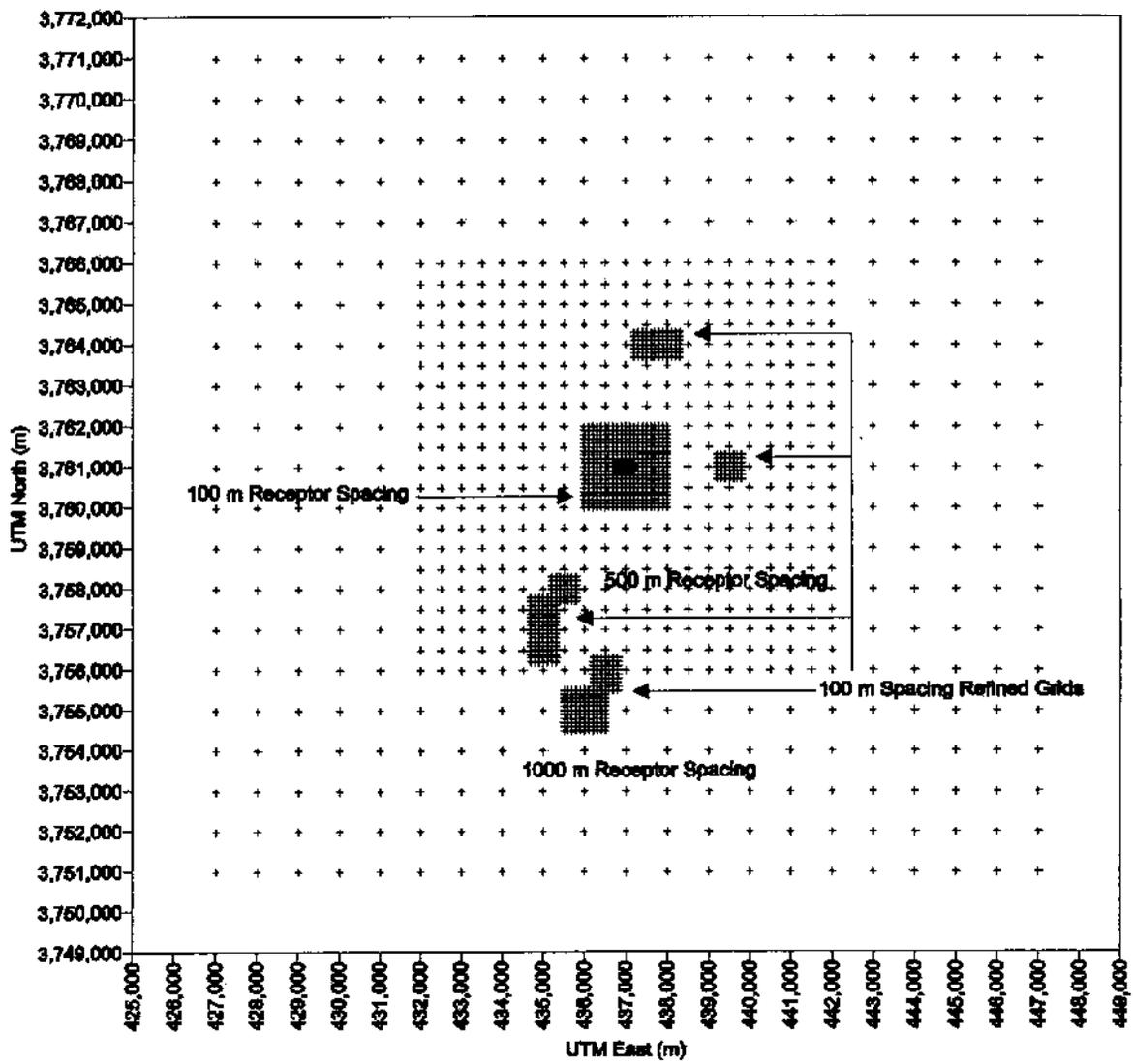


Figure 2
Receptor Grid

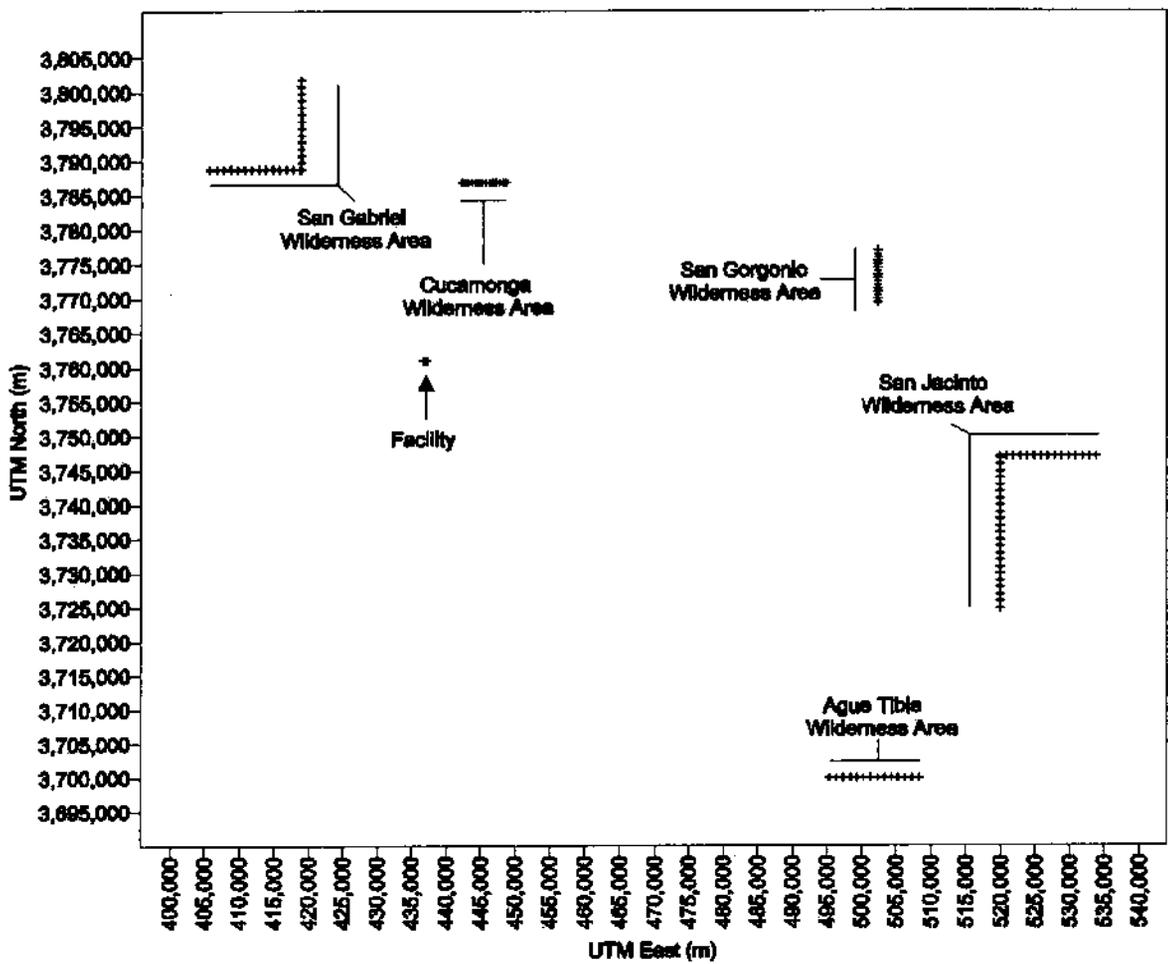


Figure 3
Class I Receptor Grid

Modeling Results

Maximum Impacts for
Turbine 1, Turbine 2, Turbine 3, Turbine 4, and All
Sources (4 turbines)

All 4 Stacks Impacts @ 100% Load & Significant Increase in Ambient Concentrations

Pollutant	Averaging Period	Emission Rate (lbs/hour)	Operating Scenario	Significant Increase in Ambient Concentration (µg/m³)	Maximum Impacts from All Stacks (µg/m³)	Background Levels (µg/m³)	Predicted Total Concentration (µg/m³)	California Ambient Air Quality Standards (µg/m³)	Location of Maximum Impacts (m)	
									UTM East	UTM North
CO	1-hour	22.033	Startup	1,100	35.030	7,444	7,479	23,000	438,012	3,763,778
	8-hour*	13.78	Startup	500	14,454	4,466	4,481	10,000	435,512	3,757,878
NO _x	1-hour	12.417	Startup	20	19,742	263.4	283.1	470	438,012	3,763,778
	Annual	6.3	Avg Annual	1	0.533	82.8	83.3	100 (F)	439,612	3,761,078
SO ₂	1-hour	0.64	Startup		1,018	52.4	53.4	655	438,012	3,763,778
	3-hour	0.64	Startup	25	0.967	28.8	29.8	1,300 (FS)	435,412	3,758,278
	24-hour	0.64	Startup	5	0.292	26.2	26.5	105	436,212	3,756,278
	Annual	0.46	Avg Annual	1	0.039	5.2	5.3	80 (F)	439,612	3,761,078
PM ₁₀	24-hour	3.09	Startup	2.5	1,408	89.0	90.4	150 (F)	436,212	3,756,278
	Annual	2.25	Avg Annual	1	0.190	48.0	48.19	50 (F)	439,612	3,761,078

* CO (8-hour) = (22.033 lbs/hour x 1/8) + (12.60 lbs/hour x 7/8) = 13.78 lbs/hour

Stack 1 Impacts @ 100% Load & Significant Increase in Ambient Concentrations

Pollutant	Averaging Period	Emission Rate (lbs/hour)	Operating Scenario	Significant Increase in Ambient Concentration (µg/m³)	Maximum Impacts from Stack1 (µg/m³)	Background Levels (µg/m³)	Predicted Total Concentration (µg/m³)	California Ambient Air Quality Standards (µg/m³)	Location of Maximum Impacts (m)	
									UTM East	UTM North
CO	1-hour	22.033	Startup	1,100	9.280	7,444	7,453	23,000	437,912	3,763,778
	8-hour*	13.78	Startup	500	3.893	4,466	4,470	10,000	435,512	3,757,878
NO _x	1-hour	12.417	Startup	20	5.230	263.4	268.6	470	437,912	3,763,778
	Annual	6.3	Avg Annual	1	0.133	82.8	82.9	100 (F)	439,612	3,761,078
SO ₂	1-hour	0.64	Startup		0.270	52.4	52.6	655	437,912	3,763,778
	3-hour	0.64	Startup	25	0.261	28.8	29.1	1,300 (FS)	435,312	3,758,278
	24-hour	0.64	Startup	5	0.076	26.2	26.3	105	436,212	3,756,278
	Annual	0.46	Avg Annual	1	0.010	5.2	5.2	80 (F)	439,612	3,761,078
PM ₁₀	24-hour	3.09	Startup	2.5	0.368	89.0	89.4	150 (F)	436,212	3,756,278
	Annual	2.25	Avg Annual	1	0.047	48.0	48.05	50 (F)	439,612	3,761,078

* CO (8-hour) = (22.033 lbs/hour x 1/8) + (12.60 lbs/hour x 7/8) = 13.78 lbs/hour

Stack 2 Impacts @ 100% Load & Significant Increase in Ambient Concentrations

Pollutant	Averaging Period	Emission Rate (lbs/hour)	Operating Scenario	Significant Increase in Ambient Concentration (µg/m³)	Maximum Impacts from Stack2 (µg/m³)	Background Levels (µg/m³)	Predicted Total Concentration (µg/m³)	California Ambient Air Quality Standards (µg/m³)	Location of Maximum Impacts (m)	
									UTM East	UTM North
CO	1-hour	22.033	Startup	1,100	9.291	7,444	7,453	23,000	437,812	3,763,778
	8-hour*	13.78	Startup	500	3.715	4,466	4,470	10,000	435,612	3,757,778
NO _x	1-hour	12.417	Startup	20	5.236	263.4	268.6	470	437,812	3,763,778
	Annual	6.3	Avg Annual	1	0.134	82.8	82.9	100 (F)	439,612	3,761,078
SO ₂	1-hour	0.64	Startup		0.270	52.4	52.6	655	437,812	3,763,778
	3-hour	0.64	Startup	25	0.248	28.8	29.0	1,300 (FS)	435,212	3,757,778
	24-hour	0.64	Startup	5	0.072	26.2	26.2	105	435,712	3,757,778
	Annual	0.46	Avg Annual	1	0.010	5.2	5.2	80 (F)	439,612	3,761,078
PM ₁₀	24-hour	3.09	Startup	2.5	0.349	89.0	89.3	150 (F)	435,712	3,757,778
	Annual	2.25	Avg Annual	1	0.048	48.0	48.05	50 (F)	439,612	3,761,078

* CO (8-hour) = (22.033 lbs/hour x 1/8) + (12.60 lbs/hour x 7/8) = 13.78 lbs/hour

Stack 3 Impacts @ 100% Load & Significant Increase in Ambient Concentrations

Pollutant	Averaging Period	Emission Rate (lbs/hour)	Operating Scenario	Significant Increase in Ambient Concentration (µg/m³)	Maximum Impacts from Stack3 (µg/m³)	Background Levels (µg/m³)	Predicted Total Concentration (µg/m³)	California Ambient Air Quality Standards (µg/m³)	Location of Maximum Impacts (m)	
									UTM East	UTM North
CO	1-hour	22.033	Startup	1,100	9.274	7,444	7,453	23,000	437,812	3,763,778
	8-hour*	13.78	Startup	500	3,706	4,466	4,470	10,000	435,612	3,757,778
NO _x	1-hour	12.417	Startup	20	5,227	263.4	268.6	470	437,812	3,763,778
	Annual	6.3	Avg Annual	1	0.134	82.8	82.9	100 (F)	439,612	3,761,078
SO ₂	1-hour	0.64	Startup		0.269	52.4	52.6	655	437,812	3,763,778
	3-hour	0.64	Startup	25	0.249	28.8	29.0	1,300 (FS)	435,312	3,757,878
	24-hour	0.64	Startup	5	0.072	26.2	26.2	105	435,712	3,757,778
	Annual	0.46	Avg Annual	1	0.010	5.2	5.2	80 (F)	439,612	3,761,078
PM ₁₀	24-hour	3.09	Startup	2.5	0.350	89.0	89.3	150 (F)	435,712	3,757,778
	Annual	2.25	Avg Annual	1	0.048	48.0	48.05	50 (F)	439,612	3,761,078

* CO (8-hour) = (22.033 lbs/hour x 1/8) + (12.60 lbs/hour x 7/8) = 13.78 lbs/hour

Stack 4 Impacts @ 100% Load & Significant Increase in Ambient Concentrations

Pollutant	Averaging Period	Emission Rate (lbs/hour)	Operating Scenario	Significant Increase in Ambient Concentration (µg/m³)	Maximum Impacts from Stack4 (µg/m³)	Background Levels (µg/m³)	Predicted Total Concentration (µg/m³)	California Ambient Air Quality Standards (µg/m³)	Location of Maximum Impacts (m)	
									UTM East	UTM North
CO	1-hour	22.033	Startup	1,100	9,241	7,444	7,453	23,000	437,912	3,763,778
	8-hour*	13.78	Startup	500	3,892	4,466	4,470	10,000	435,512	3,757,878
NO _x	1-hour	12.417	Startup	20	5,208	263.4	268.6	470	437,912	3,763,778
	Annual	6.3	Avg Annual	1	0.133	82.8	82.9	100 (F)	439,612	3,761,078
SO ₂	1-hour	0.64	Startup		0.268	52.4	52.6	655	437,912	3,763,778
	3-hour	0.64	Startup	25	0.260	28.8	29.1	1,300 (FS)	435,312	3,758,278
	24-hour	0.64	Startup	5	0.077	26.2	26.3	105	436,212	3,756,278
	Annual	0.48	Avg Annual	1	0.010	5.2	5.2	80 (F)	439,612	3,761,078
PM ₁₀	24-hour	3.09	Startup	2.5	0.370	89.0	89.4	150 (F)	436,212	3,756,278
	Annual	2.25	Avg Annual	1	0.047	48.0	48.05	50 (F)	439,612	3,761,078

* CO (8-hour) = (22.033 lbs/hour x 1/8) + (12.60 lbs/hour x 7/8) = 13.78 lbs/hour

**VISIBILITY & CLASS I AREAS
ANALYSES**

VISIBILITY ANALYSIS

Distinct from a Class I visibility analysis, the additional impact analysis presented here is concerned with visibility impairment within the Class I areas. The general components of a visibility impairment analysis include:

- Determination of the visual quality of the area.
- Determination of the potential for visibility impairment with a screening level assessment.
- If warranted, a more in-depth analysis of the visibility impairment potential.

Visual Quality of the Area: The Project will be located in an area of southern California. The climate of the area is characterized as mild, with a predominately westerly wind. The low relative humidity and abundant sunshine result in generally good visibility throughout much of the year.

Visual Impairment Screening Assessment: A visibility impairment screening analysis was conducted at each of the Class I areas to provide a conservative indication of the perceptibility of plumes from the proposed emission sources. The analyses were performed in accordance with EPA's Workbook for Plume Visual Impact Screening and Analysis (EPA-450/4-88-015, September 1988, hereinafter referred to as the 'Workbook'), using the VISCREEN model.

In accordance with Workbook visual screening procedures, the VISCREEN plume visual impact-screening model was used with default worst case Level 1 screening parameters as presented in Table 1. Results of the conservative Level 1 visual screening analysis indicated a potential for visibility impairment at one location (Cucamonga Wilderness). As such, a less conservative Level 2 screening analysis with situation-specific input parameters was conducted at this location.

Table 2 presents the Level 2 visual screening parameters used in the VISCREEN modeling. As Table 2 illustrates, many of the input parameters for a Level 2 analysis are the same as the default worst case values for a Level 1 analysis specified in the Workbook. However, the shaded parameters in Table 2 designate the situation-specific inputs of the Level 2 analysis, which are more representative of the specific region and operating conditions of the Project. The situation-specific Level 2 screening parameters are described below:

Emissions: The worst case maximum annual average emissions of NO_x and PM₁₀ from the four combustion turbines (refer to Appendix B) were used in the Level 1 and Level 2 visibility analyses.

Background Visual Range: South Coast Air Quality Management District Rule 1303 Appendix B indicates that the background visual range for the Cucamonga Wilderness area to be 171 km and for the San Gabriel Wilderness area to be 175 km. This background visual range was used in the screening Level 1 and Level 2 approach.

Background Ozone Concentration: The default background ozone concentration in the Level 1 and Level 2 analysis is 0.04 ppm.

Stability Class and Wind Speed: The Level 1 VISCREEN stability class default value of 'F' and wind speed of 1.0 m/s was used in the analysis. For the Level 2 VISCREEN analysis the worst case meteorological conditions for the entire year were used. This dispersion condition was chosen such that the sum of all frequencies of occurrence of conditions worse than this condition total one percent. The 1-percentile meteorology is assumed to be indicative of worst day plume visual impacts. Dispersion conditions associated with transport times of more than 12 hours were not considered in this cumulative frequency because it is unlikely that steady-state plume conditions will persist for more than 12 hours. The result of the process is presented in Table 2 as a shaded value next to the stability class and wind speed headings.

Plume Particle Size Index: The default plume particulate size index value (i.e., mass median diameter) used in the worst case Level 1 analysis was 2.0 μm . A mass median diameter of 2 μm was also used in the Level 2 analysis.

**Table 1
VISCREEN Level 1 Model Inputs**

VISCREEN Modeling Parameter	Level 1 (Worst Case Analysis)	
	Cucamonga Wilderness	San Gabriel Wilderness
	Worst Case Emissions (four turbines)	
Particulate Emissions	1.13 g/s	1.13 g/s
NO _x (as NO ₂) Emissions	3.18 g/s	3.18 g/s
Primary NO ₂ Emissions	0.0 g/s	0.0 g/s
Soot Emissions	0.0 g/s	0.0 g/s
Sulfate Emissions	0.0 g/s	0.0 g/s
Source-Observer Distance	26.5 km	33.3 km
Minimum Source-Class I Distance	26.5 km	33.3 km
Maximum Source-Class I Distance	32.9 km	47.5 km
Background Visual Range	171 km	175 km
Plume-Source-Observer Angle	11.25 degrees	11.25 degrees
Background Ozone Concentration	0.04 ppm	0.04 ppm
Stability Class	F	F
Wind Speed	1.00 m/s	1.00 m/s
Threshold-delta E	2.00	2.00
Threshold-Green Contrast	0.05	0.05
Background Fine Particulate Density	1.50 g/cm ³	1.50 g/cm ³
Background Fine Particulate Size Index	0.3 μm	0.3 μm
Background Coarse Particulate Density	2.5 g/cm ³	2.5 g/cm ³

Table 1(Continued)
VISCREEN Level 1 Model Inputs

VISCREEN Modeling Parameter	Level 1 (Worst Case Analysis)	
	Cucamonga Wilderness	San Gabriel Wilderness
Background Coarse Particulate Size Index	6.0 μm	6.0 μm
Plume Particulate Density	2.5 g/cm^3	2.5 g/cm^3
Plume Particulate Size Index	2.0 μm	2.0 μm
Plume Soot Density	2.0 g/cm^3	2.0 g/cm^3
Plume Soot Size Index	0.1 μm	0.1 μm
Plume Primary SO_4 Density	1.5 g/cm^3	1.5 g/cm^3
Plume Primary SO_4 Size Index	0.5 μm	0.5 μm

Table 2(Continued)
VISCREEN Level 2 Model Inputs

VISCREEN Modeling Parameter	Level 2 (Worst Case Analysis) Cucamonga Wilderness
	Background Coarse Particulate Size Index
Plume Particulate Density	2.5 g/cm^3
Plume Particulate Size Index	2.0 μm
Plume Soot Density	2.0 g/cm^3
Plume Soot Size Index	0.1 μm
Plume Primary SO_4 Density	1.5 g/cm^3
Plume Primary SO_4 Size Index	0.5 μm

RESULTS SUMMARY

The VISCREEN model was used with the aforementioned default Level 1 input parameters as identified in Table 1. Results of the VISCREEN modeling are included in Attachment 2. The Level 1 analysis results show no exceedances of the screening criteria for the San Gabriel Wilderness Area. However, the results of the Level 1 screening analysis reveal that the Project exceeds screening criteria for visibility impairment, as potential plume delta-E and green contrast indices inside the Class I areas are above the Level 1 screening thresholds, for one of the Class I areas (Cucamonga Wilderness).

Due to the modeled exceedance for the Cucamonga Wilderness Area, the VISCREEN model was used again with the aforementioned situation specific Level 2 input parameters as identified in Table 2. Results of the VISCREEN modeling are included in Attachment 2. The results of the Level 2 screening analysis reveal that the Project's potential for visibility impairment is negligible, as potential plume delta-E and green contrast indices inside the Class I area are less than the conservative Level 1 screening thresholds, for the Cucamonga Wilderness Area.

Visual Effects Screening Analysis for
 Source: Chino Power Plant (Four Turbines)
 Class I Area: San Gabriel Wilderness

*** Level-1 Screening ***

Input Emissions for

Particulates	9.00	LB /HR
NOx (as NO2)	25.20	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04	ppm
Background Visual Range:	175.00	km
Source-Observer Distance:	33.30	km
Min. Source-Class I Distance:	33.30	km
Max. Source-Class I Distance:	47.50	km
Plume-Source-Observer Angle:	11.25	degrees
Stability:	6	
Wind Speed:	1.00	m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area

Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	145.	47.5	24.	2.00	1.108	.05	.016
SKY	140.	145.	47.5	24.	2.00	.500	.05	-.011
TERRAIN	10.	84.	33.3	84.	2.00	1.958	.05	.014
TERRAIN	140.	84.	33.3	84.	2.00	.141	.05	.002

Maximum Visual Impacts OUTSIDE Class I Area

Screening Criteria ARE Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	168.	2.00	8.682*	.05	.143*
SKY	140.	0.	1.0	168.	2.00	1.947	.05	-.070*
TERRAIN	10.	0.	1.0	168.	2.00	13.261*	.05	.135*
TERRAIN	140.	0.	1.0	168.	2.00	2.305*	.05	.056*

Visual Effects Screening Analysis for
 Source: Chino Power Plant (Four Turbines)
 Class I Area: Cucamonga Wilderness

*** Level-1 Screening ***

Input Emissions for

Particulates	9.00	LB /HR
NOx (as NO2)	25.20	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

**** Default Particle Characteristics Assumed

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	171.00 km
Source-Observer Distance:	26.50 km
Min. Source-Class I Distance:	26.50 km
Max. Source-Class I Distance:	32.90 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	6
Wind Speed:	1.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
 Screening Criteria ARE Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	132.	32.9	37.	2.00	1.005	.05	.015
SKY	140.	132.	32.9	37.	2.00	.576	.05	-.010
TERRAIN	10.	84.	26.5	84.	2.00	2.450*	.05	.016
TERRAIN	140.	84.	26.5	84.	2.00	.164	.05	.002

Maximum Visual Impacts OUTSIDE Class I Area
 Screening Criteria ARE Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
SKY	10.	0.	1.0	168.	2.00	9.203*	.05	.158*
SKY	140.	0.	1.0	168.	2.00	2.269*	.05	-.080*
TERRAIN	10.	0.	1.0	168.	2.00	16.170*	.05	.160*
TERRAIN	140.	0.	1.0	168.	2.00	2.602*	.05	.059*

Visual Effects Screening Analysis for
 Source: Chino Power Plant (Four Turbines)
 Class I Area: Cucamonga Wilderness

*** User-selected Screening Scenario Results ***

Input Emissions for

Particulates	9.00	LB /HR
NOx (as NO2)	25.20	LB /HR
Primary NO2	.00	LB /HR
Soot	.00	LB /HR
Primary SO4	.00	LB /HR

PARTICLE CHARACTERISTICS

	Density	Diameter
	=====	=====
Primary Part.	2.5	6
Soot	2.0	1
Sulfate	1.5	4

Transport Scenario Specifications:

Background Ozone:	.04 ppm
Background Visual Range:	171.00 km
Source-Observer Distance:	26.50 km
Min. Source-Class I Distance:	26.50 km
Max. Source-Class I Distance:	32.90 km
Plume-Source-Observer Angle:	11.25 degrees
Stability:	6
Wind Speed:	2.00 m/s

R E S U L T S

Asterisks (*) indicate plume impacts that exceed screening criteria

Maximum Visual Impacts INSIDE Class I Area
 Screening Criteria ARE NOT Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
=====	=====	=====	=====	=====	=====	=====	=====	=====
SKY	10.	132.	32.9	37.	2.00	.505	.05	.007
SKY	140.	132.	32.9	37.	2.00	.289	.05	-.005
TERRAIN	10.	84.	26.5	84.	2.00	1.250	.05	.008
TERRAIN	140.	84.	26.5	84.	2.00	.082	.05	.001

Maximum Visual Impacts OUTSIDE Class I Area
 Screening Criteria ARE Exceeded

Backgrnd	Theta	Azi	Distance	Alpha	Delta E		Contrast	
					Crit	Plume	Crit	Plume
=====	=====	=====	=====	=====	=====	=====	=====	=====
SKY	10.	0.	1.0	168.	2.00	5.149*	.05	.077*
SKY	140.	0.	1.0	168.	2.00	1.524	.05	-.047
TERRAIN	10.	0.	1.0	168.	2.00	9.343*	.05	.092*
TERRAIN	140.	0.	1.0	168.	2.00	1.529	.05	.032

Average Emission Rates

SO2 = 0.23 lbs/hour = 0.02897951 g/s
 NO2 = 6.30 lbs/hour = 0.79378670 g/s

Max 1 hour Impacts

Class One Area	Highest 1 g/s Impact ($\mu\text{g}/\text{m}^3$)	SO2 Max Impacts (ppb)	UTMs	
			East	North
Cucamonga Wilderness	0.2825135	0.003128	442234	3786914
San Gabriel Wilderness	0.683073	0.007562	415691	3788830
San Gorgonio Wilderness	0.3449625	0.003819	502447	3772468
San Jacinto Wilderness	0.4855973	0.005376	519932.8	3728840
Agua Tibia Wilderness	0.4641025	0.005138	506352.4	3699876

Max 3 hour Impacts

Class One Area	Highest 1 g/s Impact		UTMs	
			East	North
Cucamonga Wilderness	0.1790078		442234	3786914
San Gabriel Wilderness	0.3089467		405691	3788830
San Gorgonio Wilderness	0.1441446		502447	3772468
San Jacinto Wilderness	0.2939154		519932.8	3746840
Agua Tibia Wilderness	0.1547008		506352.4	3699876

Max 8 hour Impacts

Class One Area	Highest 1 g/s Impact		UTMs	
			East	North
Cucamonga Wilderness	0.07198466		444234	3786914
San Gabriel Wilderness	0.1299794		405691	3788830
San Gorgonio Wilderness	0.09279813		502447	3769468
San Jacinto Wilderness	0.1145525		502447	3772468
Agua Tibia Wilderness	0.09618302		498352.4	3699876

Max 24 hour Impacts				
Class One Area	Highest 1 g/s Impact		UTMs	
			East	North
Cucamonga Wilderness	0.04105576		445234	3786914
San Gabriel Wilderness	0.04733701		405691	3788830
San Gorgonio Wilderness	0.04481757		502447	3769968
San Jacinto Wilderness	0.04752744		528886.6	3747014
Agua Tibia Wilderness	0.03206101		498352.4	3699876

Max Annual Impacts				
Class One Area	Highest 1 g/s Impact ($\mu\text{g}/\text{m}^3$)	SO2 Max Annual Impacts (ppb)	UTMs	
			East	North
Cucamonga Wilderness	0.001798514	0.000020	442734	3786914
San Gabriel Wilderness	0.001756811	0.000019	415691	3788830
San Gorgonio Wilderness	0.006843866	0.000076	502447	3769468
San Jacinto Wilderness	0.006604811	0.000073	528886.6	3747014
Agua Tibia Wilderness	0.002369677	0.000026	495352.4	3699876

Max Annual Impacts				
Class One Area	Highest 1 g/s Impact ($\mu\text{g}/\text{m}^3$)	NO2 Max Annual Impacts (ppb)	UTMs	
			East	North
Cucamonga Wilderness	0.001798514	0.000545	442734	3786914
San Gabriel Wilderness	0.001756811	0.000533	415691	3788830
San Gorgonio Wilderness	0.006843866	0.002075	502447	3769468
San Jacinto Wilderness	0.006604811	0.002003	528886.6	3747014
Agua Tibia Wilderness	0.002369677	0.000719	495352.4	3699876

HEALTH RISK ASSESSMENT

ANALYSIS

**Results of Health Risk Assessment
(HRA Values include Impacts from all 4 Turbines)**

Parameter	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk Per Million
Significance Level	1	1	1
Worst Case Risk	0.10408	0.05253	0.07584
Operating Scenario	1	12	12
East UTM Coordinate (m)	438,012	439,612	439,612
West UTM Coordinate (m)	3,763,778	3,761,078	3,761,078
Distance to Max Impact (km)	2.97	2.602	2.602
Direction from Stack to Max Impact	To The Northeast	To The Northeast	To The Northeast

**Combustion Turbine 1 (CTG1)
Results of Health Risk Assessment**

Parameter	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk Per Million
Significance Level	1	1	1
Worst Case Risk	0.02757	0.01309	0.01890
Operating Scenario	1	12	12
East UTM Coordinate (m)	437,912	439,612	439,612
West UTM Coordinate (m)	3,763,778	3,761,078	3,761,078
Distance to Max Impact (km)	2.942	2.602	2.602
Direction from Stack to Max Impact	To The Northeast	To The Northeast	To The Northeast

Combustion Turbine 2 (CTG2)
Results of Health Risk Assessment

Parameter	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk Per Million
Significance Level	1	1	1
Worst Case Risk	0.02761	0.01320	0.01906
Operating Scenario	1	12	12
East UTM Coordinate (m)	437,812	439,612	439,612
West UTM Coordinate (m)	3,763,778	3,761,078	3,761,078
Distance to Max Impact (km)	2.91	2.602	2.602
Direction from Stack to Max Impact	To The Northeast	To The Northeast	To The Northeast

Combustion Turbine 3 (CTG3)
Results of Health Risk Assessment

Parameter	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk Per Million
Significance Level	1	1	1
Worst Case Risk	0.02756	0.01317	0.01902
Operating Scenario	1	12	12
East UTM Coordinate (m)	437,812	439,612	439,612
West UTM Coordinate (m)	3,763,778	3,761,078	3,761,078
Distance to Max Impact (km)	2.91	2.602	2.602
Direction from Stack to Max Impact	To The Northeast	To The Northeast	To The Northeast

**Combustion Turbine 4 (CTG4)
Results of Health Risk Assessment**

Parameter	Acute Hazard Index	Chronic Hazard Index	Maximum Individual Cancer Risk Per Million
Significance Level	1	1	1
Worst Case Risk	0.02746	0.01307	0.01887
Operating Scenario	1	12	12
East UTM Coordinate (m)	437,912	439,612	439,612
West UTM Coordinate (m)	3,763,778	3,761,078	3,761,078
Distance to Max Impact (km)	2.94	2.602	2.602
Direction from Stack to Max Impact	To The Northeast	To The Northeast	To The Northeast