



Westinghouse Proprietary

TECHNICAL SPECIFICATIONS



I.L. 1250-6743

PARAMETER	RATED CAPABILITY	MAXIMUM CAPABILITY
Electrical Power (MW)	48.57	75
Main Steam Inlet Pres. (psia)	1075	1465
Main Steam Inlet Temp. (°F)	951.6	965
Induction Pres. (psia)	119	174
Induction Temp. (°F)	416	518
Exhaust Vacuum (in. HgA)	2.44	Load Dependent (See Exhaust Curve)
Speed (rpm)	3600	3600

* Based upon the natural gas warranty for the following conditions:

- ◆ 86° F Ambient Temperature
- ◆ 44 Foot Site Elevation
- ◆ 83% Relative Humidity
- ◆ Base Loaded Combustion Turbine
- ◆ Evaporative Cooler Operating
- ◆ Steam Injection Ratio Equal to 1.0

MISSION ENERGY / AUBURNDALE

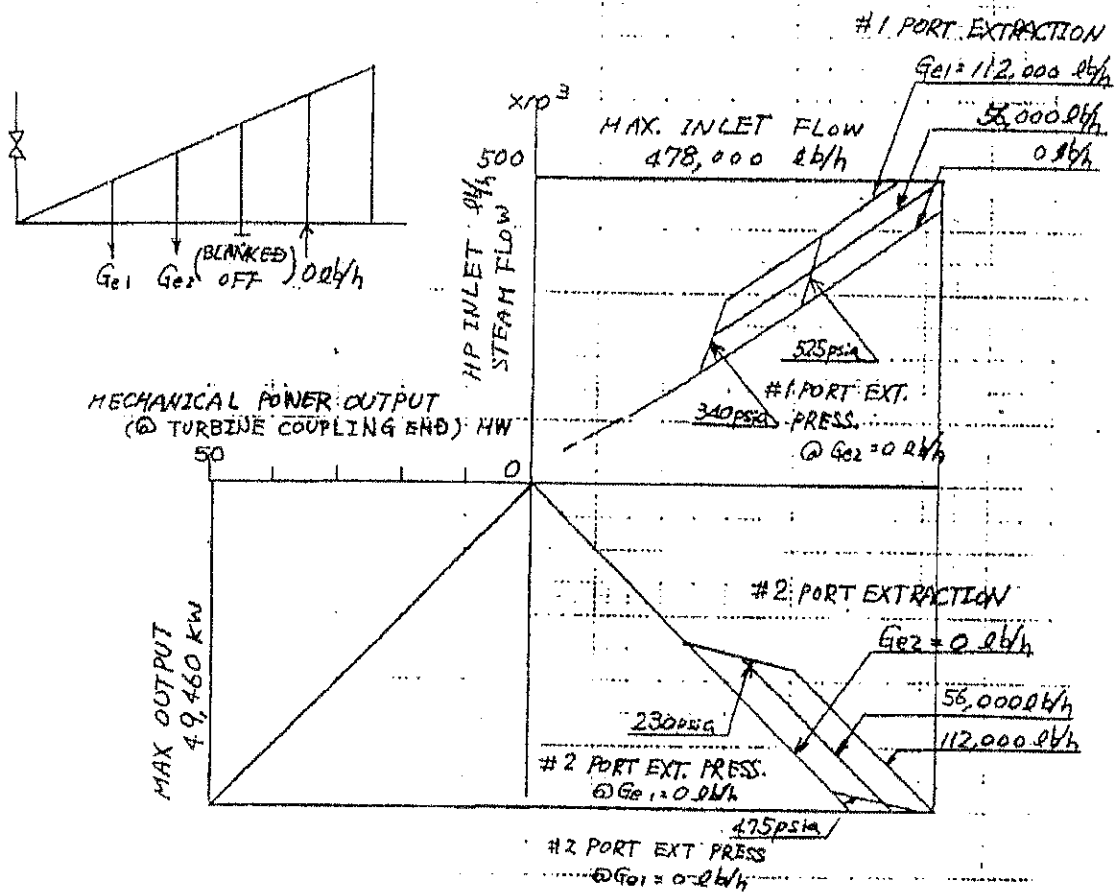
IND. CONDENSING TURBINE (HP #125 + LP 25")

CALCULATION CONDITIONS.....

HP INLET STEAM PRESS. : SLIDING
TEMP. : 950°F

LP INLET STEAM : 0.26/h
(#4 PORT)

EXHAUST VACUUM : 1.45 in HgA



NOTE) THIS CALCULATION IS BASED ON LOCUS OF VALVE POINT.



MISSION ENERGY / AUBURNDALE

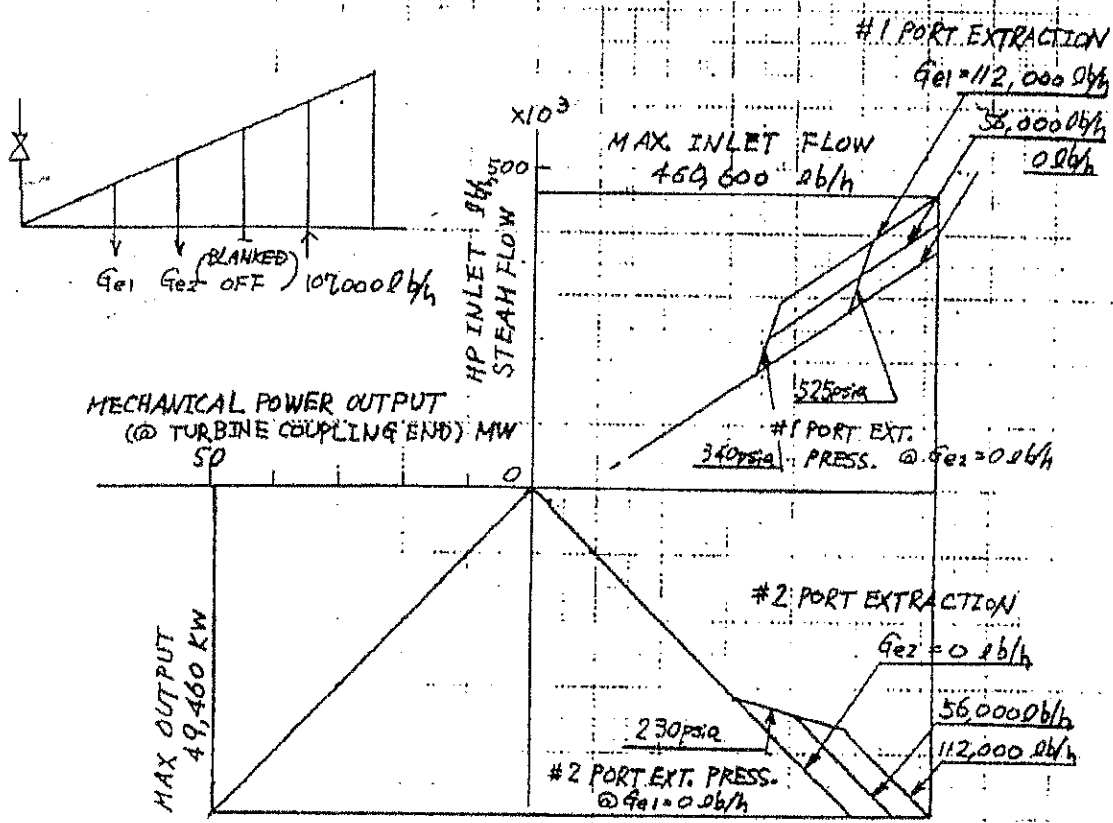
IND. CONDENSING TURBINE (HP#125 + LP.25)

CALCULATION CONDITIONS

HP INLET STEAM PRESS. : SLIDING
 TEMP. : 950°F

LP INLET STEAM PRESS. : 125 psia
 (#4 PORT) TEMP. : 412°F

EXHAUST VACUUM : 145 inHg A
 FLOW : 107,000 lb/h



NOTE) THIS CALCULATION IS BASED ON LOCUS OF VALVE POINT.

N25-002

MISSION ENERGY/AUBURNDALE
SC25AX INDUCTION CONDENSING TURBINE

EXTRACTION/INDUCTION PRESS. CURVE

FOR HEAT BALANCE CASE-60 N20-011 Rev.0

CONDITION INLET STEAM*
 PRESS. ; SLIDING
 TEMP. ; 948°F
 FLOW. ; _____ lb/hr

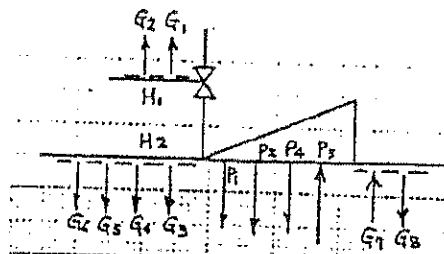
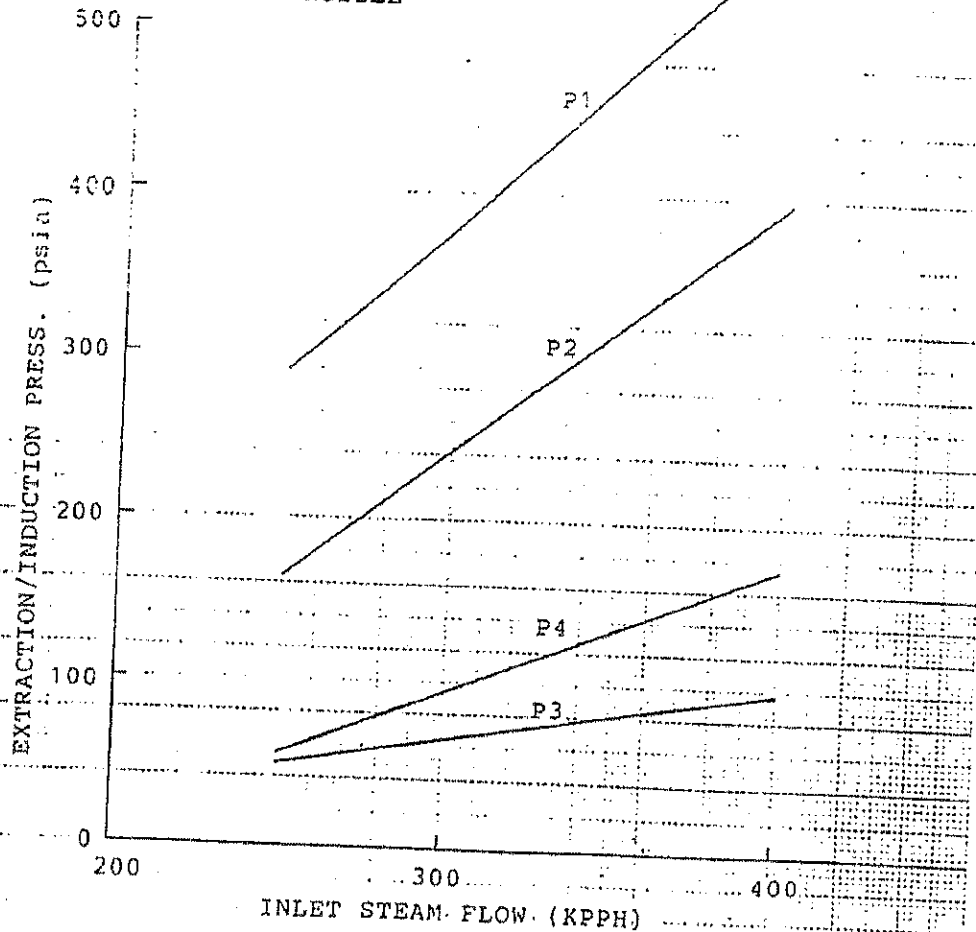
EXTRACTION #1*
 FLOW ; 50,050 lb/hr

EXTRACTION #2*
 FLOW ; 73,490 lb/hr

EXTRACTION #3*
 FLOW ; 60,940 lb/hr

INDUCTION STEAM*
 FLOW ; 101,320 lb/hr
 ENTHALPY ; 1,235.0 BTU/hr

VACUUM* ; 1.16 inHgA
 * AT TURBINE INLET,
 EXHAUST, EXTRACTION,
 INDUCTION NOZZLE



S 44 180 250

N25-165

SEMPER NO 401 C

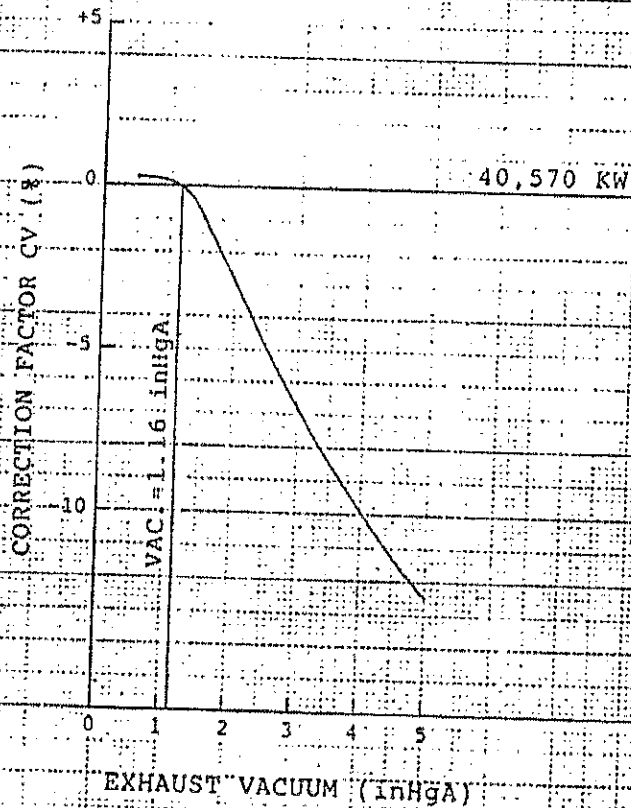
MISSION ENERGY/AUBURNDALE
 SC25AX INDUCTION CONDENSING TURBINE

EXHAUST VACUUME CORRECTION CURVE

FOR HEAT BALANCE CASE-60 N20-011 Rev.0

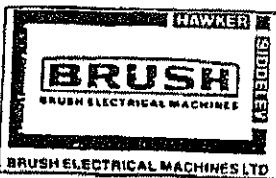
CONDITION INLET STEAM*	EXTRACTION #1*
PRESS. ; SLIDING	FLOW ; 50,050 lb/hr
TEMP. ; 948°F	
FLOW. ; 362,190 lb/hr	EXTRACTION #2*
	FLOW ; 73,490 lb/hr
INDUCTION STEAM*	EXTRACTION #3*
FLOW ; 101,320 lb/hr	FLOW ; 60,940 lb/hr
ENTHALPY ; 1,235.0 BTU/hr	

VACUUM* ; _____ * AT TURBINE INLET,
 EXHAUST, EXTRACTION,
 INDUCTION NOZZLE



EXPECTED MECHANICAL POWER OUTPUT (KW) = $40,570 \times \left(\frac{CV}{100} + 1.0 \right)$
 (@ TURBINE COUPLING END)

15 JAN 1993



GENERATOR AND AVR GENERAL DATA

SECTION QC. 48

SUB SECT. 01

PAGE 1 of 1

CONTRACT NO. 09/64926	DES. ENG. N.J. CLARKE	DATE: 21-12-92
SERIAL NO. 09/64926/01	TEST ENG. H.N. JOHNSON.	DATE: 7/1/93
CTC 016	CUSTOMER: WESTINGHOUSE AUBURNDALE	

Issued
Reissued
Jan 88

Revised

GENERATOR

Machine Contract No. 01161710A-1G
 Frame BDAX. 7-340ERH.
 Rating 57778 KVA
 P.F. 0.9
 Volts 13800 V
 Amps 2417 A
 Frequency 60 Hz
 Operating Chart No. HEP. 8586
 C.T. Ratio 3000 / 5A
 Nominal P.T. Secondary Volts 115 V

Excitation Data

PMG Frequency.. 480 Hz O/C Volts.. 265 V

	N/L Cold	F/L Hot	2:5 PU. S/C
Exciter Field Current	2A	5A	8.8 A

Exciter Field Resistance..... 5.34 Ω Cold... 7.44 Ω Hot

EXCITATION SYSTEM

AVR Contract Nos. 09/64926
 AVR System AUTO TRIP TO MANUAL
 Circuit Diagram B9620443
 SUAVR Fitted ~~YES~~/NO
 D.C. Supply Voltage 125 V
 MAVR Card Fitted YES/NO

	MAIN	STAND BY	NOTES
Control	✓	X	Frequency 480 Hz
Excitation Limiter	✓		Temp. Comp. required/ not required
P F Control	✓		
Hand Power	NO		
Auto Power	✓		
Excitation Monitor	✓		Temp. Comp. required/ not required
Volts Monitor	✓		

Auxiliary Rack
 Contract Test Specification.....
 Non-Standard Features



Generator Technical Data Sheet

APX-GTD.M

Customer:	Westinghouse for Auburndale					
Contract No:	01/61710A			No. Off: 1		
Machine Serial No's:	61710A - 1G					
Frame Size:	BDAX 7-340 ERH	Enclosure:	CACW			
1 RATING						
Output	57.778MVA at 35°C cooling water					
Power Factor	0.9					
Voltage	13800V					
Frequency	60Hz					
Speed	3600 rpm					
Specification	ANSI C50.13					
2 REACTANCES to a base of 57.778MVA (Calculated)						
Synchronous Reactance	167%					
Transient Reactance	13.5%					
Sub-Transient Reactance	9.7%					
Negative Sequence Reactance	11.9%					
3 CURVES						
			Issue			
Output/Coolant Temperature	H.E.P. 8585	1				
Reactive Capability Diagram	H.E.P. 8586	1				
Open Circuit/Short Circuit	H.E.P. 9769	1				
Efficiency	H.E.P. 6404	2				
Negative Sequence Capability	H.E.P. 1216	8				
Volts/Hertz	H.E.P. 4727	6				
4 RECOMMENDED ALARM AND TRIP SETTINGS						
		Alarm	Trip		Alarm	Trip
Stator Winding Temp	°C	150	160	Exciter Air Outlet Temp	°C	105
Bearing Metal Temp	°C	92	95	Peak to Peak Displacement	mm	0.1
Generator Air Outlet Temp	°C	105	-	*Shaft Relative Vibration	x 10 ⁻³ inches	4
						6

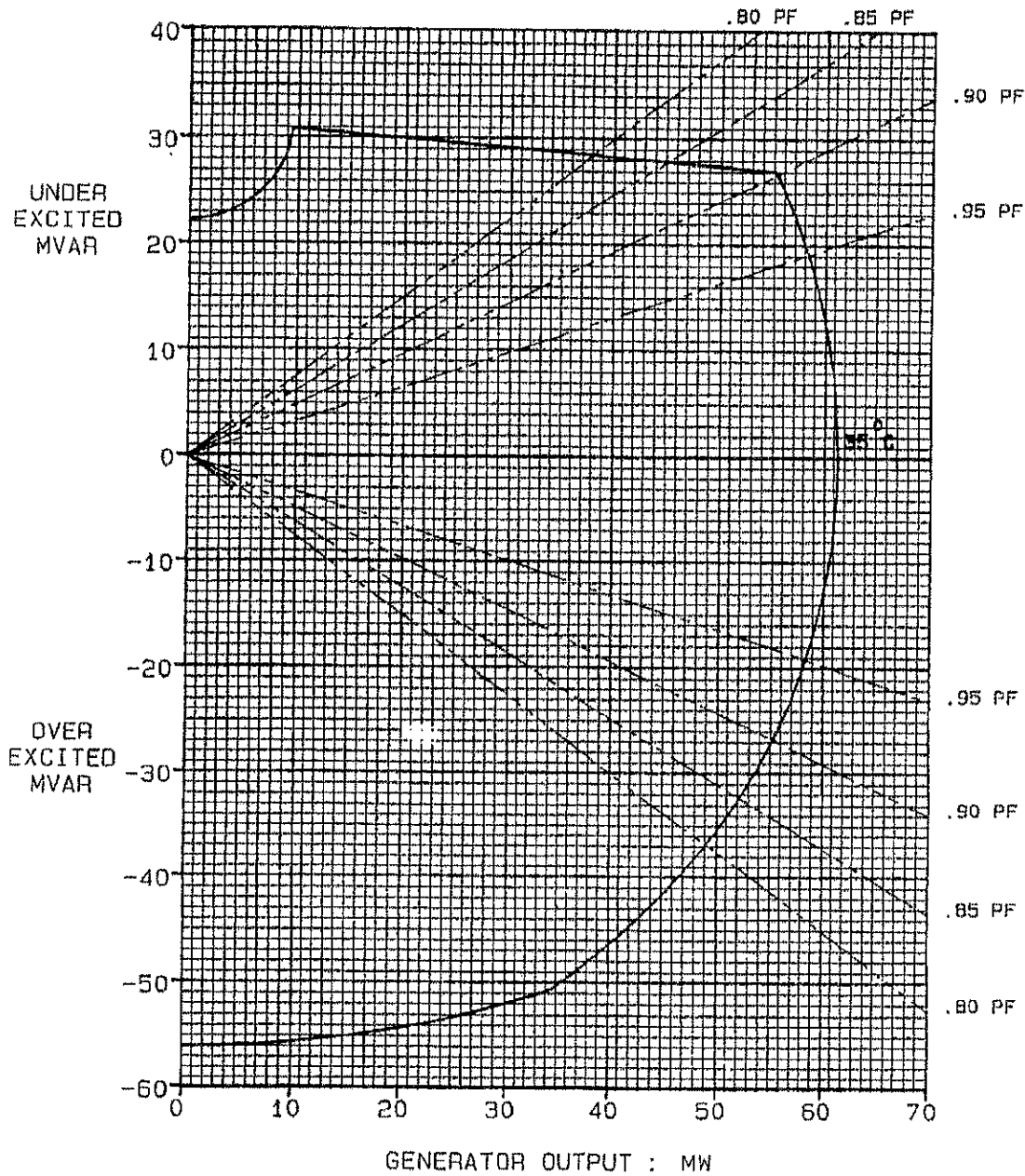
For oil pressure settings see oil system schematic drawing in Appendix B.

* If vibration is measured in terms of amplitude:
 Zero to peak amplitude (µm) = peak velocity (mm/sec) x 8550
 R.P.M.

5c WATER COOLED AIR COOLER

Type	Tube and fin - 4 sections
Coolant	Freshwater
Coolant Flow (total per machine)	20.76 litres/second
Coolant Resistance	0.2 Bar
Coolant Inlet Temperature °C	35.0
Coolant Output Temperature °C	47.0
Air Outlet Temperature (generator Inlet) °C	44.0
Design Codes (where applicable)	ASME VIII DIV I and TEMA 'C'
Design Static Pressure	6.9 Bar gauge
Hydraulic Test Pressure	10.95 Bar gauge
MATERIALS FOR WATER COOLED AIR COOLER	
Tubes	90/10 Cupro-nickel
Fins	Aluminium
Tubeplate	Carbon Steel (epoxy coated)
Water Boxes	Carbon Steel (epoxy coated)
Waterside Connections	Carbon Steel (epoxy coated)

GENERATOR CAPABILITY DIAGRAM



BDAX 7.340R
13.80KV, 3Ph, 60.Hz.

Up to 1000. meters ASL

Coolant: Fresh Water

IN ACCORDANCE WITH
ANSI C50.14.
Class B temperatures.
Curves show base outputs.
Peak outputs are 8% higher.

Coolant inlet temperatures are as shown on the diagram