

ATTACHMENT B

**AIR QUALITY SELF-CERTIFICATION CHECKLIST
FOR SIMPLE-CYCLE GAS TURBINE GENERATION UNITS**

NEW EQUIPMENT INFORMATION

TURBINE #1	If multiple identical units, indicate number of units of this type: <u>4</u>		
		60 MW	MW
	Manufacturer: General Electric		
	Model: Frame 7b		
	Maximum Heat Input : 727 (based on HHV of fuel) References to higher heating value (HHV) are based upon 1050 Btu/cf. MMBtu/hr		
TURBINE #2	If multiple identical units, indicate number of units of this type: _____		
		MW	MW
	Manufacturer:		
	Model:		
	Maximum Heat Input (based on HHV of fuel): MMBtu/hr		

Suggested Best Available Control Technology (BACT)	Emission Level		Control Technology
	NOx	2.5 ppmvd @ 15% O ₂ (1-hr rolling average)	Selective catalytic reduction or other equivalent control device
	CO	3.5 ppmvd @ 15% O ₂ (1-hr rolling average)	Oxidation catalyst or equivalent control device
	VOC	2 ppmvd @ 15% O ₂ (1-hr rolling average)	Oxidation catalyst or equivalent control device
	PM10	Emission limit corresponding to natural gas firing (PUC quality natural gas)	Natural gas firing (PUC quality natural gas)
	SO2	Emission limit corresponding to natural gas firing (PUC quality natural gas)	Natural gas firing (PUC quality natural gas)
	If applicable, NH3	5 ppmvd @ 15% O ₂ (1-hr rolling average)	

Selective Catalytic Reduction Information, if applicable <p style="text-align: center; font-size: 2em;">N/A</p>	IF NOT INDICATED, PLEASE SPECIFY UNITS OF MEASUREMENT:				
	Ammonia Storage Tank(s):	Tank type: Cylindrical, fixed roof			
		Number of tanks: 4			
		Tank size: 25,000 gal			
		Reactant type: [] Anhydrous ammonia [X] Aqueous ammonia [] Urea If aqueous ammonia, indicate ammonia concentration: 19.5% (weight)			
		Turnover rate: 12 turnovers / year			
	SCR Manufacturer:	Engelhard (or equivalent)			
	SCR Make:				
	SCR Model:	TBD SCR / CO Oxidation			
	Catalyst dimensions:	Length: 22 ft.	Width: 30.58 ft	Height: 30.58 ft	
	Pressure drop across SCR unit: 4.8 in H ₂ O				
	Pressure drop across ammonia injection grid:				
	Space velocity (gas flow rate/catalyst volume): 5,000 ft/min				
	Area velocity (gas flow rate/wetted catalyst surface area): SCFM				

NEW EQUIPMENT INFORMATION (continued)

Selective Catalytic Reduction Information, if applicable (continued)	Manufacturer's guarantee:	Control efficiency: 90 %	Catalyst life: yrs
	Ammonia injection rate: 42.2 lb/hr		
	NOx concentration into SCR unit: 25 ppmv		
	SO ₂ oxidation rate:	SO ₃ emissions:	
	Operating temperature range of catalyst: 600 – 880 °F		
	Temperature at which ammonia injection will begin: 600 °F		

Oxidation Catalyst Information, if applicable	<i>IF NOT INDICATED, PLEASE SPECIFY UNITS OF MEASUREMENT:</i>			
	Manufacturer:	Engelhard (or equivalent)		
	Make:			
	Model:	TBD		
	Catalyst dimensions:	Length: ft	Width: ft	Height: ft
	Pressure drop across catalyst: 1.7 in H ₂ O			
	Manufacturer's guarantee:	CO control efficiency: 93 %	Catalyst life: yrs	
		VOC control efficiency: 50+ %		
	Space velocity (gas flow rate/catalyst volume):			
	Area velocity (gas flow rate/wetted catalyst surface area):			
	Catalyst cell density (cells per square inch): 100			
	CO concentration into catalyst: 15 ppmvd @ 15% O ₂			
	VOC concentration into catalyst: 4 – 5 ppmvd @ 15% O ₂			
Operating temperature range of catalyst: 840 – 860 °F				

Fuel Data	Fuel Type: Natural gas	Specify sulfur content if other than 5 gr/100 scf		
	Higher Heating Value: 1050 Btu/scf	Sulfur Content:	gr/100 scf	
	MAXIMUM FUEL CONSUMPTION RATE: 0.692			MMscf/hr (per unit)
	Exhaust Data:	Flow:	914,897 ACFM	M/sec or m ³ /sec or acfm

On-line Normalized Emission Rate	(If corrected to other than 15% O₂, indicate at right)			%O ₂
	Specify by units listed below or indicate other values and units at right:			
	NOX	25 ppmvd on a 1-hr rolling avg. prior to SCR installation. 2.5 ppmv after SCR installation.	Lb/MMBtu	Mfr. Guarantee
	CO	15 ppmvd on a 1-hr rolling avg. prior to oxidation installation. 3.5 ppmv after oxidation installation.	Lb/MMBtu	Mfr. Guarantee
	VOC (ROG)	2 ppmvd on a 1-hr rolling avg.	.0025 lb/MMBtu (hhv)	AP 42
	PM10	ppmvd on a 1-hr rolling avg.	.0066 lb/MMBtu (hhv)	AP 42
	SO₂	ppmvd on a 1-hr rolling avg.	.0006 lb/MMBtu (hhv)	SCAQMD
If applicable, NH₃	5.0 ppmvd on a 1-hr rolling avg.	lb/MMBtu	Mfr. Guarantee	

NEW EQUIPMENT INFORMATION (continued)

On-line Mass Emission Rate (each turbine) *Annual emission rates based on assumed 8,500 hrs.		Hourly [lbs/hr]	Daily [lbs/day]	Quarterly [lbs/qtr]	Annual [tons/yr]
	NOX	6.62	145.7	N/A for AVAPCD	27.8
	CO	5.65	124.2	N/A for AVAPCD	23.7
	VOC (ROC)	1.84	40.6	N/A for AVAPCD	7.7
	PM10	4.8	105.6	N/A for AVAPCD	20.2
	SO ₂	0.44	9.6	N/A for AVAPCD	1.8
	If applicable, NH3	4.9	117.6	N/A for AVAPCD	20.9
Startup and Shutdown Mass Emission Rate (each turbine)		Startup Emissions Hourly [lbs/hr]		Shutdown Emissions Hourly [lbs/hr]	
	NOX	8.04		8.04	
	CO	6.31		6.31	
	VOC (ROC)	1.69		1.69	
	PM10	4.4		4.4	
	SO ₂	0.4		0.4	
Commissioning Period Mass Emission Rate (each turbine)		Hourly [lbs/hr]		Daily [lbs/day]	
	NOx	66.2		331	
	CO	24.2		121	
	VOC (ROC)	1.84		9.2	
	PM10	4.8		24	
	SO ₂	0.4		2.2	

Operating Parameters	Operating Hours: Annual hours may be altered based upon availability of emission offsets. To be determined prior to issuance of permit to construct.	[hrs/day]	[hrs/qtr]	[hrs/yr]	
		24	2160*	8500*	
	Startup Data:	Number of startups per day:		Est. 1	
		Number of startups per year:		Est. 50	
		Startup duration:		10 min.	
	Shutdown Data:	Number of shutdowns per day:		Est 1	
		Number of shutdowns per year:		Est. 50	
		Shutdown duration:		10 min.	

NEW EQUIPMENT INFORMATION (continued)

Facility Annual Emissions and Emissions to be Offset Estimated based upon 8,500 hours per year and 24 hours per day. AVAPCD will allow changes to operating schedule prior to permit issuance to alter offset needs.	Facility Annual Emissions [tons/yr]	Emissions That Need to be Offset				
		Q1 [lbs/qtr]	Q2 [lbs/qtr]	Q3 [lbs/qtr]	Q4 [lbs/qtr]	[lb/day]
NOx	112.9	N/A for SCAQMD				647.3
CO	96.1					0
VOC	31.3					175.8
PM10	81.5					460.6
SO ₂	7.4					0

Offsets to be Provided	Offset Ratio	Offsets Required				Source of Offsets
		[lb/day]				
NOx	1.3:1	841				<input checked="" type="checkbox"/> State bank* <input type="checkbox"/> District bank <input checked="" type="checkbox"/> Other, specify: <u>Intercredit/interdistrict purchase</u>
CO						<input type="checkbox"/> State bank <input type="checkbox"/> District bank
VOC	1.3:1	229				<input checked="" type="checkbox"/> State bank <input type="checkbox"/> District bank <input checked="" type="checkbox"/> Other, specify: <u>Interdistrict purchase</u>
PM10	1.0:1	461				<input checked="" type="checkbox"/> State bank <input type="checkbox"/> District bank <input checked="" type="checkbox"/> Road Paving
SO ₂						<input type="checkbox"/> State bank <input type="checkbox"/> District bank

<p>Monitoring and Reporting</p>	<p>What is the make/model of the continuous emissions monitoring system (CEMS), if known? Make: <u>To be determined. Will meet AVAPCD specifications.</u> Model: _____</p> <p>The following parameters will be continuously monitored: <input checked="" type="checkbox"/> NOx <input checked="" type="checkbox"/> CO (if required by AVAPCD) <input checked="" type="checkbox"/> O₂ <input type="checkbox"/> Fuel flow rate <input type="checkbox"/> Ammonia injection rate <input type="checkbox"/> Other, please specify: _____</p> <p>Will the CEMS be used to measure both on-line and startup/shutdown emissions? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>
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*Note: The maximum amount of NOx offsets that can be acquired from the State bank is 21,125 lbs/yr (10.6 tons/yr) x the applicable distance ratio.

ADDITIONAL INFORMATION

1. **Facility Location (to be also used for air dispersion modeling analysis):** Urban (area of dense population) Rural (area of sparse population)

Will the facility be located within 1,000 feet of a school? Yes No

(Note: Per Section 42301.9 of the California Health and Safety Code, a "school" means any public or private school used for purposes of the education of more than 12 children in kindergarten or any of grades 1 to 12, inclusive, but does not include any private school in which education is primarily conducted in private homes.)

2. **Nearest Receptor:**

Distance to nearest residence 2,500feet

Distance to nearest business 100 feet

3. **Air Dispersion Modeling Input Data**

Stack Parameters:

Height 70 feet Inside diameter ~~10 ft~~ x 16.5 ft.

Stack Gas Exit Temperature (°K) 733

Is a rain cap present on the exhaust stack? Yes No

Direction of exhaust from structure or device: Vertical Horizontal

Building Dimension Data for Downwash Calculations:

a) Building Height N/A

b) Minimum horizontal building dimension N/A

c) Maximum horizontal building dimension N/A

4. Was an ambient air quality impact analysis required for this project? Yes No
If Yes, was an ambient air quality impact analysis conducted as required by District rules? Yes No
If yes, please attach the analysis and provide an electronic version on disk or CD.
5. Was a health risk assessment required for this project? Yes No
If Yes, was a health risk assessment conducted as required by District rules? Yes No
If Yes, please attach the analysis and provide an electronic version on disk or CD.
6. Please attach a site map for the project. Attachment D

CERTIFICATION

Based on information and belief formed after reasonable inquiry, I certify that the statements and information in and attached to this document are, true, accurate, and complete.

Responsible Official (Please Print Name)

Signature of Responsible Official

Date