

PREDICTED GENERATOR PERFORMANCE VALUES

4P8.1-3000								
KW	KVA	PF	TAMB	TRISE	POLES	RPM	SLOTS	HZ
1470	2100	0.7	50 °C	70 °C	4	1500	60	50
VOLTS-PH	VOLTS-LL	AMPS-PH	AMPS-LN	BASE Z	025	026	PHASE/CONNECTION	
346	600	2020.7	2020.7	0.171	420882IA	409190obia	3 PHASE WYE	

0.6667 PER UNIT PITCH

REACTANCES %		SAT	UNSAT	HI POT VALUES	VOLTS	
SYNCHRONOUS				STATOR	2200	
DIRECT AXIS	Xd	151.7	176.9	ROTOR	1500	
QUADRATURE AXIS	Xq	71.0	82.8	EXCITER FIELD	1500	
				EXCITER ARM	1500	
TRANSIENT						
DIRECT AXIS	X'd	15.8	18.0			
QUADRATURE AXIS	X'q	71.0	82.8	MOTOR STARTING	0 P.F.	
SUBTRANSIENT					INRUSH	%VOLT
DIRECT AXIS	X''d	10.9	12.8	SKVA AT GENERATOR	SKVA	DIP
QUADRATURE AXIS	X''q	12.8	15.1	TERMINALS	1476.2	10
					2344.5	15
NEGATIVE SEQUENCE	X2	11.9	14.0		3321.4	20
ZERO SEQUENCE	X0	1.6	1.9		4428.5	25
LEAKAGE REACTANCE	XL	7.277	8.269		5693.7	30
RESISTANCES @ 25C -		RDCa	0.00094			
		RDCf	1.1452			

NL-FL VOLTAGE DIP AT RATED P.F. = 11.1%
 USED XID = 15.8% FOR DIP CALCULATION.

TIME CONSTANTS (SECONDS)		
D-AXIS 3-PH S.C. TRANSIENT	T'd3	0.297
D-AXIS O.C. TRANSIENT	T'd0	2.852
D-AXIS 3-PH S.C. SUB-TRANS	T''d3	0.020
D-AXIS O.C. SUB-TRANS	T''d0	0.029
ARM CKT (ASYMMETRICAL S.C.)	TA	0.051

TRANSIENT TORQUES			KW				HEAT REJ	
	TORQUE	MAX TORQUE		@1.0 P.F.	@0.7P.F.	1.0 P.F. %EFF	0.7P.F. %EFF	BTU/HR
CONDITION	P.U.	FT-LBS						
3-PH S.C.	9.2	90369	FL	2100.0	1470.0	97.8	96.5	182414
L-L S.C.	11.4	112400	3/4 L	1575.0	1102.5	97.8	96.5	137038
			1/2 L	1050.0	735.0	97.5	96.0	103488
			1/4 L	525.0	367.5	95.9	93.9	81517

EFFICIENCY CALCULATED AT 85.0C

SHORT CIRCUIT CURRENT	INSTANTANEOUS SYMMETRICAL FAULT CURRENT		INSTANTANEOUS ASYMMETRICAL FAULT CURRENT	
	P.U.	AMPS	P.U.	AMPS
3-PH	9.18	18541	15.89	32115
L-L	7.61	15374	13.18	26630
L-N	12.30	24864	21.31	43067

OVERSPEED: 1875.0 RPM FOR 1 MINUTE. MINIMUM 3 PHASE MOTORING POWER: 147.00 KW

	FULL LOAD	NO LOAD
SYNCH COEFF	4526KW/RAD	2537KW/RAD

DISPLACEMENT ANGLE: 20.0 DEGREES

BY: _____

THIS DATA CAN BE TRANSFERRED TO CUSTOMER DATA SHEETS WHEN APPLICABLE

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VENTING: SEV

TIME CONSTANTS (SECONDS)			
D-AXIS L-N	S.C. TRANSIENT	T'd2	0.418
D-AXIS L-L	S.C. TRANSIENT	T'd1	0.439
O-AXIS 3-PH	S.C. TRANSIENT	T'q3	0.570
O-AXIS	O.C. TRANSIENT	T'q0	0.570
D-AXIS L-N	S.C. SUB-TRANS	T''d2	0.023
D-AXIS L-L	S.C. SUB-TRANS	T''d1	0.024
O-AXIS 3-PH	S.C. SUB-TRANS	T''q3	0.002
O-AXIS	O.C. SUB-TRANS	T''q0	0.014

MISCELLANEOUS CALCULATIONS			
3-PH CAPACITANCE-GRD	0.190	MICRO-FARAD	
BIL	3889	VOLTS	
SATURATION FACTOR	1.03		
H=0.000247 * WK**2		KW-SEC/KVA	
INERTIA WK**2		LB-FT**2	Kg-m**2
X/R RATIO	15.9		
SHORT CIRCUIT RATIO	0.658		

RESISTANCES	OHMS	PERCENT
ZERO SEQUENCE R0	0.0028	1.643
POSITIVE SEQUENCE R1	0.0012	0.685

SEGREGATED LOSSES (KW)			
KW	1470.0	2100.0	NO LOAD
F&W	11.0	11.0	11.0
CORE	7.3	7.3	7.3
I**2R A	15.6	15.6	0.0
STRAY	4.7	4.7	0.0
I**2R F	13.0	7.5	2.2
EXCITER	1.9	1.1	0.3
TOTAL	53.4	47.1	20.8

TRANSIENT TORQUES		
CONDITION	TORQUE * P.U.	MAX TORQUE FT-LBS
3-PH OUT OF PH		
SYNCH W/INF BUS	23.8	234785.1
1-PH OUT OF PH		
SYNCH W/INF BUS	24.6	242188.6

* NOTE: PU torque based on rated kVA, not rated kw.

VOLTS	150.2	VOLTS	0.00
AMPS	96.0	AMPS	0.00

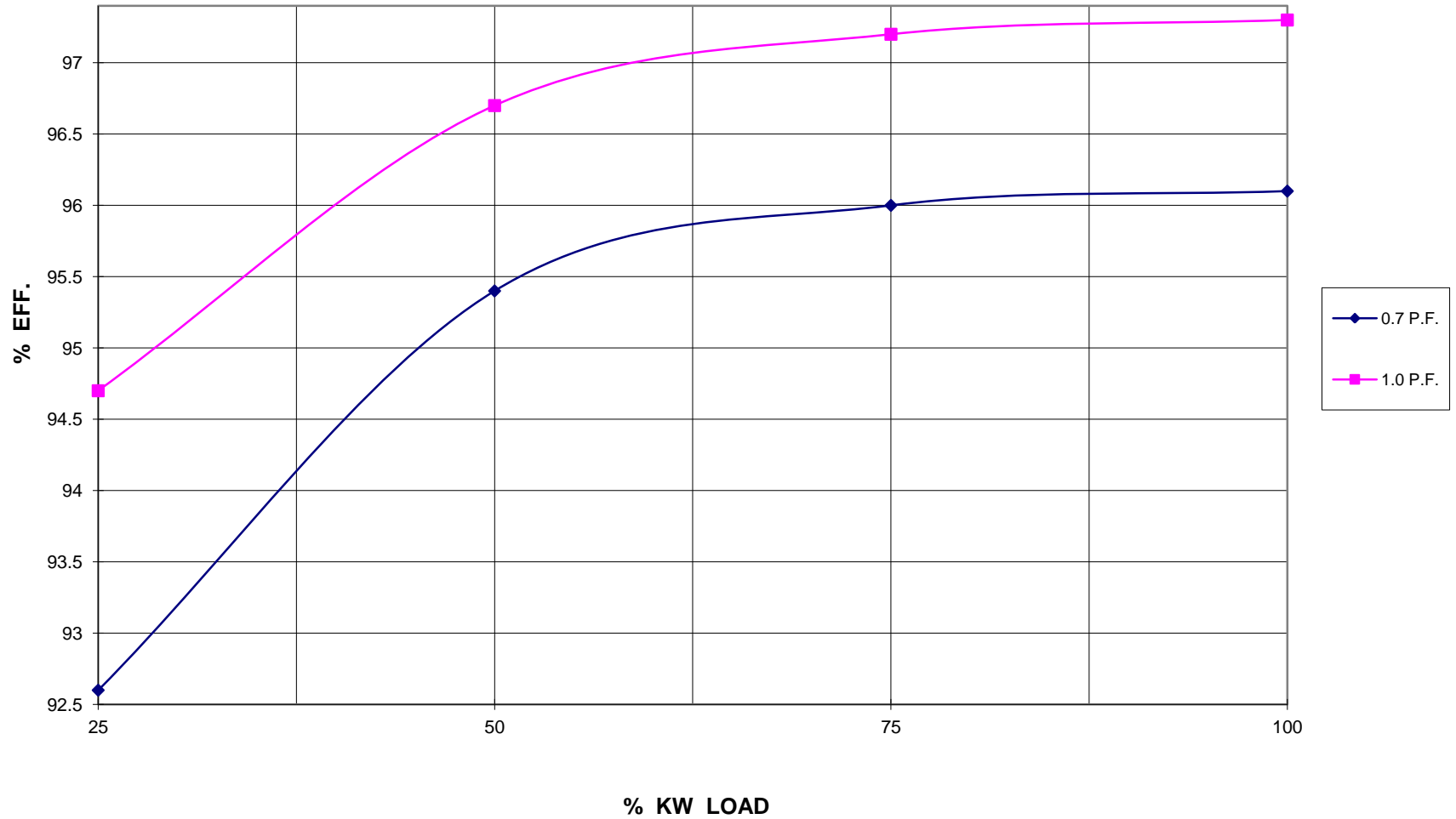
IF A NEUTRAL GROUNDING REACTOR (XR) IS REQUIRED TO LIMIT THE L-N CURRENT TO THE 3-PH FAULT CURRENT, THEN THE PROPER VALUE OF REACTANCE IS 0.00 OHMS (XR).

10 SECOND CURRENT RATING = 16121 AMPS
60 SECOND CURRENT RATING = 3051 AMPS

**PROPRIETARY DATA FOR ENGINEERING
TECHNICAL INFORMATION**

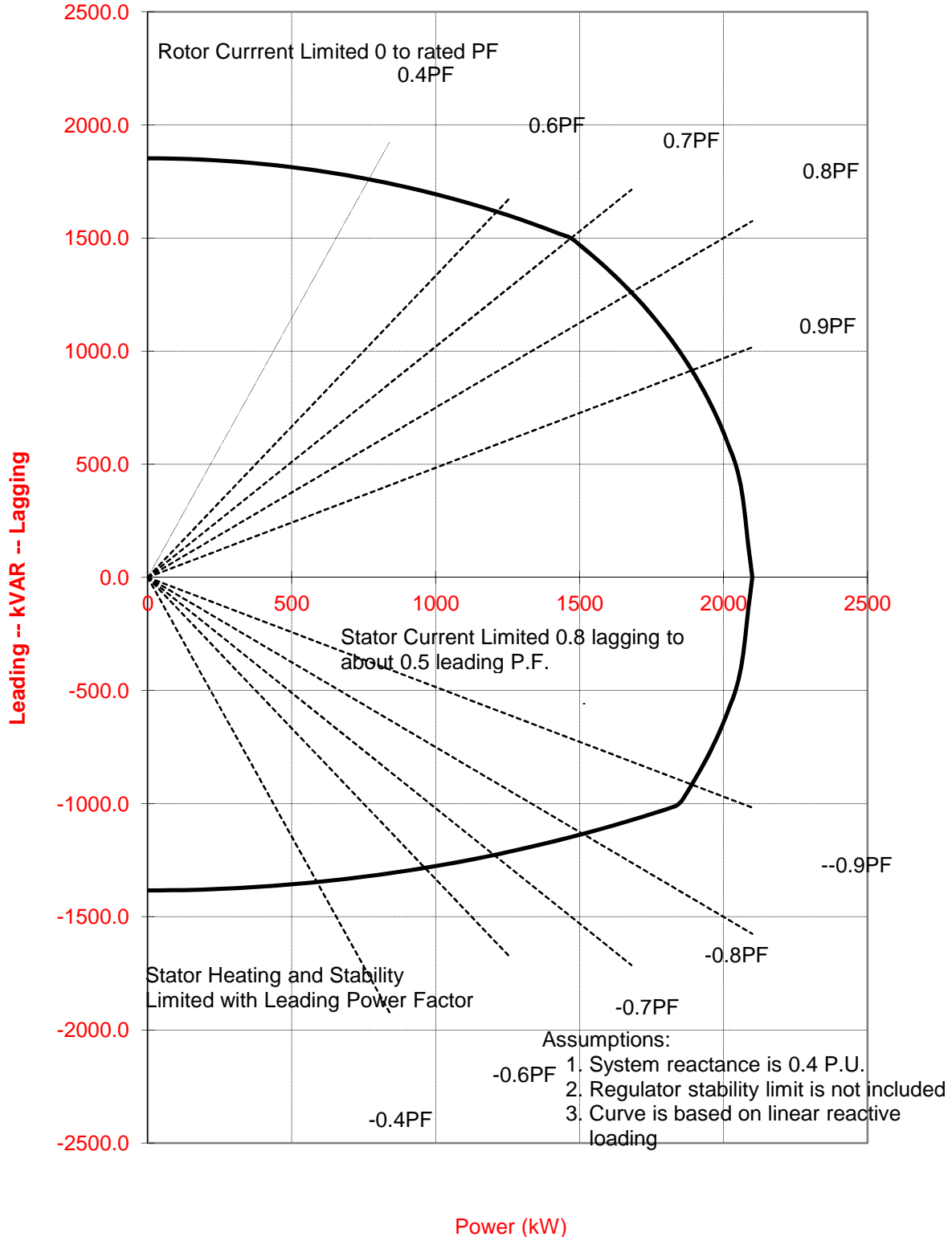
EFFICIENCY CURVES

4P8.1-3000 1470KW 2100KVA 600V 50HZ



REACTIVE CAPABILITY CURVE

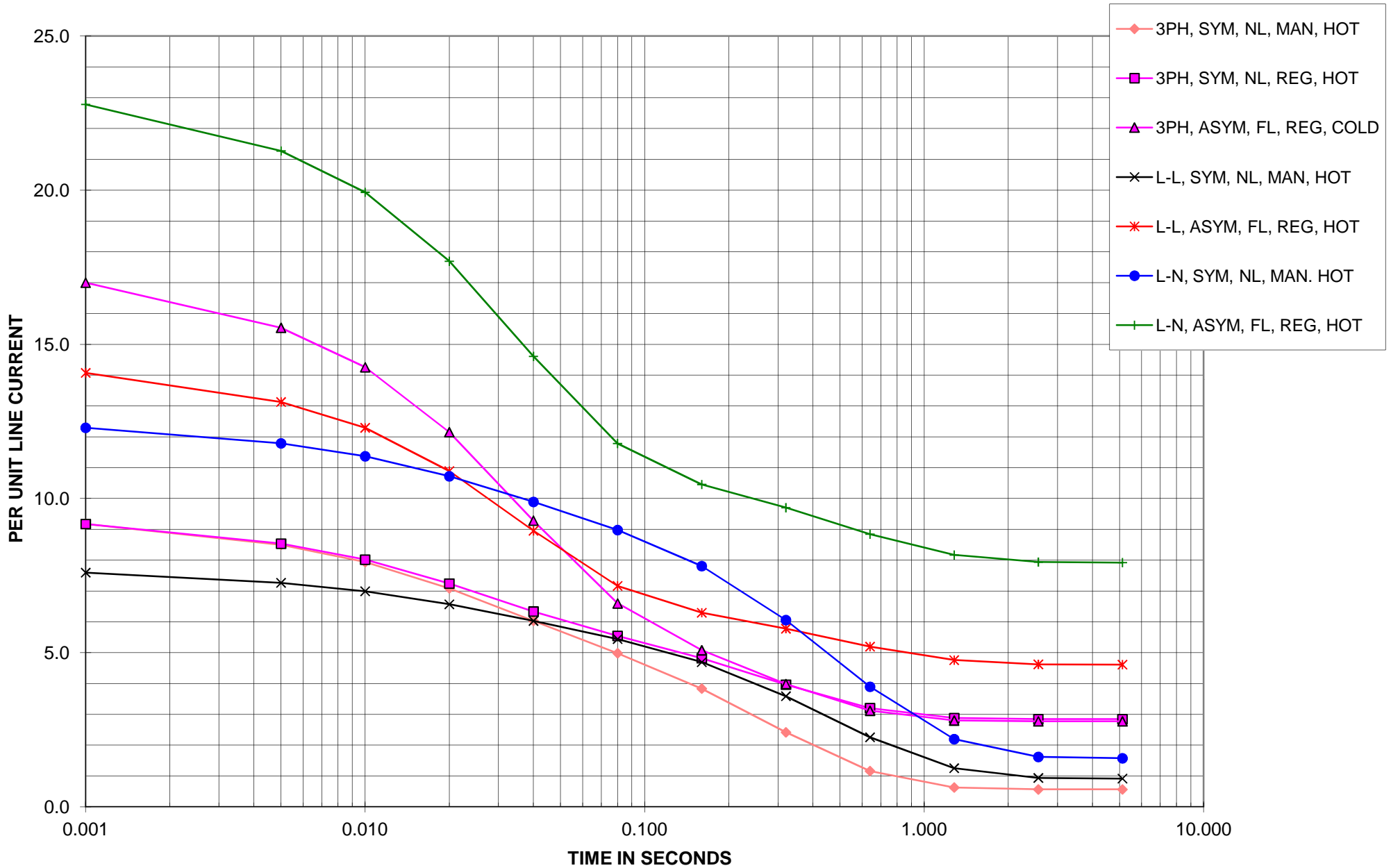
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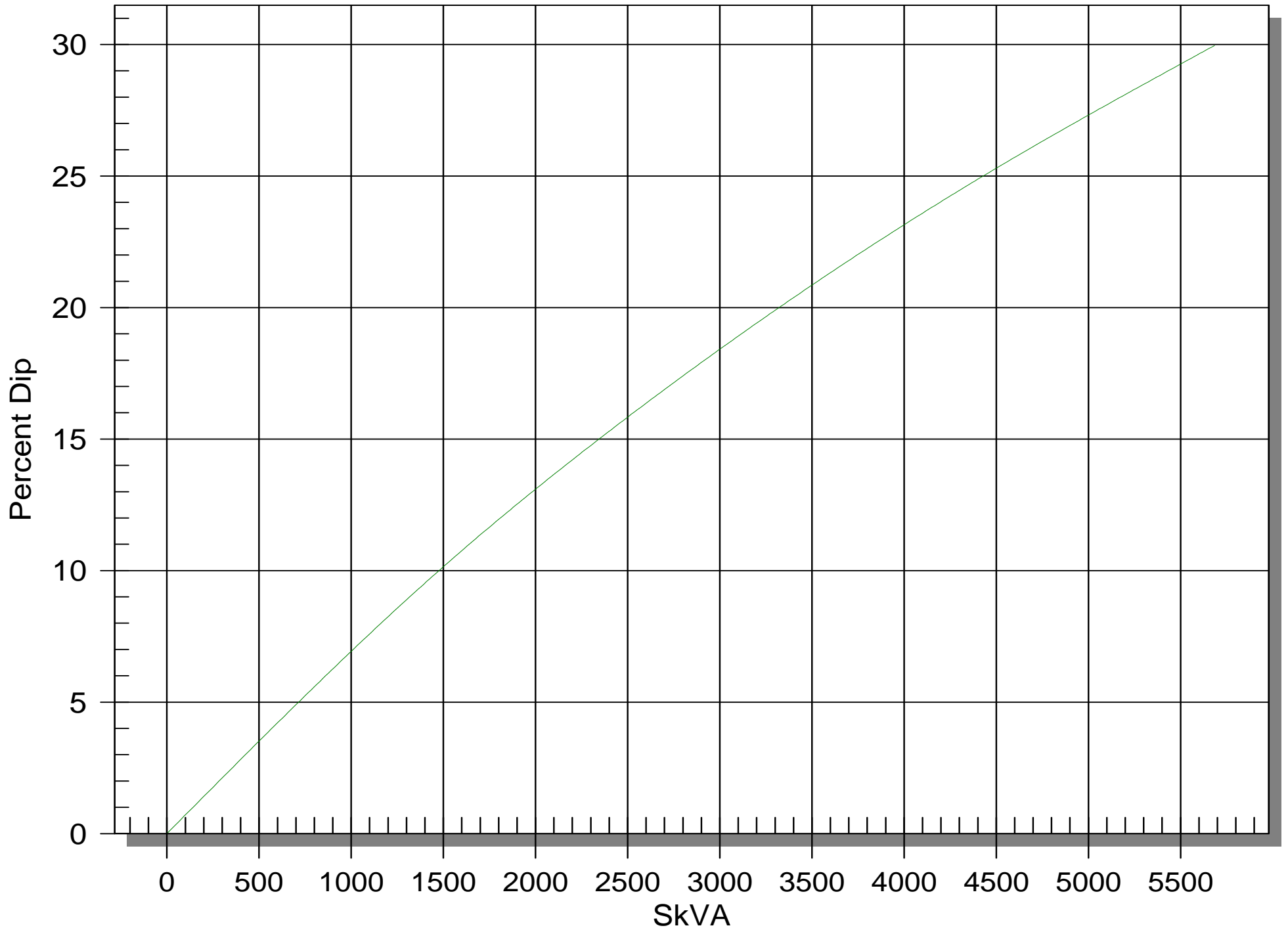
SHORT CIRCUIT DECREMENT CURVES

4P8.1-3000 1470KW 2100KVA 600V 50HZ



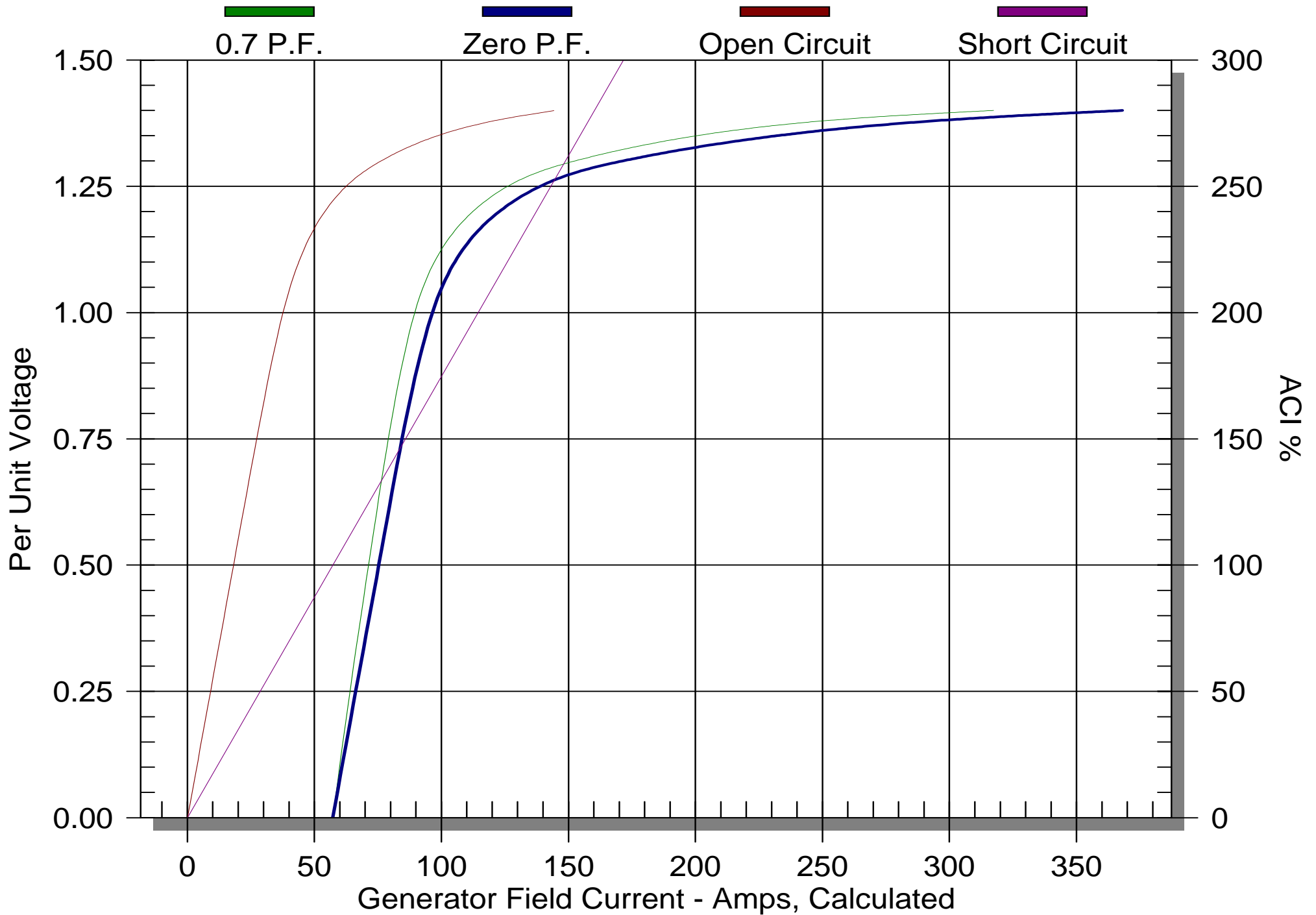
Motor Starting Voltage Dip Curve

600 Volts, 2100 KVA, 1470.kW, BJ4P8.1*30*600V*50HZ*IAG*2/3



Saturation Curve

600 Volts, 2100 KVA, 1470.kW, BJ4P8.1*30*600V*50HZ*IAG*2/3



V Curves

600 Volts, 2100 KVA, 1470.kW, BJ4P8.1*30*600V*50HZ*IAG*2/3

