

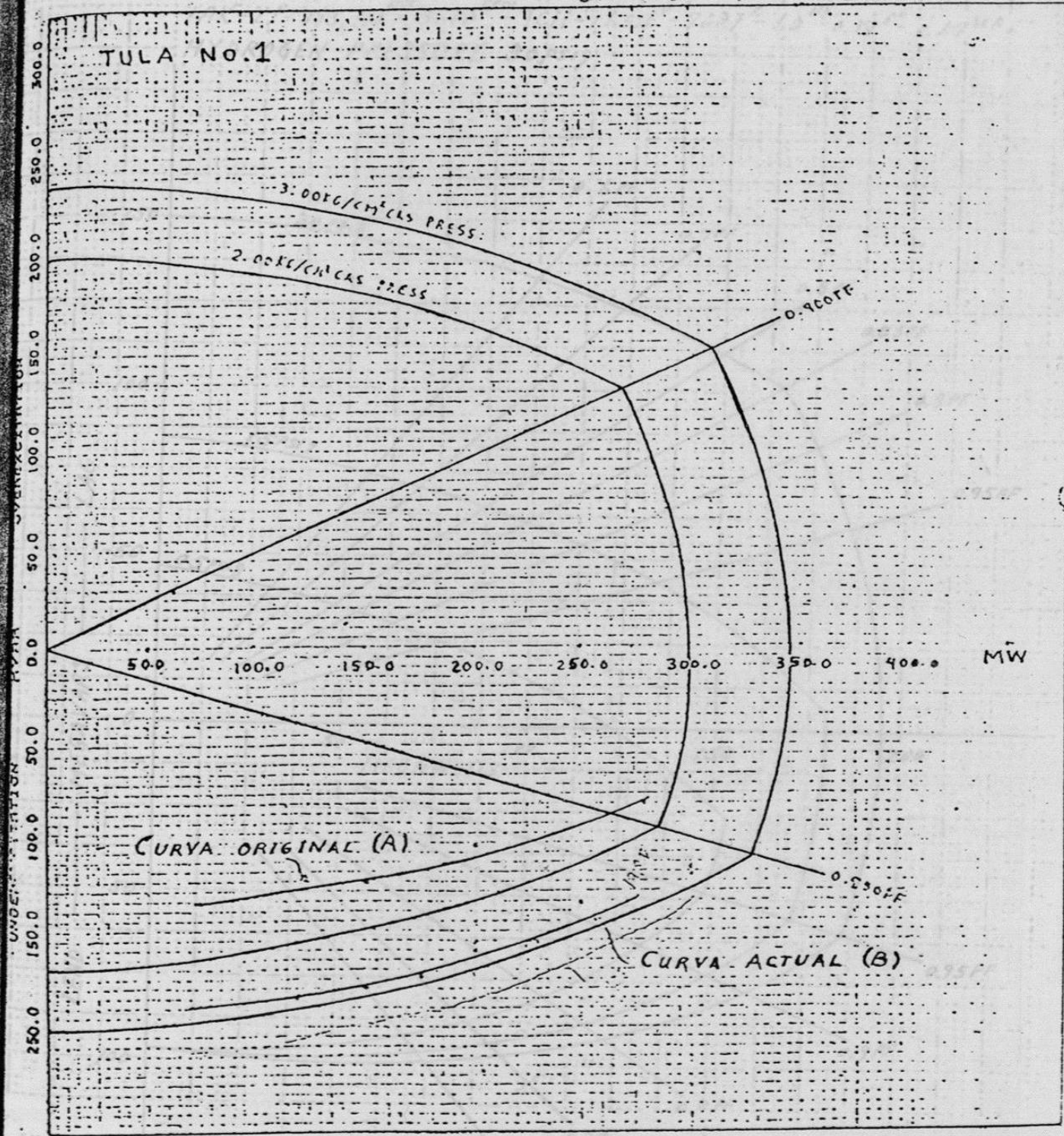
ANEXOS

346000KV, 310KW, 20.00KV, 60HZ, 3500RPM  
0.300PF, REVERC, 3.00KG/CM<sup>2</sup> GAS PRESSURE

NO 493031

# INNER-COOLED TURBINE GENERATOR

OPERATING CURVES



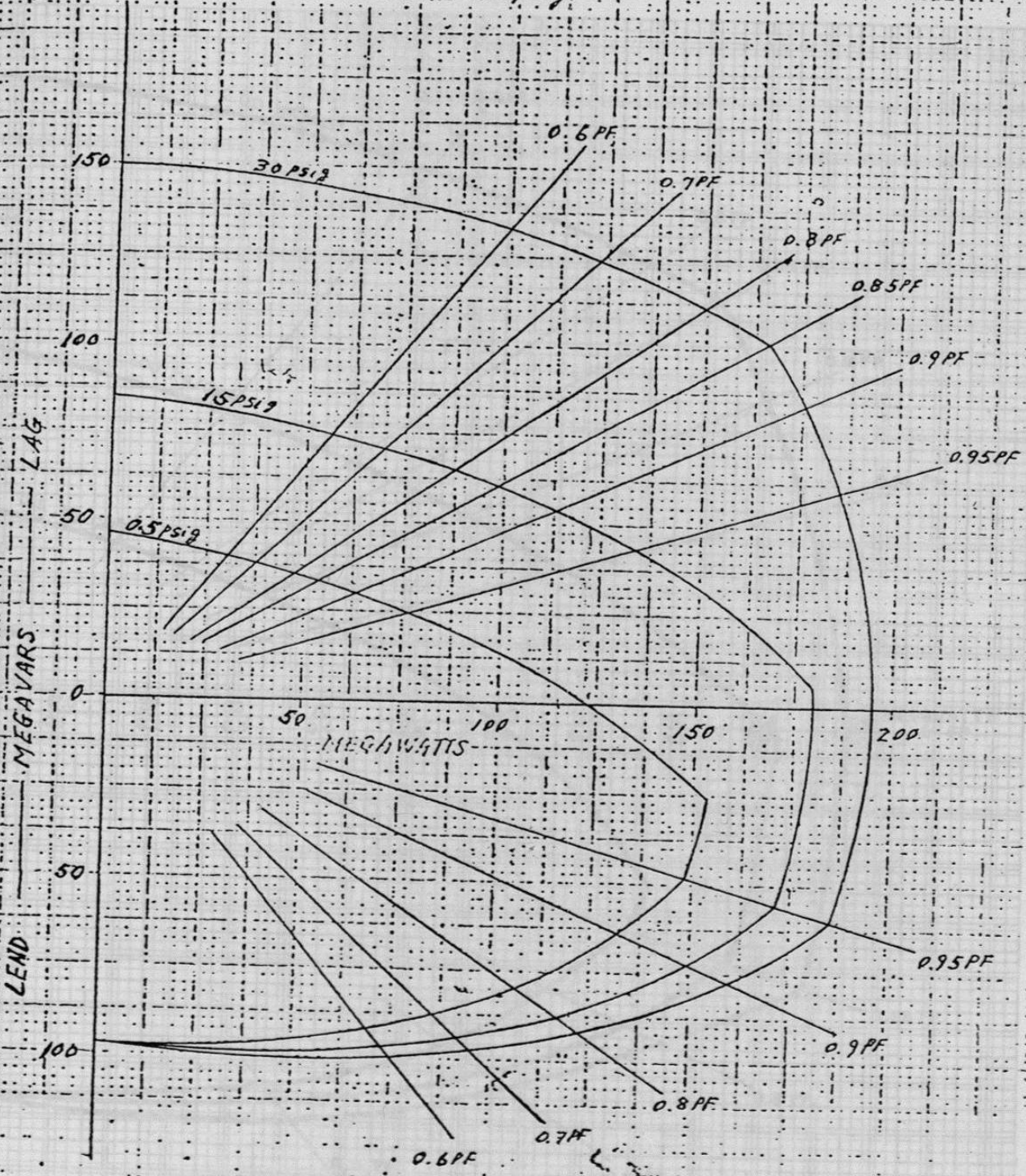
YKC 493031

UNIDAD # 1

ALTAMIRA U-1-2

### ESTIMATED REACTIVE CAPABILITY CURVES

TAK-2P-195,000<sup>RPM</sup> - 3500<sup>RPM</sup> - ICH-71,000<sup>RPM</sup> - 4000<sup>RPM</sup> - 30<sup>1/2</sup> IN<sup>2</sup> - 1.1<sup>5</sup> SCR  
HYDROGEN PRESSURE 30PSI<sub>g</sub>



TS-31501

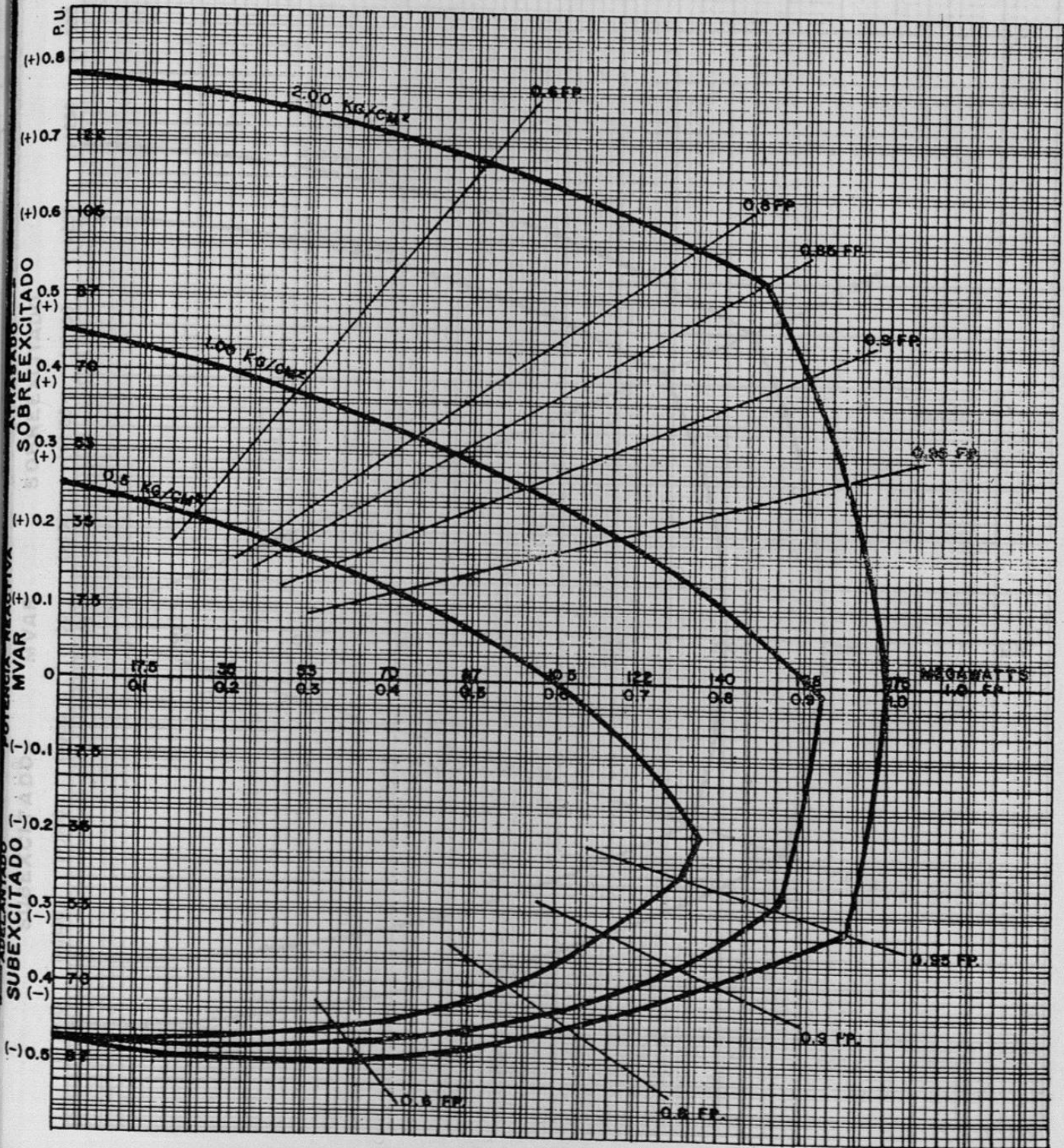


# CURVA DE CAPABILIDAD DE TURBO GENERADORES U-1 y U-2

## CENTRAL SALAMANCA

346000 KVA, 311400 KW, 20 KV, 50 HZ, 3600 RPM  
 0.8 FP, 375VEXC., 3.00 KG/CM<sup>2</sup>

INNER-COOLED TURBINE GENERATOR CAPABILITY CURVE

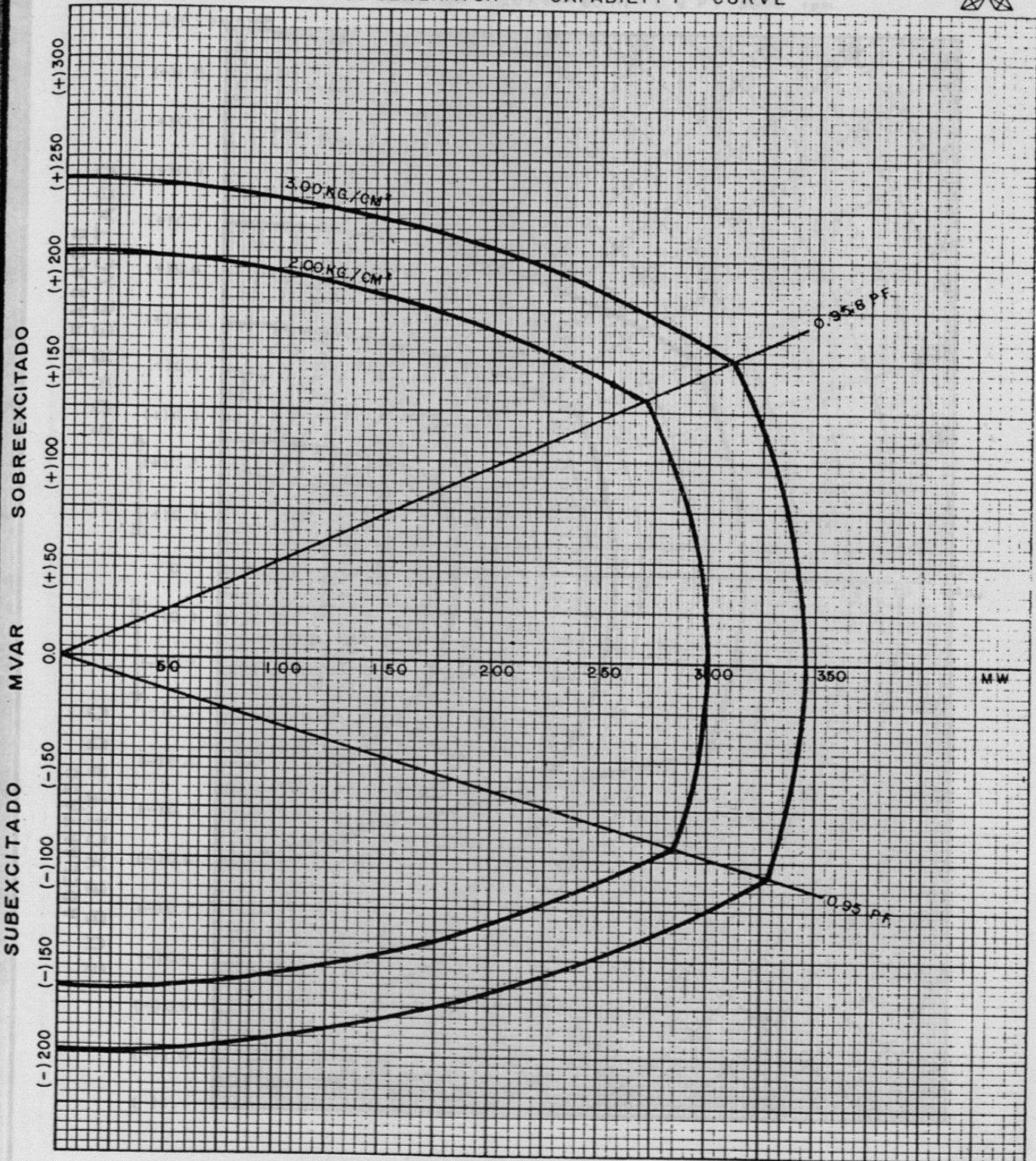


# CURVA DE CAPABILIDAD DE TURBO GENERADOR U-3

## CENTRAL SALAMANCA

346000 KVA, 311400 KW, 20 KV, 60HZ, 3600 RPM.  
 0.9 F.P., 375V.EXC., 3.00 KG/CM<sup>2</sup> Hz

INNER-COOLED TURBINE GENERATOR CAPABILITY CURVE

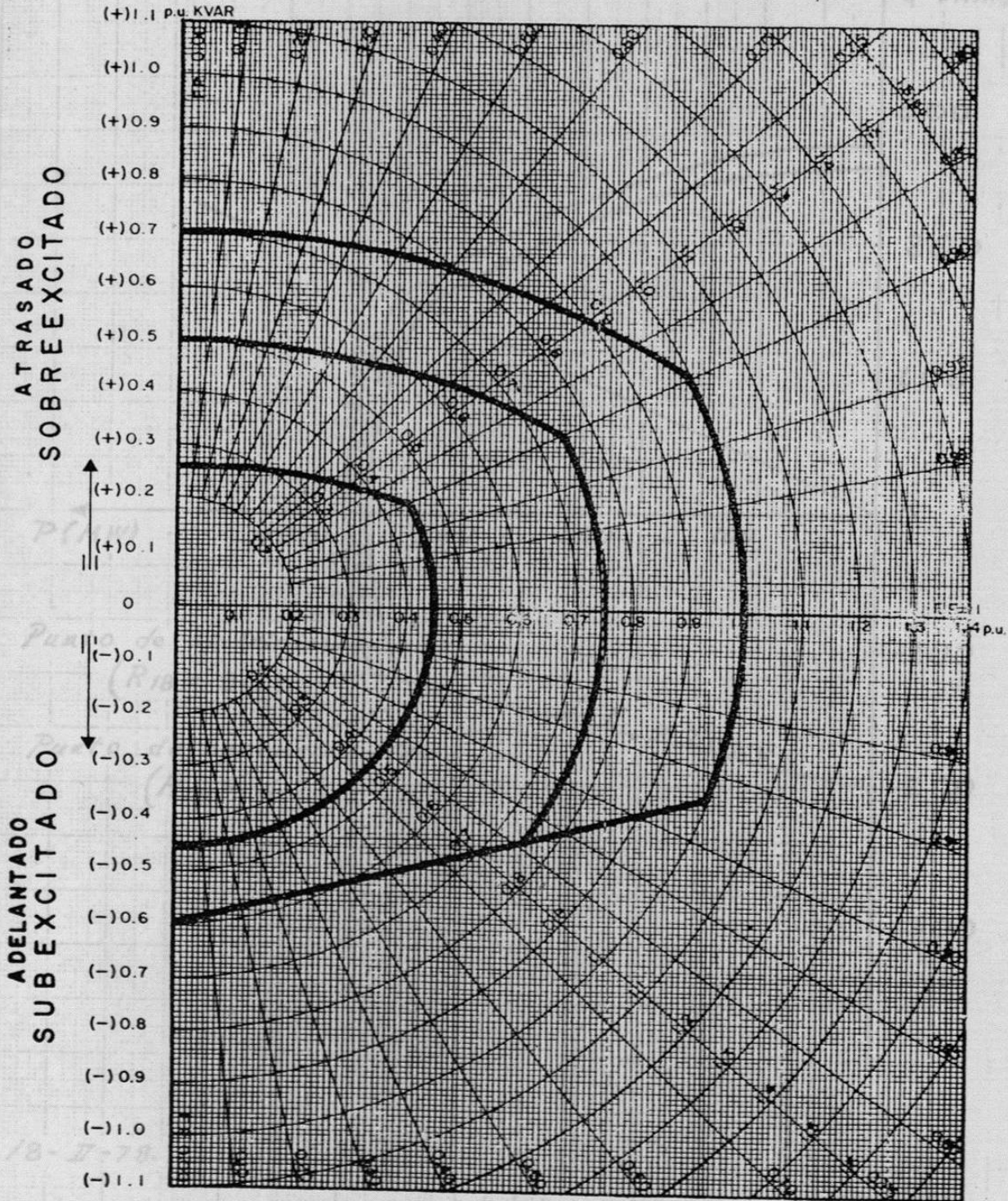




# CURVA DE CAPABILIDAD DE TURBO GENERADOR U-4

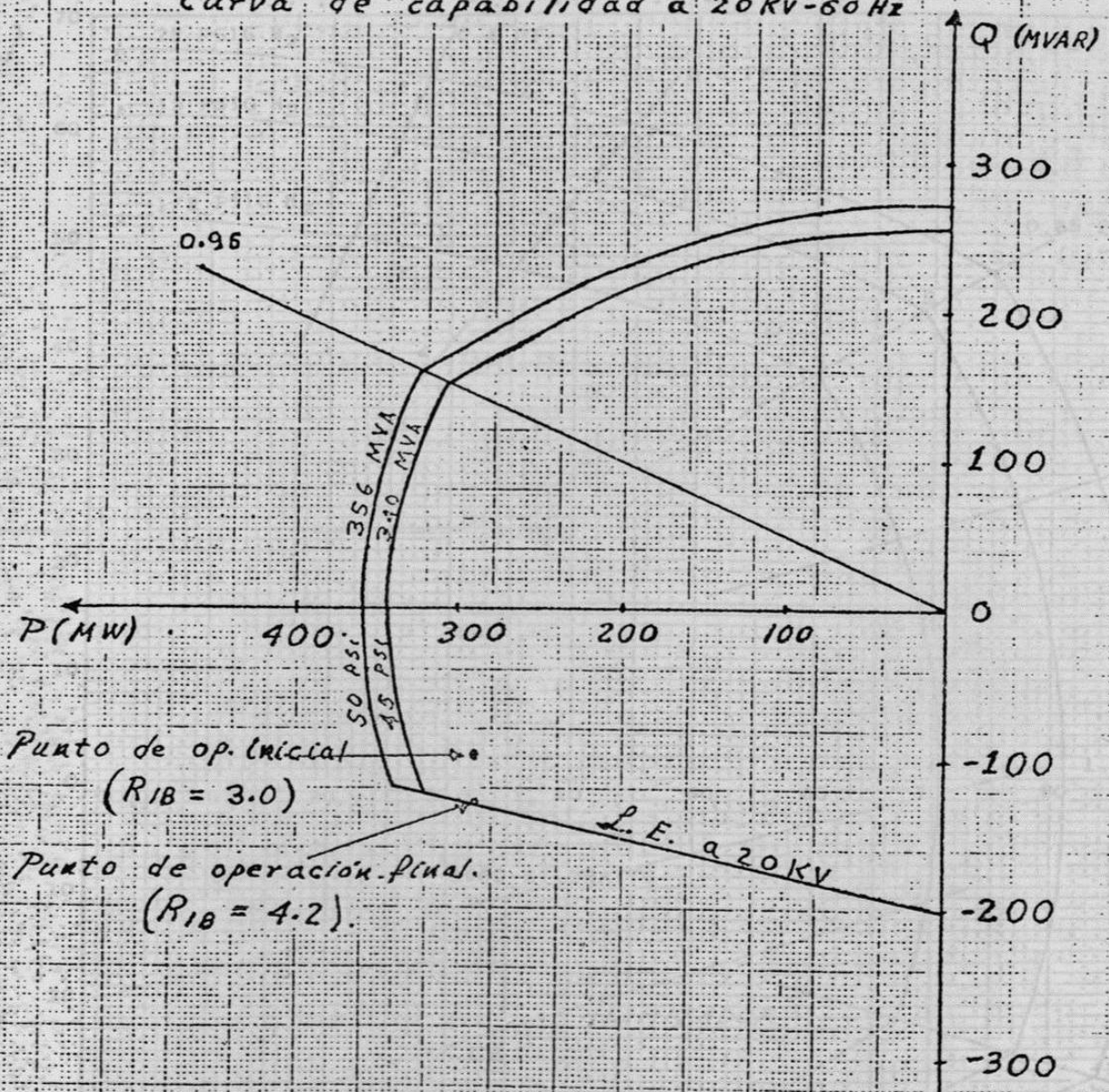
CENTRAL SALAMANCA

VARIACION DE LA POTENCIA EN FUNCION DE F.P.  
344.5 MW - 20KV - 60 Hz - 0.9 PF 3600 rpm



ESTIMATED REACTIVE CAPABILITY CURVES

VALLE DE MEXICO U # 4  
 Curva de capacidad a 20KV-60Hz



18-II-78.

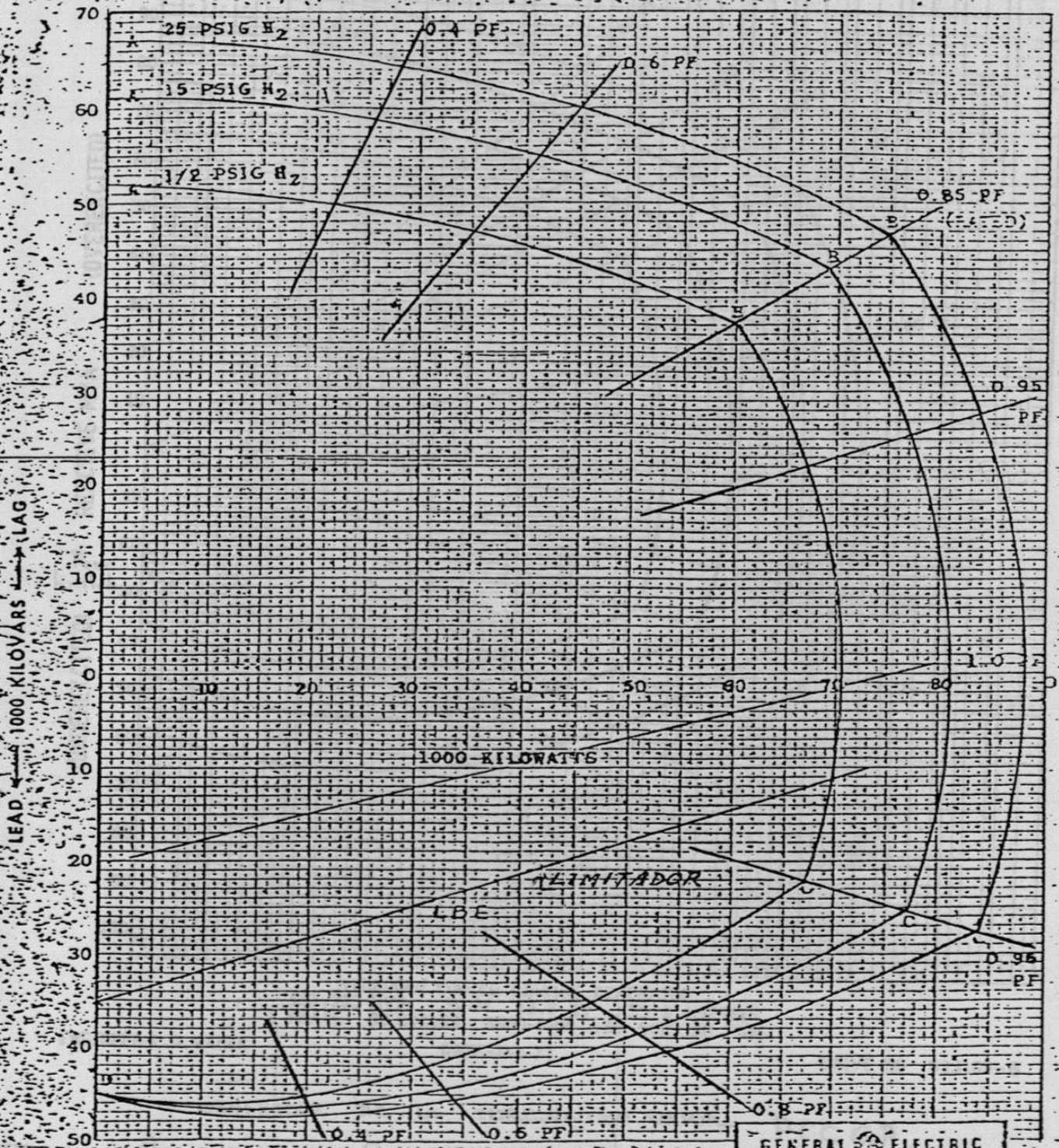
DESIGN BY: C-32  
 DESIGN NO. C-31951



# ESTIMATED REACTIVE CAPABILITY CURVES

FOR STEAM TURBINE-GENERATOR UNIT P. MONTERREY U'S 1, 2, 3

415-2 POLE-INDUCTION, 3500 RPM, 14100 VOLTS, 0.85 PF  
 30 PSIG H<sub>2</sub>, 3538 ARMATURE AMPS, 250 VOLTS EXCITATION



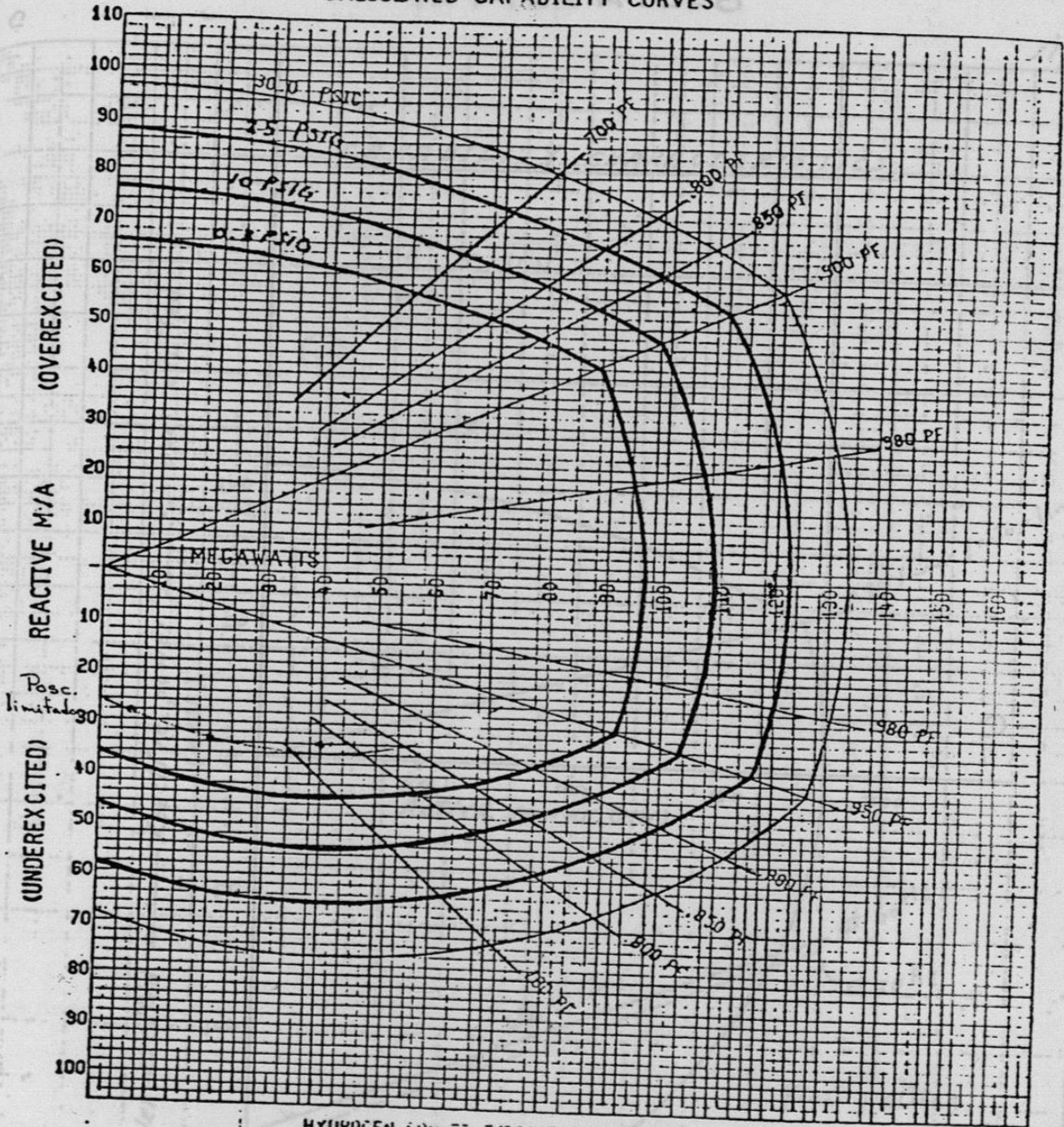
CURVE AB LIMITED BY FIELD HEATING  
 CURVE BC LIMITED BY ARMATURE HEATING  
 CURVE CD LIMITED BY ARMATURE CORE END HEATING

GENERAL ELECTRIC  
 CURVE NO. C219S1-2  
 DATE 2/29/60  
 DRAWN BY CRC  
 DESIGN NO. C219S1



WESTINGHOUSE ELECTRIC CORPORATION  
CALCULATED CAPABILITY CURVES

CURVE NO 633168-B



HYDROGEN COOLED TURBINE GENERATOR  
133,333 MVA .90 PF 13.8 KV 5578 AMPERES  
3 PHASE 60 CYCLES 3600 RPM .58 SCR 30 PSIG

ENGINEER-L.D.VANEK

DATE-7-1-71

CURVE NO 633168-B

GENERADOR DE LA TURBINA DE VAPOR.

PCCGP.

PLANTA: CICLO COMBINADO, GOMEZ PALACIO U-3

CURVA DE CAPACIDAD Y POSC. REAL DEL LIMITADOR DE BAJA EXCITACION.

Curve 633168-B

Capability Curve

FIG. 1

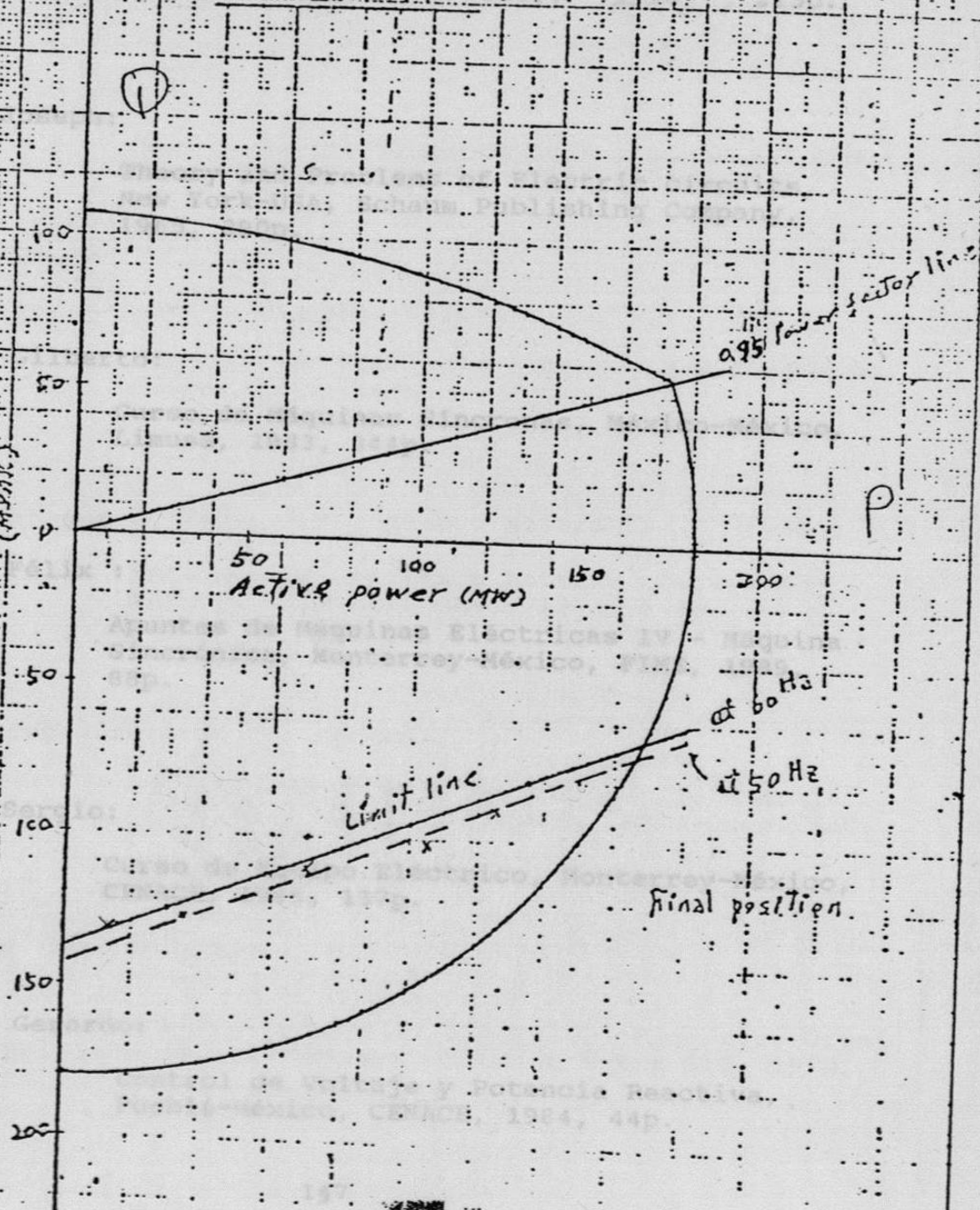
# INFIERNILLO

11/27

## CAPABILITY CHARACTERISTICS

4.5 UNIT

Under excited  
Reactive power (MVAR)  
over excited



P

0.95 power factor line

Limit line

at 60 Hz  
at 50 Hz

final position



## BIBLIOGRAFIA

Concordia, Charles :

Synchronous Machines Theory and Performance,  
New York-USA, John Wiley, 1951 , 215p.

Edminister, Joseph:

Theory and Problems of Electric circuits,  
New York-USA, Schaum Publishing Company,  
1965, 290p.

Enríquez H., Gilberto:

Curso de Máquinas Síncronas, México-México,  
Limusa, 1983, 344p.

González E., Félix :

Apuntes de Máquinas Eléctricas IV - Máquina  
Sincrónica, Monterrey-México, FIME, 1989,  
88p.

Guerrero A., Sergio:

Curso de Equipo Eléctrico, Monterrey-México,  
CENACE, 1986, 137p.

Hernández G., Gerardo:

Control de Voltaje y Potencia Reactiva,  
Puebla-México, CENACE, 1984, 44p.

Kingsley, Charles; Kusko, Alexander y Fitzgerald, Alexander:

Teoría y Análisis de las Máquinas Eléctricas,  
México, Editora Mexicana, 1984, 590p.

Langsdorf, Alexander:

Teoría de las Máquinas de corriente Alterna,  
México-México, McGraw-Hill, 1967, 702p.

Liwschitz-Garik, Michael y Whipple, Clyde:

Máquinas de Corriente Alterna, México-México,  
CELSA, 1973, 768p.

Ortega P., Juan María; Ramírez V., José y Beltrán V., Lorenzo:

Máquinas de Corriente Alterna, Barcelona-  
España, Ediciones CEAC, 1973, 690p.

Ramírez V., José y Beltrán V., Lorenzo:

Máquinas Motrices y Generadores de Energía  
Eléctrica, Barcelona-España, Ediciones CEAC,  
1974, 832p.

Smith, John:

Response Analysis of A.C. Electrical Machines, Great  
Britain-England, Research Studies Press Ltd, 1990,  
240p.



