

APPENDIX 8

PRAGATI GAS POWER PROJECT
(Guarantee Declaration with DLN Combuster)

Address:

HEAVY ELECTRICALS LIMITED
HOUSE, SIRI FORT,
CHH

We warrant that the ratings and performance figures of the equipment furnished by us under the Package are guaranteed. We further declare that in the event of any deficiencies in meeting the guarantees in respect of the characteristics mentioned below as established after conducting the performance test, you may at your discretion accept the equipment/ system after assessing the Liquidated damages as specified in CD3 Clause 12 or reject the equipment/ system and recover the payments already made.

Guaranteed Net Heat Rate of Combined Cycle Module

At 100% net base module output for conditions as specified under Clause 1.05.02 Chapter VI, Sec VIII Part A	Kcal/KW hr	1749
At 80% net base module output for conditions as specified under Clause 1.05.02 Chapter VI, Sec VIII Part A	Kcal/KW hr	1834

Guaranteed Net Heat Rate of Open Cycle

At 100% net base output for each gas turbine unit (Open Cycle mode) for conditions as specified under Clause 1.05.03 Chapter VI, Sec VIII Part A for:

Gas Turbine Unit 1	Kcal/KW hr	2693
Gas Turbine Unit 2	Kcal/KW hr	2693

Guaranteed Net Base Output of Combined Cycle Module

100% Net base combined cycle output at conditions specified under Clause 1.05.01 of Chapter VI, Sec VIII Part A	KW	318500
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Guaranteed Net base output of Open Cycle

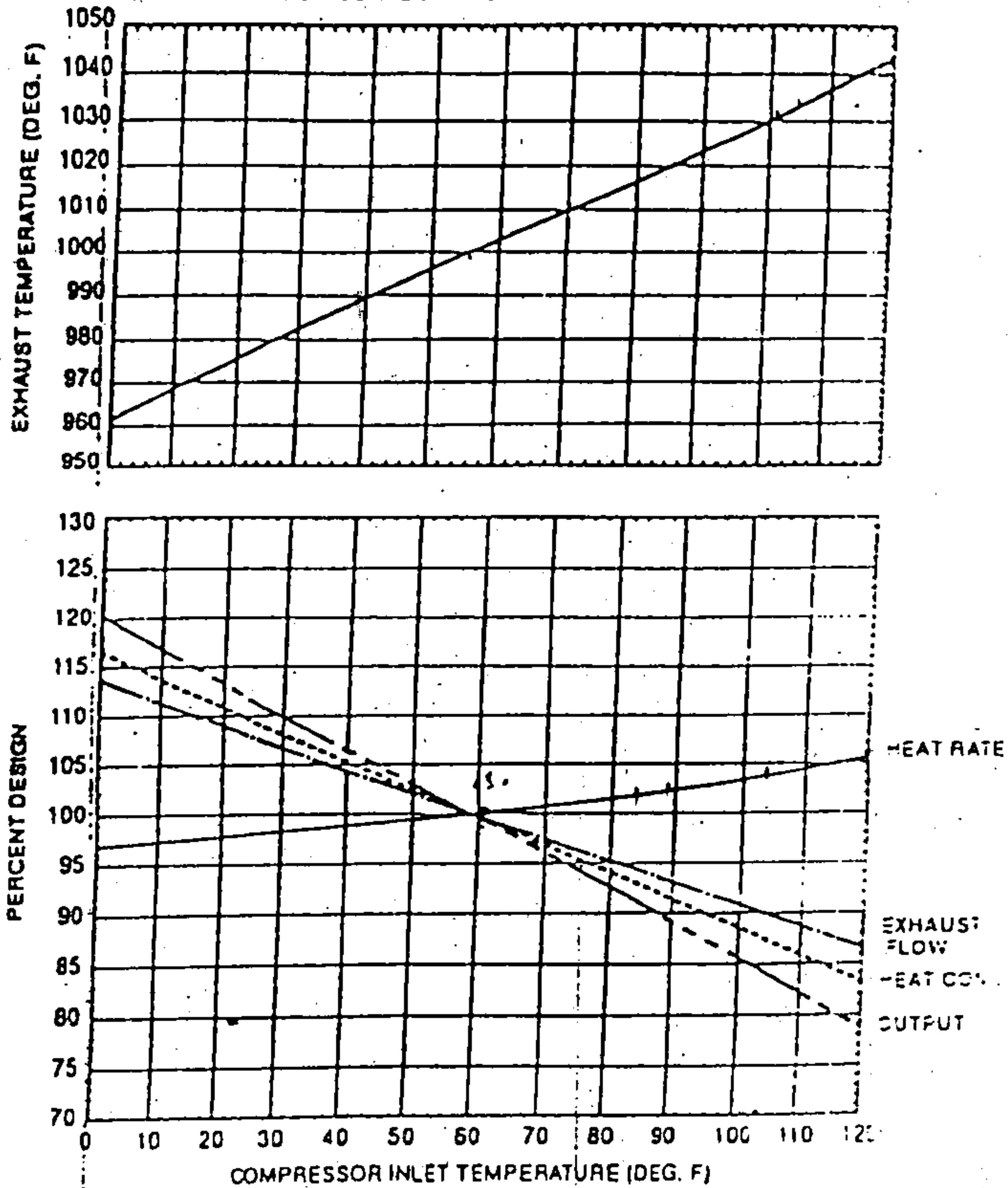
100% net base output of each gas turbine unit (Open Cycle mode) at conditions specified under Clause 1.05.04 Chapter VI, Sec VIII Part A for:

Gas Turbine Unit 1	KW	103500
Gas Turbine Unit 2	KW	103500

General Electric Model PG9171(E) Gas Turbine

Effect of Compressor Inlet Temperature on
Output, Heat Rate, Heat Consumption, Exhaust Flow
And Exhaust Temperature at 100% Speed

FUEL: NATURAL GAS & DISTILLATE OIL
DESIGN VALUES ON CURVE 515HA515



DATE 5/8/90
F.J. BROOKS

515HA515

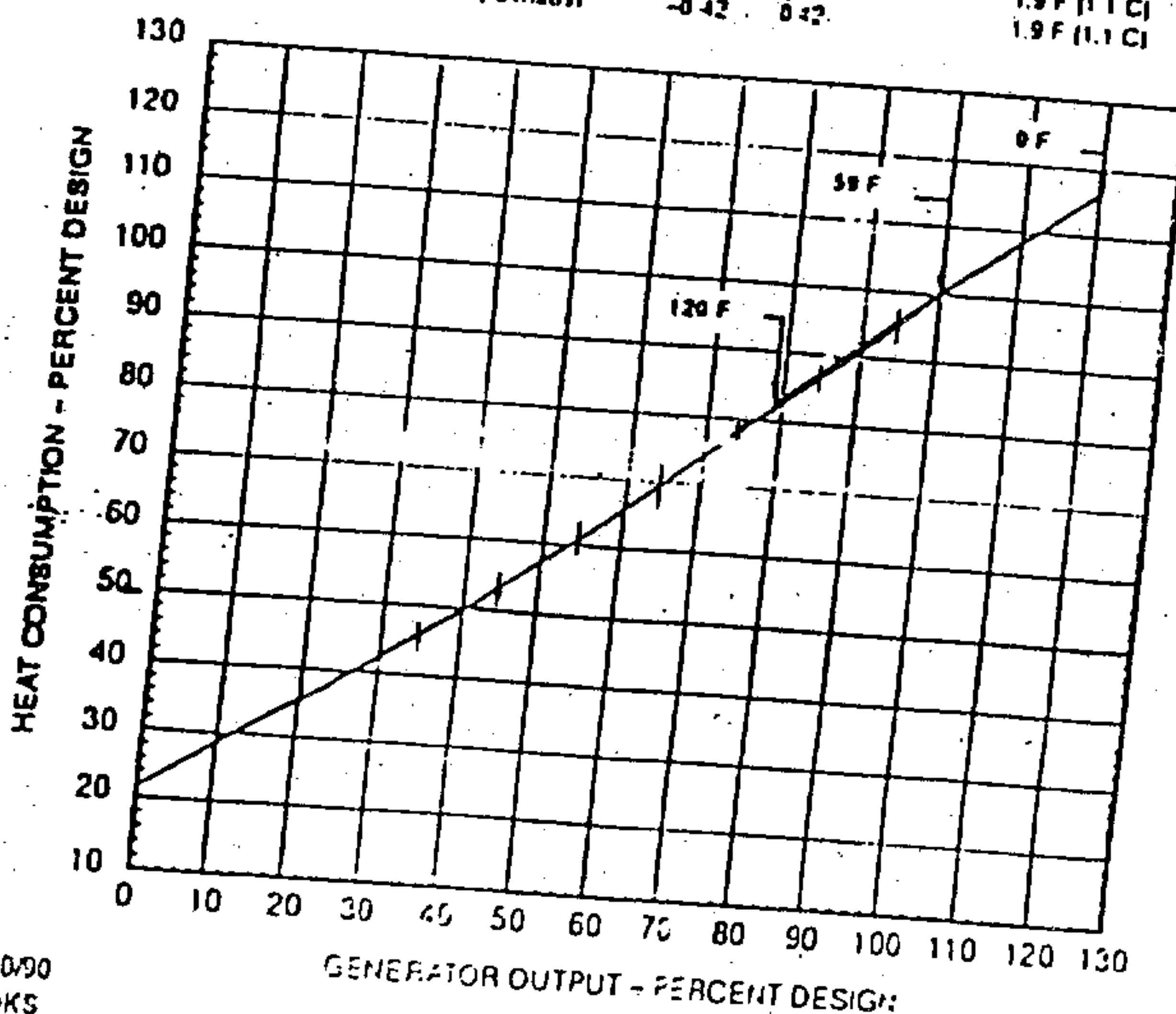
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General Electric Model PG9171(E) Gas Turbine
Estimated Performance - Configuration: Natural Gas & Distillate
 Compressor Inlet Conditions 59 F (15.0 C), 60% Rel. Humidity
 Atmospheric Pressure 14.7 psia (1.013 bar)

FUEL		NATURAL GAS	DISTILLATE
DESIGN OUTPUT	kW	113000	130000
DESIGN HEAT RATE (LHV)	Btu (kJ)/kW/h	10330	10140
DESIGN HEAT CONS (LHV) $\times 10^{-6}$	Btu (kJ)/h	1341	1326
DESIGN EXHAUST FLOW $\times 10^{-3}$	lb/h (kg/h)	3237	3267
MODE: PEAK LOAD			

- NOTES:**
- Altitude correction on curve 416HA662-REV A
 - Ambient temperature correction on curve 516HA521
 - Effect of modulated IGV's on exhaust flow and temp. on curve 516HA134
 - Hydrogen cooled generator - SH2
 - Humidity correction on curve 458HA657-REV B - all performance calculated with specific humidity of .0064 or less so as not to exceed 100% relative humidity
 - Plant performance is measured at the generator terminals and includes allowances for excitation power, shaft driven auxiliaries, and 3.5 in. H₂O (8.7 mbar) inlet and 5 in. H₂O (12.5 mbar) exhaust pressure drops
 - Additional pressure drop effects

	% Effect on	Effect on
	Output	Exhaust Temp.
4 in. H ₂ O (10.0 mbar) inlet	-1.42	1.9 F (1.1 C)
4 in. H ₂ O (10.0 mbar) exhaust	-0.42	1.9 F (1.1 C)



DATE: 5/10/90
 F.J. BROOKS

516HA521

Naia