

Nominal Performance Data

Introduction

This document describes the nominal performance for a SGT-800 in simple cycle application for San Francisco Bay Area, California, USA

1.1 Set Description

Gas Turbine	4 x SGT-800.
Combustor system	Third generation low emission combustion system and gas fuel capability.

Summary performance data

A summary of the nominal net performance calculation is enclosed on the following pages.

SUMMARY OF GAS TURBINE PERFORMANCE DATA WITHOUT CHILLER

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GTperform version : 2.4.1

Project Name : SF Bay area

Run date : 2010-05-12

Run performed by : John Erik Hansson

Gas turbine unit : SGT-800

Altitude : 120. ft above sea level

Barometric pressure : 14.63236 psia

Inlet pressure loss : 4.02 inches H2O

Outlet pressure loss : 12.02 inches H2O

Fuel : Gas fuel

LHV : 20690.3 Btu/lb

Fuel Temp. : 77.0 F (Ref. Temperature 77F)

F U E L C O M P O S I T I O N

Component	Volume %	Component	Volume %	Component	Volume %
CH4	96.210	C2H6	1.350	C3H8	0.760
IC4H10	0.190	CO2	1.060	N2	0.430

Special notes : GENERATOR DRIVE 60 Hz WITH GEAR
Powerfactor : 0.90
POWER TURBINE 6600 RPM

Run results.

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Run id	Amb. temp. F	R.H %	Load Case %	Output kW	el eff. %	Heat Rate Btu/kWh	Fuel flow pps	IGV angle	Exh. temp. F	Exh. flow pps
1	42.0	60.0	100.00	47433	36.96	9231	5.878	1.20	1013.15	294.63
2	42.0	60.0	75.00	35575	34.18	9984	4.769	-25.57	1073.27	233.45
3	42.0	60.0	50.00	23717	29.16	11702	3.726	-40.00	1109.72	188.95

EXHAUST GAS COMPOSITION

RUNID		SO2	H2O	CO2	N2	O2	Ar	He
1	% WT:	0.0000	4.599	5.405	73.788	14.95	1.253	0.000
1	% VOL:	0.0000	7.272	3.498	75.025	13.31	0.893	0.000
2	% WT:	0.0000	4.701	5.533	73.753	14.76	1.252	0.000
2	% VOL:	0.0000	7.430	3.579	74.963	13.13	0.893	0.000
3	% WT:	0.0000	4.550	5.343	73.806	15.04	1.253	0.000
3	% VOL:	0.0000	7.195	3.459	75.056	13.39	0.894	0.000

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