ROTATING MACHINERY (MOTORS AND GENERATORS) CAPACITANCE AND POWER FACTOR TESTS

Your Company Logo

CUSTOMER SAMPLE FORMS COMPANY PAGE

ADDRESS JOB # FORMS-ALL

USER SAMPLE FORMS COMPANY

OWNER REPRESENTATIVE TELEPHONE

DATE 5/7/2008 TEMPERATURE °F HUMIDITY % EQPT. LOCATION

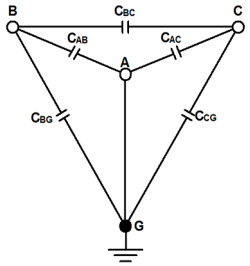
SUBSTATION ROTATING MACHINERY POSITION GENERAL

SERIAL NO.		MACHINE		EXCITER MFR	
SPECIAL ID		TYPE		EXCITER S/N	
CIRCUIT		INS TYPE		EXCITER DESIGN	
MFR		COOLING		EXCITER VOLTS	
MFR YEAR		INS NAME		EXCITER AMPS	
REASON		kVA 1		EXCITER kW	
WEATHER		kVA 2		EXCITER DRWG	
TANK TEMP	°C	hp/kw		EXCITER rpm	
YR RWND		SPEED/rpm		EXCITER TYPE	
YR SERVICE		PWR FACTOR		RES S/N	
STATOR kV		CREW SIZE		SEMI-CON COAT	
FREQ Hz		STA AMP 1		VOLT GRADING APPLIED	
TYPE		STA AMP 2		GLOBAL VPI	
VOLTS		POLES		H2 PRESS	
AMPS				H2 PRESS	
CONFIGURATION					

TEST NO	PHASE TESTED	TEST MODE	TEST CONNECTIONS				TEST kV	CAPACITANCE C (PF)	%POWER FACTOR			% TIP UP	RIV/pc	EQUIV		INSUL-
			ENG	GND	GAR	UST			MEASURED	20 C	CORR FCTR			mA	WATTS	
1	25 Percent Test Voltage A Phase	GST GND	T1&T2													
2	100 Percent Test Voltage A Phase	GST GND	T1&T2													
3	25 Percent Test Voltage B Phase	GST GND	T3&T4													
4	100 Percent Test Voltage B Phase	GST GND	T3&T4													
5	25 Percent Test Voltage C Phase	GST GND	T5&T6													
6	100 Percent Test Voltage C Phase	GST GND	T5&T6													
7	25 Percent Test Voltage A Phase	GST GND	T1&T2													
8	100 Percent Test Voltage A Phase	GST GND	T1&T2													
9	25 Percent Test Voltage B Phase	GST GND	T3&T4													
10	100 Percent Test Voltage B Phase	GST GND	T3&T4													
11	25 Percent Test Voltage C Phase	GST GND	T5&T6													
12	100 Percent Test Voltage C Phase	GST GND	T5&T6													
13	100 Percent Test Voltage B Phase	GST GND	T3&T4													
14	25 Percent Test Voltage C Phase	GST GND	T5&T6													
15	100 Percent Test Voltage C Phase	GST GND	T5&T6													

WINDING TIP UP TESTS

1. GST - WINDING 1 - GROUND @ 25% TEST VOLTAGE
2. GST - WINDING 1 - GROUND @100% TEST VOLTAGE
3. GST - WINDING 2 - GROUND @ 25% TEST VOLTAGE
4. GST - WINDING 2 - GROUND @ 100% TEST VOLTAGE
5. GST - WINDING 3 - GROUND @ 25% TEST VOLTAGE
6. GST - WINDING 3 - GROUND @ 100% TEST VOLTAGE



INSULATION RATING KEY

G = GOOD
D = DETERIORATED
I = INVESTIGATE
B = BAD (REMOVE OR RECONDITION)
Q = QUESTIONABLE

A = PHASE A WINDING
B = PHASE B WINDING
C = PHASE C WINDING
G = GROUND

NOTE: Short each phase winding on itself, if possible.

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. TESTED BY:

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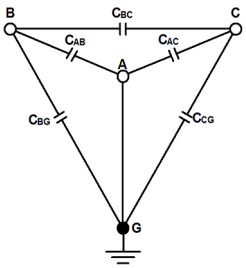
REASON		kVA 1		EXCITER kW	
WEATHER		kVA 2		EXCITER DRWG	
TANK TEMP	°C	hp/kw		EXCITER rpm	
YR RWND		SPEED/rpm		EXCITER TYPE	
YR SERVICE		PWR FACTOR		RES S/N	
STATOR kV		CREW SIZE		SEMI-CON COAT	
FREQ Hz		STA AMP 1		VOLT GRADING APPLIED	
TYPE		STA AMP 2		GLOBAL VPI	
VOLTS		POLES		H2 PRESS	
AMPS				H2 PRESS	
CONFIGURATION					

		TEST CONNECTIONS			PHASE TO GND MODE: GST, GUARD RED & BLUE								PHASE TO PHASE MODE: UST, GUARD RED & BLUE							
	TEST NO	BLK	RED	BLUE	TEST kV	CAP. (uF)	% POWER FACTOR MEAS	% POWER FACTOR 20 C °	% POWER FACTOR CORR FCTR	EQUIV mA	EQUIV WATTS	IR	TEST kV	CAP. (PF)	% POWER FACTOR MEAS	% POWER FACTOR 20 C	% POWER FACTOR CORR FCTR	EQUIV mA	EQUIV WATTS	IR
PHASE A	1	A	B	C																
	2	A	B	C																
	3	A	B	C																
	4	A	B	C																
	5	A	B	C																
PHASE B	6	B	C	A																
	7	B	C	A																
	8	B	C	A																
	9	B	C	A																
	10	B	C	A																
PHASE C	11	C	A	B																
	12	C	A	B																
	13	C	A	B																
	14	C	A	B																
	15	C	A	B																



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- G = GOOD
- D = DETERIORATED
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- B = BAD (REMOVE OR RECONDITION)
- Q = QUESTIONABLE

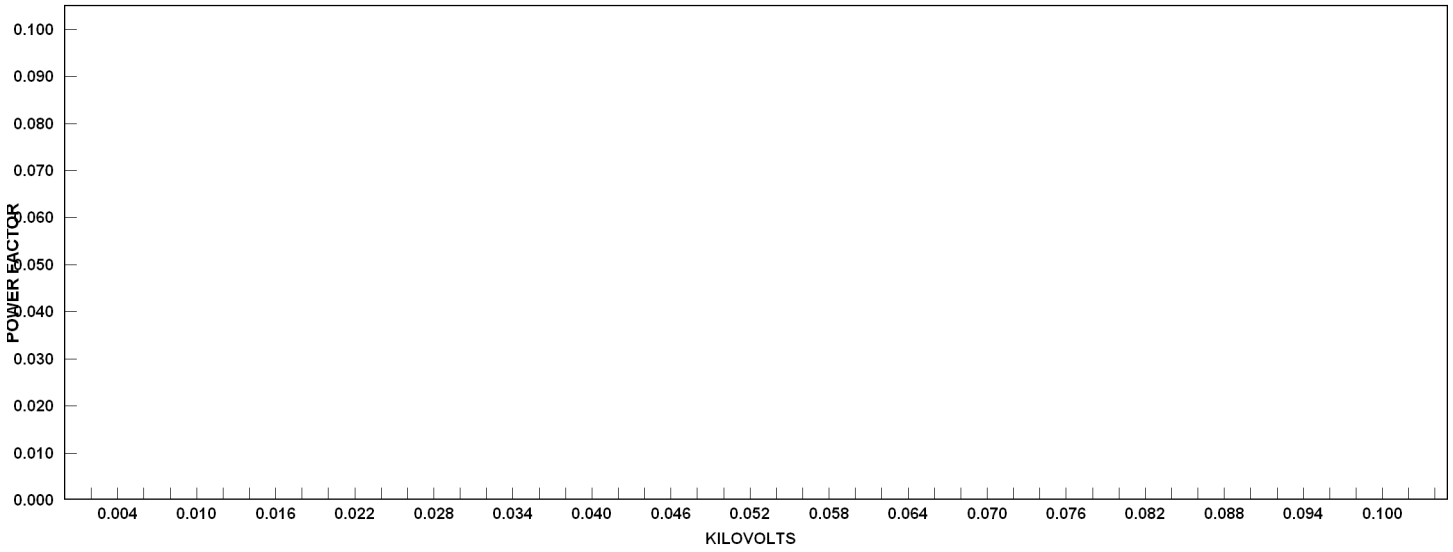
- A = PHASE A WINDING
- B = PHASE B WINDING
- C = PHASE C WINDING
- G = GROUND
- NOTE: Short each phase winding on itself, if possible.

COMMENTS:

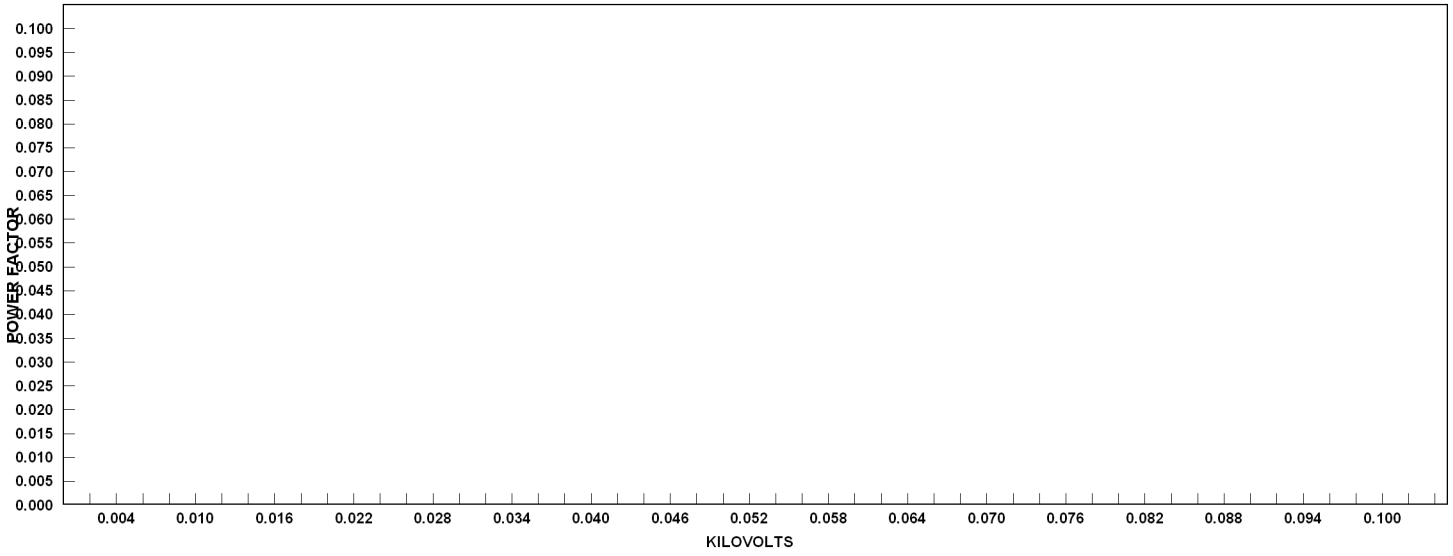
DEFICIENCIES:

EQPT. INVENTORY NO. TESTED BY:

PHASE TO GND POWER FACTOR TIP-UP CURVE



PHASE TO PHASE POWER FACTOR TIP-UP CURVE



Phase A: Red Circle

Phase B: Blue Square

Phase C: Green Diamond

ROTATING MACHINERY
POLARIZATION INDEX (PI) TEST

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DATE 5/7/2008 TEMPERATURE °F HUMIDITY % EQPT. LOCATION

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MFR YEAR		INS NAME		EXCITER AMPS	
REASON		kVA 1		EXCITER kW	
WEATHER		kVA 2		EXCITER DRWG	
TANK TEMP	°C	hp/kw		EXCITER rpm	
YR RWND		SPEED/rpm		EXCITER TYPE	
YR SERVICE		PWR FACTOR		RES S/N	
STATOR kV		CREW SIZE		SEMI-CON COAT	
FREQ Hz		STA AMP 1		VOLT GRADING APPLIED	
TYPE		STA AMP 2		GLOBAL VPI	
VOLTS		POLES		H2 PRESS	
AMPS				H2 PRESS	
CONFIGURATION					

CONNECTED EQUIPMENT TEST VOLTAGE kVDC

MOTOR TEMPERATURE °C TEMPERATURE CORRECTION FACTOR TO 20°C, TCF

MINUTES	...SELECT DEVICE					
	A		B		C	
	READING (megohms)	CORR. VALUE (megohms)	READING (megohms)	CORR. VALUE (megohms)	READING (megohms)	CORR. VALUE (megohms)
0.25						
0.50						
0.75						
1.00						
1.25						
1.50						
1.75						
2.00						
3.00						
4.00						
5.00						
6.00						
7.00						
8.00						
9.00						
10.00						
P. I.						
D. A. R.						

INSULATION CONDITION	DAR 60/30 SEC	POLARIZATION INDEX (PI)
POOR	< 1	< 1
QUESTIONABLE	1.0 - 1.25	1.0 - 2
GOOD	1.4 - 1.6	2 - 4
EXCELLENT	> 1.6	> 4

COMMENTS:

DEFICIENCIES:

EQPT. INVENTORY NO. TESTED BY:

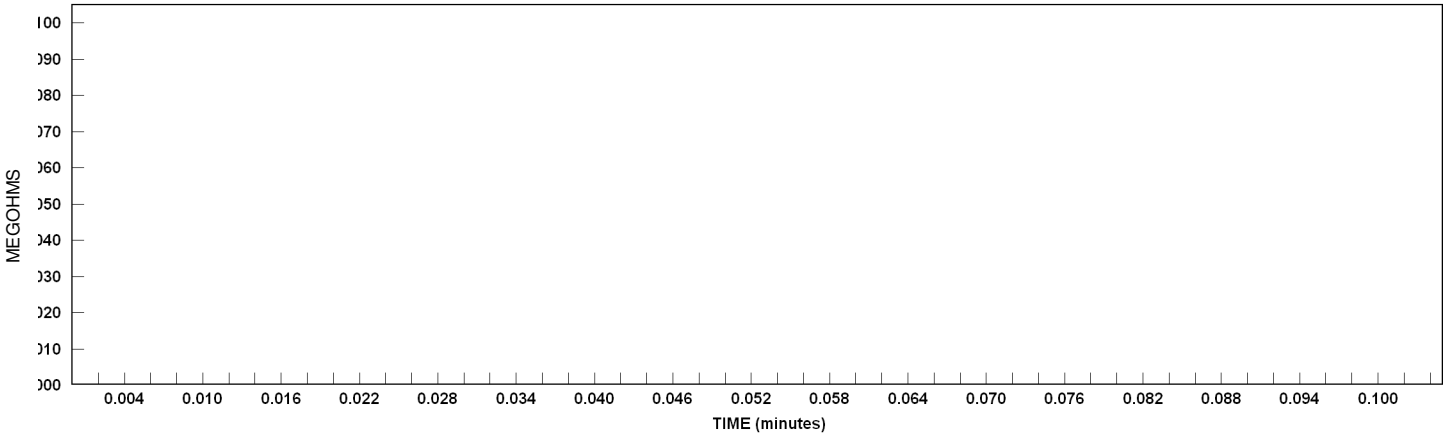
ROTATING MACHINERY
POLARIZATION INDEX (PI) TEST

PAGE

DATE 05/07/08 TEMPERATURE °F HUMIDITY % EQPT. LOCATION

SUBSTATION ROTATING MACHINERY POSITION GENERAL

POLARIZATION CURVE



A : Red Square B : Blue Circle C : Green Triangle

ROTATING MACHINERY INSULATION TEST
STEP VOLTAGE TEST

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MFR YEAR		INS NAME		EXCITER AMPS	
REASON		kVA 1		EXCITER kW	
WEATHER		kVA 2		EXCITER DRWG	
TANK TEMP	°C	hp/kw		EXCITER rpm	
YR RWND		SPEED/rpm		EXCITER TYPE	
YR SERVICE		PWR FACTOR		RES S/N	
STATOR kV		CREW SIZE		SEMI-CON COAT	
FREQ Hz		STA AMP 1		VOLT GRADING APPLIED	
TYPE		STA AMP 2		GLOBAL VPI	
VOLTS		POLES		H2 PRESS	
AMPS				H2 PRESS	

CONFIGURATION

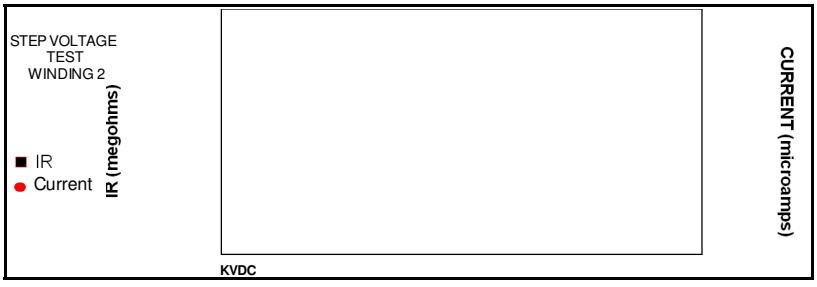
TEMPERATURE ℃ TEMP. CORR. FACTOR (TCF) TO 20℃ MAX. TEST VOLTAGE KVDC TEST TIME minutes

WINDING 1 TO FRAME

TIME (minutes)	STEP VOLT. (kVDC)	IR (megohms)	IR 20ºC (megohms)	CURRENT (microamps)
1.0	1.00			
2.0	2.00			
3.0	3.00			
4.0	4.00			
5.0	5.00			

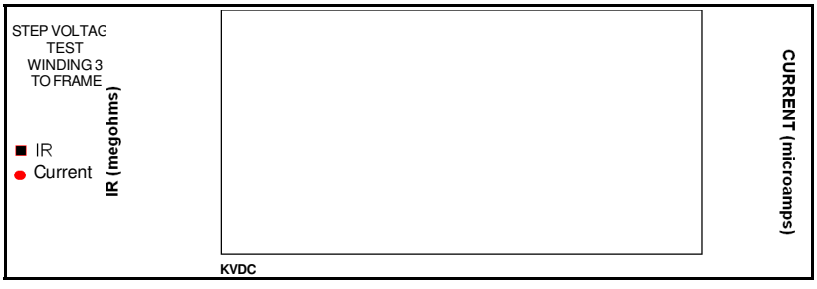
WINDING 2 TO FRAME

TIME (minutes)	STEP VOLT. (kVDC)	IR (megohms)	IR 20ºC (megohms)	CURRENT (microamps)
1.0	1.00			
2.0	2.00			
3.0	3.00			
4.0	4.00			
5.0	5.00			



WINDING 3 TO FRAME

TIME (minutes)	STEP VOLT. (kVDC)	IR (megohms)	IR 20ºC (megohms)	CURRENT (microamps)
1.0	1.00			
2.0	2.00			
3.0	3.00			
4.0	4.00			
5.0	5.00			



COMMENTS:

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