SPECIAL DATA

OPERATING CONDITIONS

	POWER (KW)	SPEED (RPM) TURBINE/GENERATOR	STEAM FLOW LBS./HR.
Normal Rated:	8 500	6 750/1 800	100 000
Maximum Rated:	8 500	7 500/1 800	

STEAM CONDITIONS

Inlet Pressure (psig):	650
Ext. #1 (psig):	150 (Uncont.)
Ext. #2 (psig):	70 (Uncont.)
Inlet Temperature (°F):	750
Exhaust Pressure (in. HgA):	3.0

MECHANICAL OVERSPEED TRIP SPEED

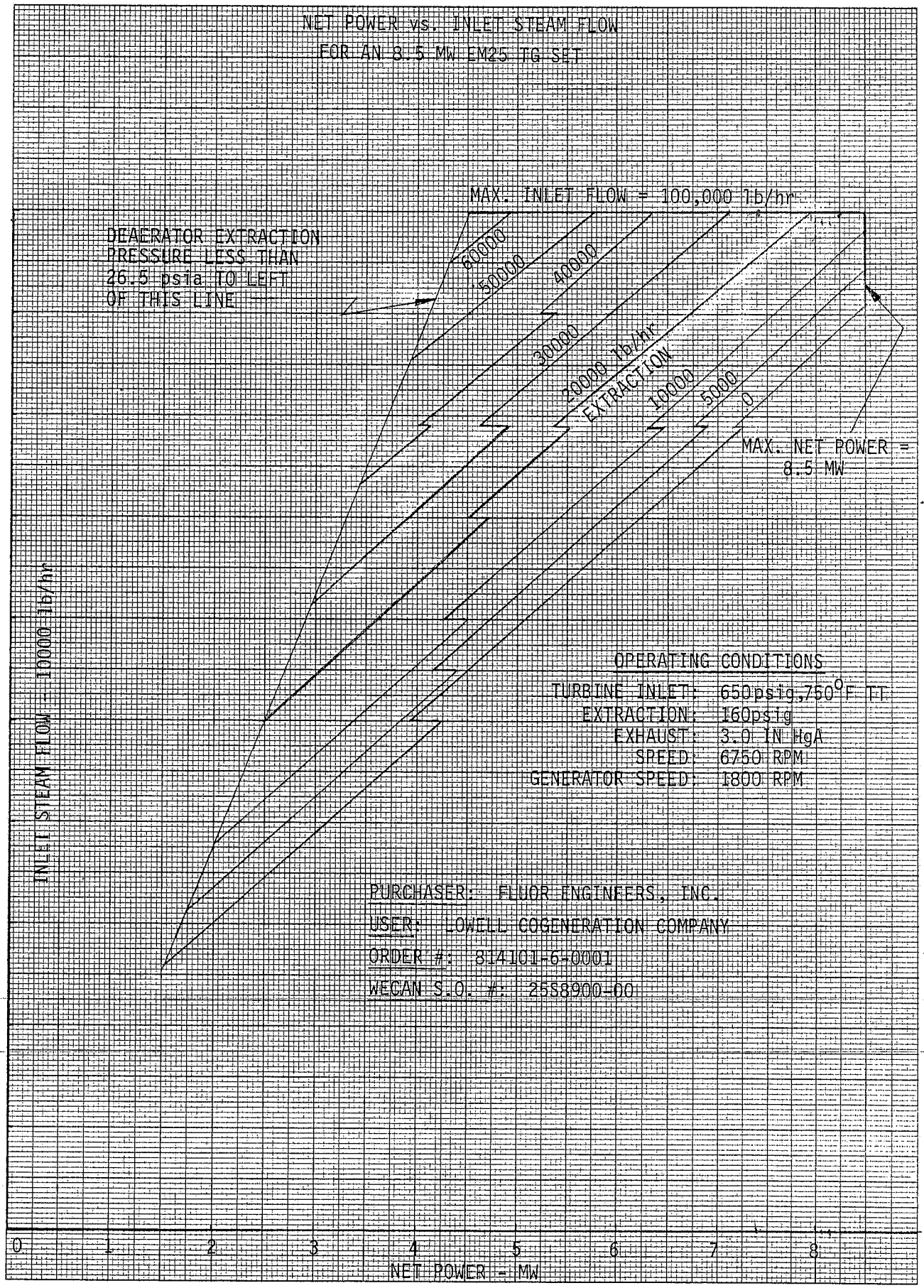
7 425 RPM to 7 573 RPM

CRITICAL SPEEDS

NOTES: Calculated critical speeds are the speeds at which the frequencies are the same as the natural frequencies of the various drive train rotors (re: turbine rotor, generator rotor). Resonant effects could add to the level of vibration and cause problems at these speeds.

CALCULATED LATERAL CRITICAL SPEEDS

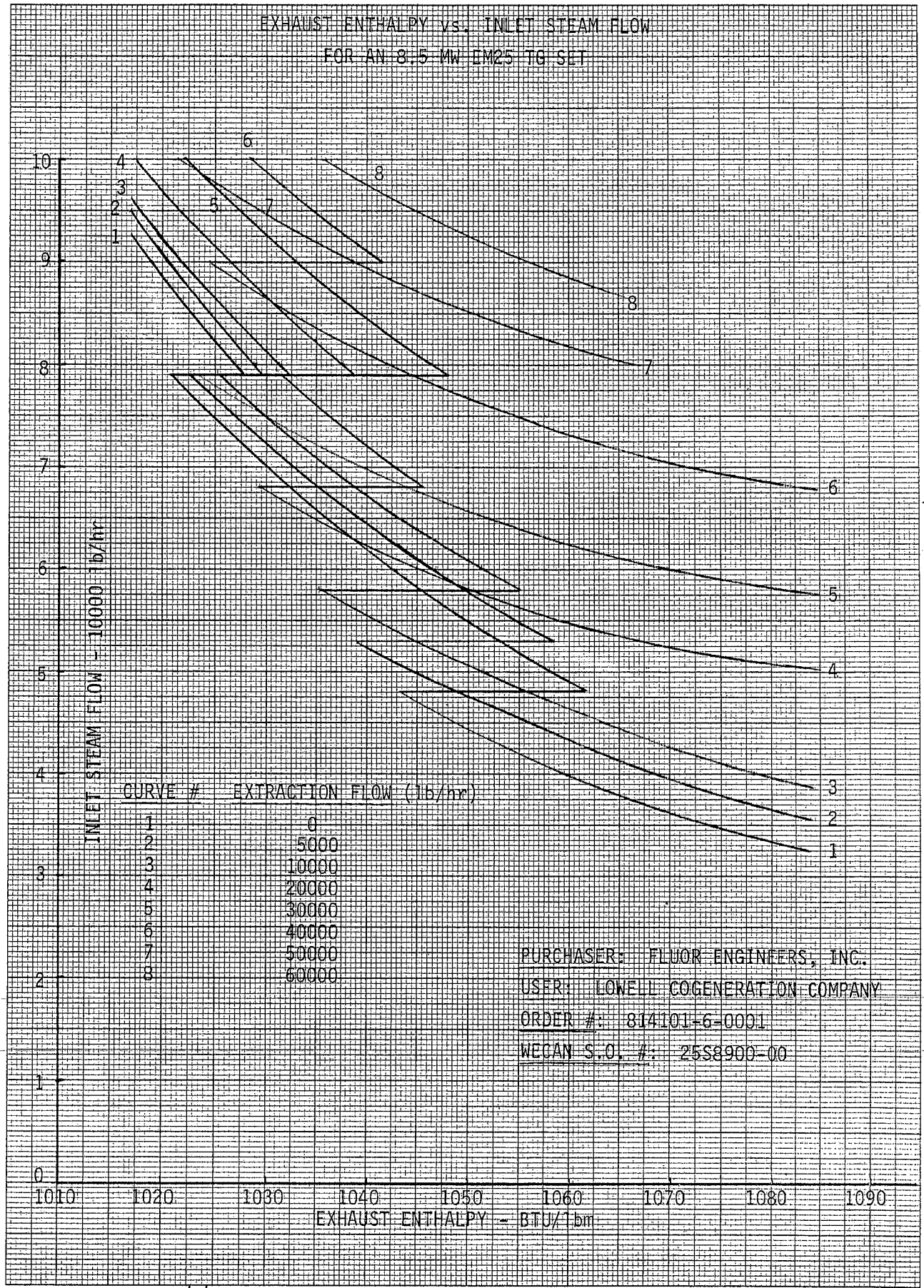
1st Lateral (Turbine):	2 750 RPM
1st Lateral (Generator):	2 437 RPM
2nd Lateral (Generator):	4 599 RPM
1st Lateral (Speed Reducer):	Greater than 8 100 RPM
1st Axial:	782 RPM
1st Torsional:	1 296 RPM
2nd Torsional:	3 264 RPM



GRAPHIC CONTROLS CANADA LTD.
GANANOQUE, ONTARIO MADE IN CANADA

GRFG14 SQUARE 10 X 10 TO THE CM
SPECIFY TRACING OR DRAWING PAPER

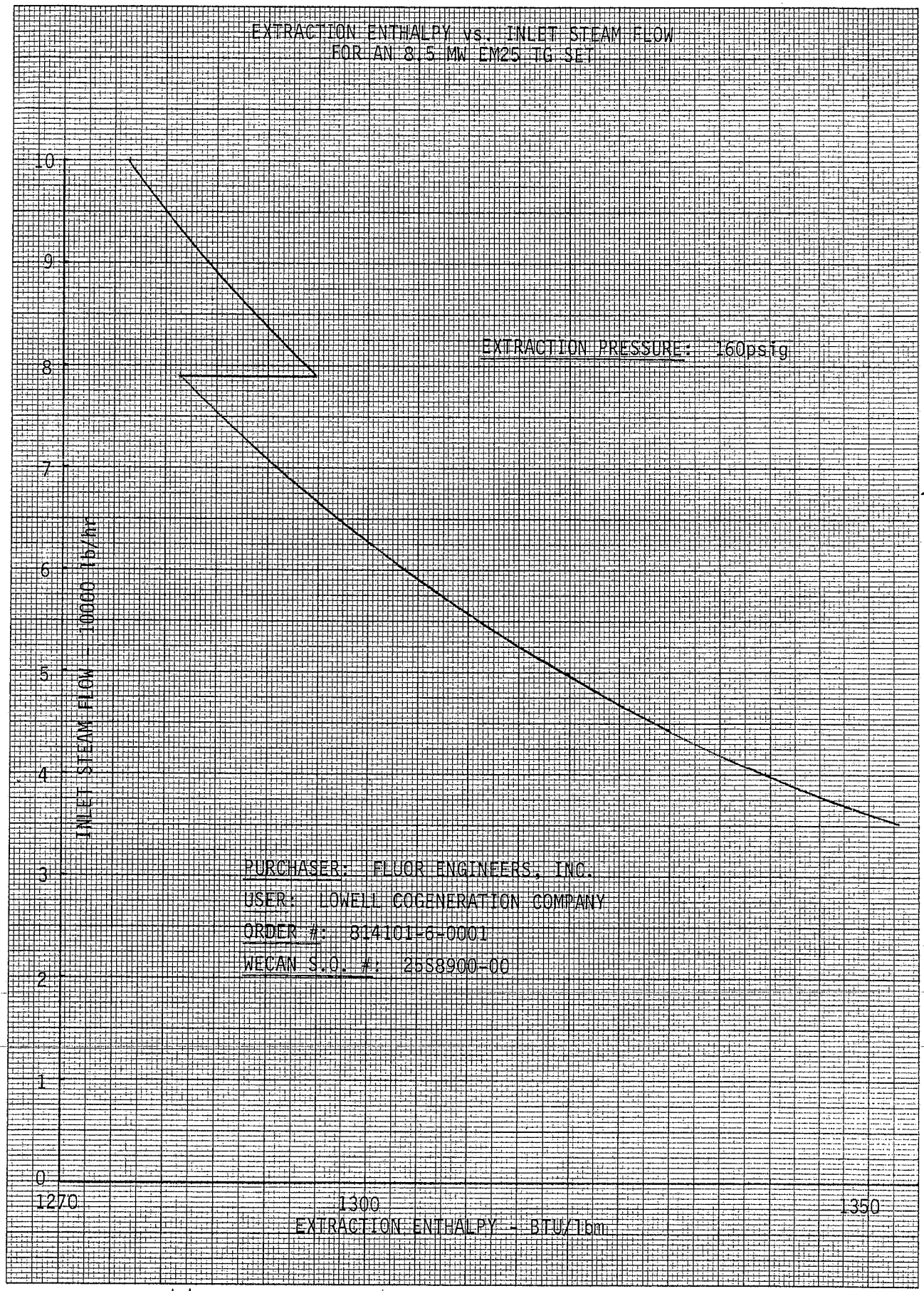
SIGNATURE: A. Mackay DATE: 87.5.29 CURVE NO. PC-8900-A



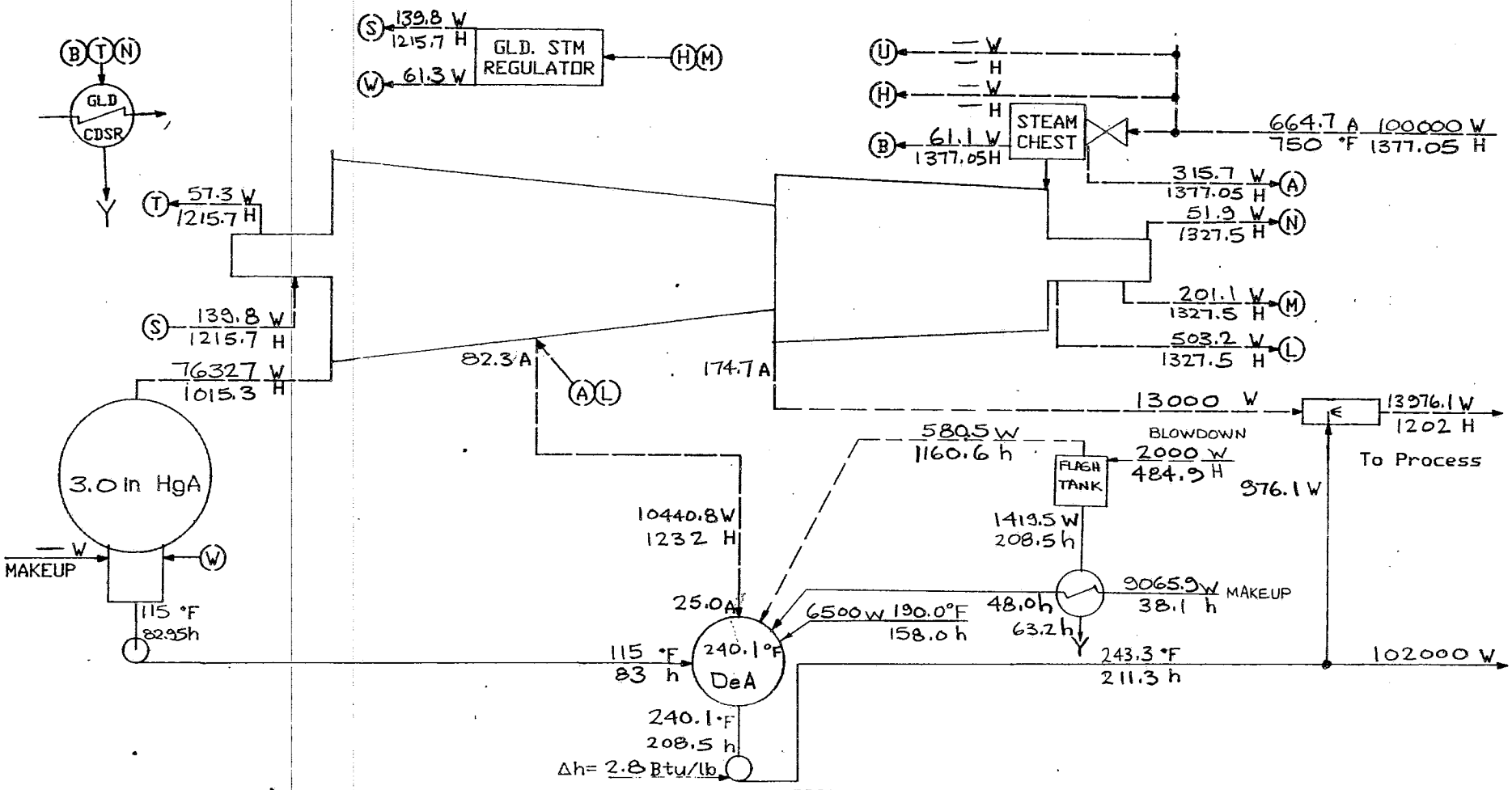
GRAPHIC CONTROLS CANADA LTD.
GANANOQUE, ONTARIO MADE IN CANADA

GRFG14 SQUARE 10 X 10 TO THE CM
SPECIFY TRACING OR DRAWING PAPER

SIGNATURE: _____ DATE: 87.5.29 CURVE No. PC-8900-B



SIGNATURE: _____ DATE: 87.5.22 CURVE No. PC-8900-C



$$\text{HEAT RATE} = \frac{100000(1377.1-211.3)+2000(484.9-211.3)-6500(1202-158)-7476.1(1202-38.1)}{8500} = 11958 \ \frac{\text{BTU}}{\text{kW hr}}$$

(1) CALCULATIONS ARE BASED ON NO RADIATION LOSSES TO HEATERS OR EXTRACTION PIPING.
(2) HEAT RATES ARE BASED ON LOCUS FULL VALVE POINTS.
THROTTLE FLOWS ARE NOT GUARANTEED.
THROTTLE FLOW AT MAXIMUM GUARANTEED LOAD= LB/HR.
THROTTLE FLOW AT MAXIMUM CALCULATED LOAD= LB/HR.
THROTTLE FLOW AT MAXIMUM CALCULATED 5 PERCENT OVERPRESSURE LOAD =

HB-P3E LB/HR.

TEP = BTU/LB
ELEP = BTU/LB
MECH. LOSS= 145 kW
ELEC. LOSS= 265 kW
PF=
BFP POWER= — kW
BFP EFFY = —

FRAME EM25

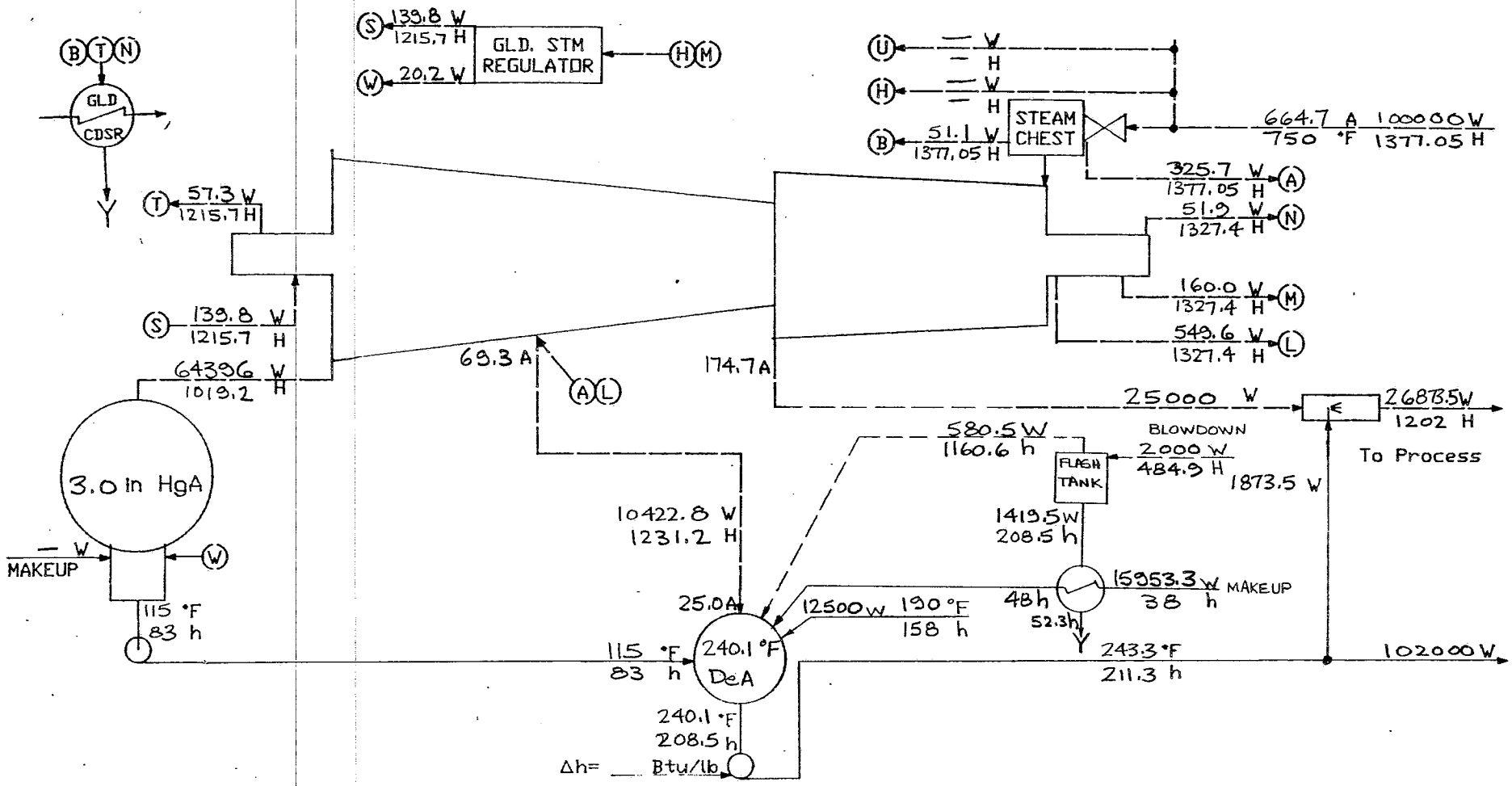
NAMEPLATE RATING

8500 kW TURBINE GENERATOR UNIT
650 psig 750 °F 3.0 in HgA
kVA pf kV

8500 KW 100% RATED LOAD

WESTINGHOUSE CANADA INC.
Hamilton, Ontario.
ENGR. M. Mackay
Date 87/4/20

No. HB-8300-A1



HEAT RATE = $\dfrac{100000(1377.1-211.3)+2000(484.9-211.3)-12500(1202-158)-14373.5(1202-38)}{7555} = 11561$ BTU/kW hr

(1) CALCULATIONS ARE BASED ON NO RADIATION LOSSES TO HEATERS OR EXTRACTION PIPING.
(2) HEAT RATES ARE BASED ON LOCUS FULL VALVE POINTS.
THROTTLE FLOWS ARE NOT GUARANTEED.
THROTTLE FLOW AT MAXIMUM GUARANTEED LOAD= LB/HR.
THROTTLE FLOW AT MAXIMUM CALCULATED LOAD= LB/HR.
THROTTLE FLOW AT MAXIMUM CALCULATED 5 PERCENT OVERPRESSURE LOAD = LB/HR.

HB-P3E

TEP = 1019.0 BTU/LB
ELEP = — BTU/LB
MECH. LOSS= 145 kW
ELEC. LOSS= 237 kW
PF=
BFP POWER= — kW
BFP EFFY = —

FRAME EM25

NAMEPLATE RATING

8500 kW TURBINE GENERATOR UNIT
650 psig 750 °F 3.0 in HgA
kVA pf kV

7555 KW 89 % RATED LOAD

WESTINGHOUSE CANADA INC.
Hamilton, Ontario.

ENGR.
Date
No. HB-8900-A2

GRAHAM MANUFACTURING CO., INC.

THEORETICAL CONDENSER PERFORMANCE

Customer : FLUOR ENGINEERS, INC

Job : 62676M

Surface Area (sq.ft.) 6963.2

Water Flow Rate (gpm) 8100.0

Latent Heat (b/lb) 952.0

Date 3/22/88

Engineer LEW

Model 54 68 / 16.50TALT

x=HEI requirement of
5 degree F approach