



BRUSHLESS SYNCHRONOUS GENERATOR CONTROL DATA SHEET

CUSTOMER... NDTs/CNF/Chateaugay... Requisition. 9285-79-94354...
GENERATOR... Eng'g Notice. 139863... Serial No. 139863-1... Control Req.

RATING

Type... ATB... Poles... 4... KW... 19700... KVA... 21889... RPM... 1800... Volts 13800... Phases... 3...
Hz... 60... PF... 0.9... Amps... 916... Temperature rise... 80... °C by RTD/Resistance...
Overload... % for... Hours Driven by... Steam Turbine Through Gear...

EXCITER FIELD DATA

Field amps at rated load... 4.0... Resistance at 25°C... 22.27... Ohms
Rated Excitation Volts... 121.6... Ceiling Volts... 180...
Minimum Field amps †... 1.2... Minimum Field volts (cold)... 26.7...
Overload field amps... Overload Field volts (hot)...

REGULATOR DATA

Manufacturer... Basler...
Type... Auto/Auto SB9A with reactive droop, Excitation Limiter and UFOV...
Input Control Power from Shaft Mounted Permanent Magnet Generator...

GENERATOR STATOR DATA

Stator amps at rated load... 916... Stator amps at overload...
Suggested temperature settings for protection equipment using embedded stator RTD's **
alarm... 125... °C, trip... 130... °C

SPECIAL DATA *

X_d ... 1.56... X'_d ... 0.29... X''_d (sat)... 0.26... X''_d ... 0.20... X''_d (sat)... 0.18...
 X_q ... 0.87... X'_q ... 0.18... X''_q (sat)... 0.16... X_0 ... 0.08... X_2 ... 0.19... SCR... 0.70...
 $T'd_0$... 7.4... sec $T'd$... 0.93... sec $T''d$... 0.027... sec Tao ... 0.24... sec (25°C)
Open and Short Circuit Saturation Characteristics... 513HA141...
Rated Voltage "V" Curves... 513HA142...
Rated Voltage Reactive Capability Diagram... 513HA143...

Notes: † Minimum excitation volts is that required to give 80% rated AC volts at no load rated speed with cold field unless some other requirement is stated.
* All reactances and time constants are for unsaturated conditions unless otherwise noted.

** Based on 40°C ambient cooling air and temperature rise by RTD at full or S.F. load whichever is greater

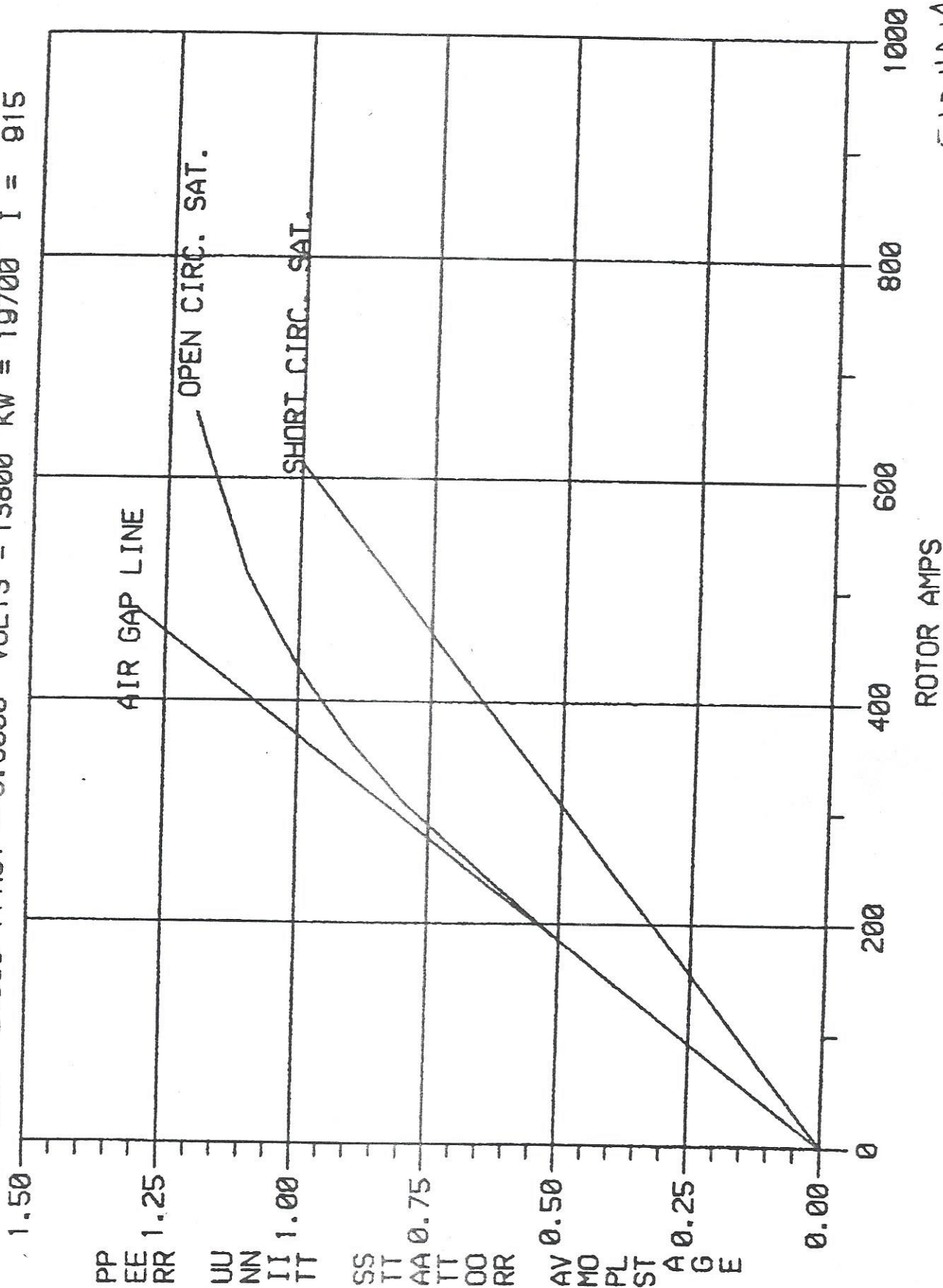
Prepared by... W.J. Jackson/D. Derr...

APP 4647 1/78

Date... 91.03.22...
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CALCULATED OPEN AND SHORT CIRCUIT SATURATION CURVES

NDTS/CNF/CHATEAUGAY 9285-94354 EN139863
 KVA = 21889 PFACT = 0.9000 VOLTS = 13800 KW = 19700 I = 915



RATED VOLTAGE "V" CURVES

NDTS/CNF/CHATEAUGAY

9285-94354

EN139863

KVA = 21889 PFACT = 0.9000

VOLTS = 13800 KW = 19700 I = 915

1.50

1.25

1.00

PER UNIT KVA

0.75

0.50

0.25

0.00

1.0 FL

.75 FL

.50 FL

.25 FL

1. PF.

No Load, Zero PF.

.8

.9

.9

0

200

400

600

800

1000

1200

1400

1600

ROTOR AMPS

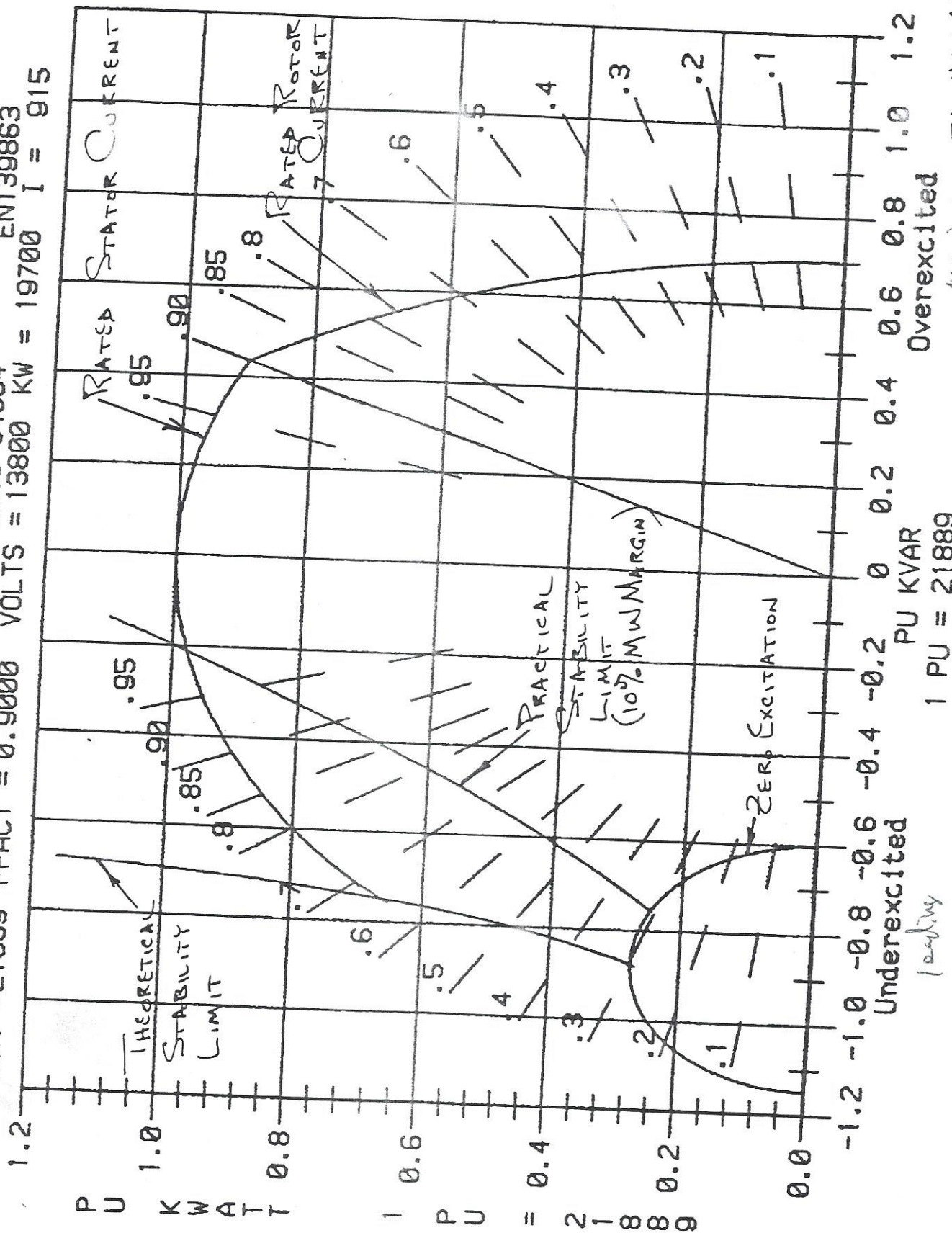
RATED VOLTAGE REACTIVE CAPABILITY DIAGRAM

NDTS/CNF/CHATEAUGAY

KVA = 21889 PF_{ACT} = 0.9000 VOLTS = 13800 KW = 19700 I = 915

EN139863

I = 915



1 PU = 21889

Overexcited

1.2