		В	IHAR STAT	E POWER TRAN	ISMISSION CO	MPANY I	LIM	ITEI)				
			M	ANUFACTURING QU	ALITY PLAN 22	0 kV CT							
		Customer		Vendor's Code:	Item:	M.Q.P. No.		017		Valid	l Fron	15.01.2016	
		R	SPTCL		220 KV CT	Rev. No.		00		Valid Upto: Page No. es 4 5 6) :	Till Revision
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	Description of Test		Sampling with basis			1100014	1	2	3	4	5	6	
1	A. Section RAW MAT Insulators	ERIAL INSPE	CTION - CT								E		
а	Routine Tests	Electrical	100%	IS : 5621 Clause:3.3	IS : 5621 Clause:3.3	EM register as per BSPTCL	В	К	P	W		N	Rev. of CM/EM TC during final
b	Verification of Dimensions	Measure	100% / E.M. one sample / lot	Relevant Drawing	Relevant Drawing	EM register as per BSPTCL	Α	J	s	w		N	insp. By BSPTCL
С	Porosity Test	Mech.	IS 5621	IS : 5621 Clause:3.5	IS : 5621 Clause:3.5	EM register as per BSPTCL	В	К	Р	W		N	
d	Temp. Cycle Test	Mech.	IS 5621	IS : 5621 Clause:3.6	IS : 5621 Clause:3.6	EM register as per BSPTCL	В	К	Р	W		N	do
2	Transformer Oil	•		•	•	<u> </u>	1	1			E		
а	Specific Resistivity	Electrical	IS 6855 / E.M. one sample / lot	IS 335 / IS 6103	IS 335 / IS 6103	EM register as per BSPTCL	Α	J	s	w		N	Rev. of CM/EM TC during final insp. By
b	Tan Delta at 90°C	Electrical	IS 6855 / E.M. one sample / lot	IS 335 / IS 6262	IS 335 / IS 6262	EM register as per BSPTCL	Α	J	s	w		N	BSPTCL
С	Dielectric Strength (BDV)	Electrical	IS 6855 / E.M. one sample / lot	IS 335 / IS 6792	IS 335 / IS 6792	EM register as per BSPTCL	Α	J	s	w		N	

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED MANUFACTURING QUALITY PLAN -- 220 kV CT Vendor's Code: Item: M.Q.P. No. 017 Customer Valid From: 15.01.2016 Rev. No. 220 KV CT 00 Valid Upto: Revision **BSPTCL** 02.01.2016 Page No. 1 of 17 Date: Sr. No. Components / Type of Quantum of Reference document Acceptance Norms Format of Applicable Codes Remarks Check / Operations & check for Testing Record Description of Test Sampling with N do EM register Specific Resistance at IS 6855 / E.M. Р В Κ W Electrical 29 °C & 90 °C one sample / lot EM register IS 6855 / E.M. As per IS: 1448 (P-16)- As per IS: 1448 (P-16)- as per Density@ 29.5°C, Min. Electrical В Κ Р W 1990 one sample / lot 1990 BSPTCL N do EM register As per IS: 1448 (P-25)- As per IS: 1448 (P-25)- as per IS 6855 / E.M. Κ Р W Kinematic Viscosity Electrical В one sample / lot 1976 N do EM register Flash Point PMCC As per IS: 1448 (P-21)- As per IS: 1448 (P-21)- as per Electrical IS 6855 / E.M. В Κ Р W g Min. one sample / lot 1992 1992 BSPTCL As per IS:1448 (P-10) EM register As per IS: 1448 (P-10)- / IS:1970 IS 6855 / E.M. Pour Point, Max. Electrical В Ρ W one sample / lot 1970 BSPTCL As per IS: 1448 (P-2)-EM register As per IS: 1448 (P-2)-IS 6855 as per В Κ Ρ W Neutralization Value Electrical 1967 1967 BSPTCL

As per IS: 13567-1992

As per IS: 13631-1992

Water Content, Max.

Presence of oxidation

inhibitor, % by weight

Electrical

Electrical

IS 6855

IS 6855

N do

EM register

as per BSPTCL EM register

as per

BSPTCL

B K P W

В

K P W

As per IS: 13567-1992

As per IS: 13631-1992

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Sr. No.	Components / Operations & Description of Test	Type of check	Quantum of Check / Sampling with	Reference document for Testing	Acceptance Norms	Format of Record	Appli	icable	Code	es Ia	5	6	Remarks
	A. Section RAW MATI	ERIAL INSPE	basis					ľ	ľ			<u> </u>	
3 а	Dimension	Measure	01sample/size per lot	IS 13730-2	IS 13730-2	EM register as per BSPTCL	А	J	s	w	E	N	Rev. of CM/EM TC during final insp. By
b	Mechanical Properties	Mechanical	01sample/size per lot	IS 13730-3	IS 13730-3	EM register as per BSPTCL	В	к	Р	w		N	BSPTCL
С	Thermal Properties	Thermal	01sample/size per lot	IS 13730-6	IS 13730-6	EM register as per BSPTCL	В	к	Р	w		N	
d	Chemical Properties	Chemical	01sample/size per lot	IS 13730-4	IS 13730-4	EM register as per BSPTCL	В	K	Р	w		N	do
е	Electrical Properties	Electrical	01sample/size per lot	IS 13730-5	IS 13730-5	EM register as per BSPTCL	В	к	Р	w		N	do
4	Cotton Covered Cop	per Rope									E		
а	Visual	Visual	5 % Random	EM SPECIFICATIONS	Covering to be uniform with sufficient insulation	EM register as per BSPTCL	В	к	Р	w		N	Rev. of CM/EM TC during final insp. By
b	Cross Section	Measure	01sample per lot	EM SPECIFICATIONS	No.of strands X cross section of each strand	EM register as per BSPTCL	В	к	Р	w		N	BSPTCL
С	Resistance	Electrical	DO	EM SPECIFICATIONS	IS - 8130	EM register as per BSPTCL	В	K	Р	W		N	
d	Purity of Copper	Chemical	DO	EM SPECIFICATIONS	Min. 99.90 %	EM register as per BSPTCL	В	K	Р	W		N	do

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	Description of Test		Sampling with basis				1	2	3	4	5	6	
5	Insulation Crepe Pag	oer									Е		
а	Thickness	Measure	One sample per size per lot	EM SPECIFICATIONS	IS 9335 - 3- 3	EM register as per BSPTCL	Α	J	s	w		N	Rev. of CM/EM TC during final insp. By
b	Hillcount	Measure	One sample per size per lot	EM SPECIFICATIONS	IS 9335 - 3- 3	EM register as per BSPTCL	В	к	Р	w		N	BSPTCL
С	Substance	Measure	One sample per size per lot	EM SPECIFICATIONS	IS 9335 - 3- 3	EM register as per BSPTCL	В	к	Р	w		N	
d	Elongation at break MD	Mechanical	One sample per size per lot	EM SPECIFICATIONS	IS 9335-3-3	EM register as per BSPTCL	В	к	Р	w		N	do
е	Ash Content	Mechanical	One sample per size per lot	EM SPECIFICATIONS	IS 9335-3-3	EM register as per BSPTCL	В	к	Р	w		N	do
	Insulation Crepe Pag	<u>oer</u>									Е		=
f	Moisture Content	Mechanical	One sample per size per lot	EM SPECIFICATIONS	IS 9335-3-3	EM register as per BSPTCL	В	к	Р	w		N	
g	PH Value	Chemical	One sample per size per lot	EM SPECIFICATIONS	IS 9335-3-3	EM register as per BSPTCL	В	к	Р	w		N	
h	Conductivity	Electrical	One sample per	EM SPECIFICATIONS	IS 9335-3-3	EM register as per BSPTCL	В	к	Р	w		N	do

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED MANUFACTURING QUALITY PLAN -- 220 kV CT Vendor's Code: Item: M.Q.P. No. 017 Customer Valid From: 15.01.2016 220 KV CT Rev. No. 00 Valid Upto: Revision **BSPTCL** 02.01.2016 Page No. 1 of 17 Date: Sr. No. Components / Type of Quantum of Reference document Acceptance Norms Format of Applicable Codes Remarks Operations & check Check / for Testing Record Description of Test Sampling with do EM register Mechanical One sample per Κ Р W Tensile Strength **EM SPECIFICATIONS** IS 9335-3-3 В as per size per lot BSPTCL do EM register Visual Visual 5 % Per Lot **EM SPECIFICATIONS** Free from Damage В Κ Р W Ν as per BSPTCL do EM register Dimension **EM SPECIFICATIONS** As per P.O. В Κ Р w Ν Measure One sample per as per size per lot BSPTCL Insulating Semi conducting Crepe Paper (Black) Ε EM register CM/EM TC **EM SPECIFICATIONS** Ρ w а Visual Visual 01 sample/ lot Free from Damage as per В Κ during final BSPTCL insp. By BSPTCL EM register Κ Р W b Dimension Measure 01 sample/ lot **EM SPECIFICATIONS** 0.45 mm to 0.55 mm as per В Ν **BSPTCL** EM register Κ Ρ W Tensile Strength Mechanical 01 sample/ lot **EM SPECIFICATIONS** 12 lb Min. as per В Ν С BSPTCL do EM register Р W Elongation Mechanical 01 sample/ lot **EM SPECIFICATIONS** 50 % Min. В Κ N as per **BSPTCL** Insulating Aluminum Crepe Paper Ε EM register В Κ W Visual Visual 01 sample/ lot **EM SPECIFICATIONS** No sign of Oxidation Р Ν а as per **BSPTCL**

EM SPECIFICATIONS

Thickness

b

01 sample/ lot

Measure

EM register

as per BSPTCL B K P W

Ν

0.38mm±10 %

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	Description of Test		Sampling with basis				1	2	3	4	5	6	
С	Tensile Strength	Mechanical	01 sample/ lot	EM SPECIFICATIONS	>60 N per15 mm width	EM register as per BSPTCL	В	к	Р	w		N	
d	Elongation	Mechanical	01 sample/ lot	EM SPECIFICATIONS	45 - 55 %	EM register as per BSPTCL	В	к	Р	w		N	
е	Density	Measure	01 sample/ lot	EM SPECIFICATIONS	0.45 G/Cm ³ / ± 8 %	DO	В	K	Р	W		N	
8	Secondary Terminal										E		
а	Visual	Visual	10 %/ lot	EM SPECIFICATIONS	Free from Damage	EM register as per BSPTCL	В	к	Р	w		N	Rev. of CM/EM TC during final insp. By
b	Dimension	Measure	5 %/ lot	EM SPECIFICATIONS	As per Drawing	EM register as per BSPTCL	В	к	Р	w		N	BSPTCL
С	Insulation Resistance	Electrical	2 %/ lot	EM SPECIFICATIONS	2 M Ohms Min.	EM register as per BSPTCL	В	к	Р	w		N	
d	Dielectric Test	Electrical	2 %/ lot	EM SPECIFICATIONS	5 KV rms / 1Min.	EM register as per BSPTCL	В	к	Р	w		N	do
9	Primary Terminal	1	1				•				Е		
а	Visual	Visual	10 %/ lot	EM SPECIFICATIONS	Free from Damage	EM register as per BSPTCL	В	к	Р	w		N	do
b	Dimension	Measure	5 % / lot	EM SPECIFICATIONS	As per Drawing	EM register as per BSPTCL	В	к	Р	w		N	do

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r. No.	Components / Operations &	Type of check	Quantum of Check /	Reference document for Testing	Acceptance Norms	Format of Record	Appli	cable	Code	es Remark 4 5 6		Remarks	
	Description of Test		Sampling with basis	lo. roomig			1	2	3	4	5	6	
10	Core			•	•	•		•			Е		
а	Visual / dimensions check	Measure	100%	As per BSPTCL Spec./ Drawing	As per BSPTCL Spec./ Drawing	EM register as per BSPTCL	А	J	s	w		N	do
b	Test at specified flux density for losses.	Electrical	100%	Within limit as per specified grade of Core/BSPTCL Spec.	Within limit as per specified grade of Core/BSPTCL Spec.	EM register as per BSPTCL	A	J	s	w		N	do
С	Ductility.Stacking Factor,Surface Insulation resistivity,Magnetic permeability	Electrical	200%	Within limit as per specified grade of Core/ BSPTCL Spec.	Within limit as per specified grade of CRGO / BSPTCL Spec.	EM register as per BSPTCL	А	J	s	w		N	do
11	Nitrogen Gas (99% P	Purity)									Е		
а	Oxygen Content	Chemical	01 sample/lot of 50 cylinders or less%	As per BSPTCL Spec./ EM Specification	As per BSPTCL Spec./ EM Specification	Test Report	В	к	Р	w		N	do
b	Moisture (Dew Point)	Mechanical	01 sample/lot	As per BSPTCL Spec./ EM Specification	As per BSPTCL Spec./ EM Specification	Test Report	В	к	Р	w		N	do
12	MS Tanks										Е		
а	Welding Procedure & Welding Qualification		100%	BSPTCL Spec.	BSPTCL Spec.		В	к	Р	w		N	do
b	Welding Electrode Type		100%	BSPTCL Spec.	BSPTCL Spec.		В	к	Р	w		N	do

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED MANUFACTURING QUALITY PLAN -- 220 kV CT Vendor's Code: Item: M.Q.P. No. 017 Customer Valid From: 15.01.2016 220 KV CT Rev. No. 00 Valid Upto: Revision **BSPTCL** 02.01.2016 Page No. 1 of 17 Date: Quantum of Remarks Sr. No. Components / Type of Reference document Acceptance Norms Format of Applicable Codes Operations & check Check / for Testing Record Description of Test Sampling with do EM register Κ Р W Mechanical 100% No Leakage at 30 P.S.I No Leakage at 30 P.S.I В Ν С Leakage Test BSPTCL EM register One sample per S W Ν Dimensions Measure As per approved As per approved J as per size per lot drawings/ EM drawings BSPTCL drawings/ EM drawings 12.1 **Galvanising Checks** Е EM register IS 4759-1984/BSPTCL IS 4759-1984/BSPTCL CM/EM TC 5 Samples / Shift В Κ Р W Mechanical Ν а Thickness of Zinc as per during final Spec. Spec. coating BSPTCL insp. By BSPTCL EM register IS 4759-1984 /BSPTCL IS 4759-1984 /BSPTCL Mechanical 1 Sample / Shift Κ w b В Р Ν Spec. Spec. Weight of Zinc coating BSPTCL do EM register Uniformity of Zinc 1 Sample / Shift IS 2633/BSPTCL Spec. IS 2633/BSPTCL Spec. В Κ Ρ W Ν С as per coating do EM register Κ Р w IS 2629/BSPTCL Spec. В Ν Adhesion test Mechanical 5 Samples / Shift | IS 2629/BSPTCL Spec. as per BSPTCL 12.2 Painting Of Tanks EM register

BSPTCL Spec./ EM

DO

BSPTCL Spec./ EM

BSPTCL Spec. / 85 mic.

as per BSPTCL

DO

A J S W

s w

Ν

N

Visual /Shade

Thickness

Visual

Measure

1 Samples / lot

DO

а

b

								_				
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		М	ANUFACTURING QU	ALITY PLAN 220	0 kV CT							
	Custome	r	Vendor's Code:	Item:	M.Q.P. No.		017		Valid	d Fron	n:	15.01.2016
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Description of Test		Sampling with basis	J			1	2	3	4	5	6	
 					•	,		,			,	

13	Rubber 'O' Ring										E		
а	Dimensions	Measure	One sample per size per lot	As per Drawing	As per Drawing	EM register as per BSPTCL	Α	J	s	w		N	do
b	Hardness (Before & After agieng Test)	Mechanical	One sample per size per lot	As per IS : 3400 Part-II	As per IS : 3400 Part-II	EM register as per BSPTCL	В	к	Р	w		N	do
С	Elongation at break(Before & After agieng Test)	Mechanical	One sample per size per lot	As per IS : 3400 Part-I	As per IS : 3400 Part-II	EM register as per BSPTCL	В	к	Р	w		N	do
d	Aging in transformer oil at 100°C for 72 hrs.	Mechanical	One sample per size per lot	As per IS : 3400	As per IS : 3400	EM register as per BSPTCL	В	к	Р	w		N	do
е	Compression Set at 70 °C for 24 hrs	Mechanical	One sample per size per lot	As per IS : 3400 Part-X	As per IS: 3400 Part-X	EM register as per BSPTCL	В	к	Р	w		N	do
14	Cork Gasket										Е		
а	Dimensions	Measure	One sample per size per lot	As per Drawing	As per Drawing	EM register as per BSPTCL	A	J	s	w		N	Rev. of CM/EM TC during final insp. By BSPTCI

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED MANUFACTURING QUALITY PLAN -- 220 kV CT Vendor's Code: Item: M.Q.P. No. 017 Customer Valid From: 15.01.2016 220 KV CT Rev. No. 00 Valid Upto: Revision **BSPTCL** 02.01.2016 Page No. 1 of 17 Date: Remarks Sr. No. Components / Type of Quantum of Reference document Acceptance Norms Format of Applicable Codes Operations & check Check / for Testing Record Description of Test Sampling with EM register One sample per b Hardness mechanical IS: 4253-Part II-1980 IS: 4253-Part II-1980 В Κ Р W as per size per lot **BSPTCL** N EM register One sample per Tensile Strength mechanical IS: 4253-Part II-1980 IS: 4253-Part II-1980 В Κ Ρ W С as per size per lot BSPTCL N do Compression Set at One sample per EM register mechanical IS: 4253-Part II-1980 IS: 4253-Part II-1980 В Κ Р w 100 °C for 70 hrs size per lot as per **BSPTCL** N do EM register One sample per IS: 4253-Part II-1980 w Compressibility mechanical IS: 4253-Part II-1980 В Р as per size per lot **BSPTCL** N do EM register One sample per IS: 4253-Part II-1980 В Ρ W Flexibility mechanical IS: 4253-Part II-1980 as per size per lot **BSPTCL** N do Resistance to EM register One sample per В Κ Ρ W transformer oil at 100 mechanical IS: 4253-Part II-1980 IS: 4253-Part II-1980 as per size per lot °C for 70 hrs. BSPTCL

IS: 4253-Part II-1980

One sample per

size per lot

mechanical

h

pH of water extract

N do

EM register

as per

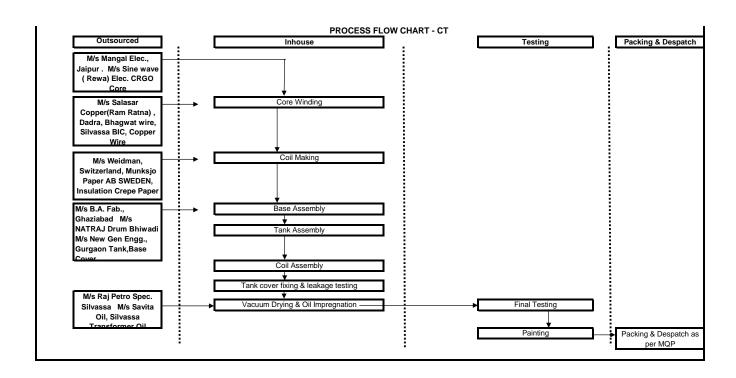
BSPTCL

K P W

В

IS: 4253-Part II-1980

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Description of Test		Sampling with basis	C			1	2	3	4	5	6	



		В	IHAR STAT	E POWER TRAN	SMISSION COM	PANY I	LIMI	TEI)				
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	Description of Test		Sampling with basis	io. roomig			1	2	3	4	5	6	
1	B. Section INPROCES Primary Winding	S INSPECTION	ON - CT								E		
а	Visual check, Dimension & Cleanliness of Primary conductor	Visual/Meas urment	100%	As per sampling Plan IS 2500 Part 1	As per sampling Plan IS 2500 Part 1	EM register as per BSPTCL	Α	J	s	w		N	Rev. of CM/EM TC during final insp. By BSPTCL
b	Overlap of Insulation		100%	As per Plant Standard	As per Plant Standard	EM register as per BSPTCL	A	J	s	w		N	
2	Core Winding (Secon	ndary)	1	1	1		7				Е		
а	Interturn Over Voltage test	Electrical	100%	IS 2705	IS 2705	EM register as per BSPTCL	A	J	s	w		N	do
b	Accuracy	Electrical	100%	IS 2705	IS 2705	EM register as per BSPTCL	А	J	s	w		N	do
3	Coil Insulation	l	•	1		l.	_			1	Е		
а	Polarity Marking & Verification of Core Sequence	Electrical	100%	IS 2705	IS 2705	EM register as per BSPTCL	A	J	s	w		N	Rev. of CM/EM TC during final insp. By BSPTCL
b	Secondary H.v Test	Electrical	100%	IS 2705	IS 2705	EM register as per BSPTCL	А	J	s	w		N	
С	Interturn Over Voltage test	Electrical	100%	IS 2705	IS 2705	EM register as per BSPTCL	А	J	s	w		N	

		В	IHAR STAT	TE POWER TRAN	ISMISSION COM	IPANY I	IMI	TEI)				
W			M	ANUFACTURING QU	ALITY PLAN 220	kV CT							
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	Description of Test		Sampling with basis				1	2	3	4	5	6	
4	CT Assembly	T	1	T	T		1				E		Ι.
а	Fitment of Primary Terminal	Mechanical	100%	As per Approved Drawing	As per Approved Drawing	EM register as per BSPTCL	A	J	s	w		N	do
b	Fitment of Bushing	Mechanical	100%	As per Approved Drawing	As per Approved Drawing	EM register as per BSPTCL	A	J	s	w		N	do
С	Secondary H.V.test	Electrical	100%	IS 2705	IS 2705	EM register as per BSPTCL	A	J	s	w		N	do
d	Verification of Accuracy Class	Electrical	100%	IS 2705	IS 2705	EM register as per BSPTCL	А	J	s	w		N	do
4	B. Section INPROCES CT Assembly	SS INSPECTION	ON - CT								Е		
e	Polarity Marking & Verification of Core Sequence	Electrical	100%	IS 2705	IS 2705	EM register as per BSPTCL	А	J	s	w	_	N	Rev. of CM/EM TC during final insp. By BSPTCL
f	Leakage Test	Mechanical	100%	leakage testing is done on complete assembled unit at 30 psi to rule out any leakage.	leakage testing is done on complete assembled unit at 30 psi to rule out any leakage.	EM register as per BSPTCL	А	J	s	w		N	

		В	IHAR STAT	E POWER TRAN	SMISSION COM	IPANY I	LIMI	TEL)				
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	Description of Test	oo	Sampling with basis	lo. rooming			1	2	3	4	5	6	
5	Vacuum Drying & Oil	impregnation	n								E		
а	Temperature of Oven		Hourly Reading		90-105 Deg C	LOG BOOK	A J S		w		N	do	
b	Vacuum & vacuum Leakage	Electrical	12 Hourly		No Leakage	LOG BOOK	А	J	s	w		N	do
С	Measurement of Water in Vapor Condenser	Electrical	6 Hourly		No water for 6 hours in vapour condensor.	LOG BOOK	A	J	s	w		N	do
d	BDV of Insulating Oil used for impregnation of CT Electric Strength	Electrical	One sample/lot	As per BSPTCL spec./ EM specification	As per BSPTCL spec./ EM specification		D	L	v	w		N	do

		В	IHAR STAT	E POWER TRAN	ISMISSION CON	IPANY I	LIMI	TEL)				
			М	ANUFACTURING QU	ALITY PLAN 220	kV CT							
		Customer		Vendor's Code:	Item:	M.Q.P. No.		017		Valid	Fron	1:	15.01.2016
		D.	SPTCL	1	220 KV CT	Rev. No.		00		Valid	Upto	:	Till Revision
			SFICE			Date:	02	.01.20	16	Page	No.		1 of 17
Sr. No.	Components / Operations &	Type of check	Quantum of Check /	Reference document for Testing	Acceptance Norms	Format of Record	Appli	icable	Code	s			Remarks
	Description of Test	oncok	Sampling with basis	ioi roomig		necon a	1	2	3	4	5	6	
1	C. Section FINAL INS Routine Test	SPECTION &		•									
		<u> </u>				1					1		Rev. of
а	Verification of Terminal marking & Polarity	Electrical	100%	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	s	w		N	CM/EM TC during final insp. By BSPTCL
b	High voltage power frequency withstand test on primary winding.	Electrical	100%	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	s	w		N	
С	High voltage power frequency withstand test on secondary winding.(All cores to be tested seperatly)3kV for 1 min	Electrical	100%	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	s	w		N	do
d	Partial Discharge test	Electrical	100%	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	s	w		N	do
е	Accuracy Test -Ratio and phase angle error test on metering & protection class cores.	Electrical	100%	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	s	w		N	do
f	Resistance ,Kneepoint voltage ,Exciting Current measurement on special protection (Class PS) cores.	Electrical	100%	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	s	w		N	do

	BIHAR STATE POWER TRANSMISSION COMPANY LIMITED MANUFACTURING QUALITY PLAN 220 kV CT													
		Customer		Vendor's Code:	Item:	M.Q.P. No.		017		Valid From:			15.01.2016	
	BSPTCL		1	220 KV CT	Rev. No.		00		Valid	l Upto:		Till Revision		
		BOFICE				Date:	02.01.2016			Page No.			1 of 17	
Sr. No.	Components / Operations &	Type of check	Quantum of Check /	Reference document for Testing	Acceptance Norms	Format of Record	Appli	cable	Code	es			Remarks	
	Description of Test	CHECK	Sampling with				1	2	3	4	5	6	1	
1	C. Section FINAL INS Routine Test	SPECTION &		•	•	•							•	
g	Turns ratio measurement (Ratio error at no load)for special purpose protection (Class PS)cores.	Electrical	100%	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	А	J	s	w		N	Rev. of CM/EM TC during final insp. By BSPTCL	
h	Interturn over voltage test (all cores will be tested seperatly)	Electrical	100%	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	s	w		N	do	
i	Determination of composite error	Electrical	100%	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	s	w		N	do	
j	Measurement of capacitance & tan delta at 10kV & Um/root3 kV.(applicable for 66 kv & above)	Electrical	100%	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	А	J	s	w		N	do	
k	I.R. Measurement Between primary & secondary (Earth)	Electrical	100%	BSPTCL Specs / IS2705/IEC60044.1	Min 7000 M Ohms.	Test Report	A	J	s	w		N	do	

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED MANUFACTURING QUALITY PLAN -- 220 kV CT Vendor's Code: Item: M.Q.P. No. 017 Customer Valid From: 15.01.2016 220 KV CT Rev. No. 00 Valid Upto: Revision **BSPTCL** 02.01.2016 Page No. 1 of 17 Date: Quantum of Remarks Sr. No. Components / Type of Reference document Acceptance Norms Format of Applicable Codes Operations & check Check / for Testing Record Description of Test Sampling with Acceptance Test Verification of BSPTCL Specs / BSPTCL Specs / U Υ Υ C.I.P J Terminal marking & Electrical 100% For 1st Lot EM register Α IS2705/IEC60044.1 IS2705/IEC60044.1 Polarity BSPTCL High voltage power frequency withstand BSPTCL Specs / BSPTCL Specs / Electrical 100% For 1st Lot U Υ Υ C.I.P Α EM register test on primary IS2705/IEC60044.1 IS2705/IEC60044.1 as per winding. BSPTCL Transformer Oil from CT After HV Test BDV Test (Min.) Electrical 01sample /lot 60 kv 60 kv U Υ Υ C.I.P Α EM register as per BSPTCL Tan Delta at 90°C U Υ C.I.P Max. (Applicable for Electrical 01sample /lot 0.002 max. 0.002 max. EM register Α J 66 kv & Above) as per BSPTCL Moisture Content (IS 1866 /BSPTCL IS 1866 /BSPTCL Max.) applicable for Electrical 01sample /lot A/D J/L ٧ Υ C.I.P EM register spec./10 ppm spec./10 ppm 132 kv & Above as per **BSPTCL** Specific resistivity @90°C (Min.) Electrical 01sample /lot 1x10¹² Ohm CM 1x10¹² Ohm CM EM register A/D J/L ٧ Υ Υ C.I.P applicable for 132 kv as per & Above BSPTCL Interfacial Tension(Min.) applicable for Electrical 01sample /lot 0.03 N/m 0.03 N/m A/D J/L V Υ Υ C.I.P V EM register 132 kv & Above as per BSPTCL

	BIHAR STATE POWER TRANSMISSION COMPANY LIMITED												
	MANUFACTURING QUALITY PLAN 220 kV CT												
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			SPTCL	1	220 KV CT	Rev. No.		00		Valid	d Upto	o:	Till Revision
		_	,01 10L			Date:	02.01.2016		Page No.			1 of 17	
	Components / Operations &	Type of check	Quantum of Check /	Reference document for Testing	Acceptance Norms	Format of Record	Appl	icabl	e Cod	odes			Remarks
	Description of Test		Sampling with basis	3			1	2	3	4	5	6	1
2	Acceptance Test												
	High voltage power									1			

2	Acceptance Test												
d	High voltage power frequency withstand test on secondary winding.(All cores to be tested seperatly)3kV for 1 min	Electrical	100% For 1st Lot	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	Α	J	U	Y		Y	C.I.P
е	Partial Discharge test	Electrical	100% For 1st Lot	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	Α	J	U	Y		Y	C.I.P
f	Accuracy Test -Ratio and phase angle error test on metering & protection class cores.	Electrical	100% For 1st Lot	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	U	Y		Y	C.I.P
g	Resistance ,Kneepoint voltage ,Exciting Current measurement on special protection (Class PS) cores.	Electrical	100% For 1st Lot	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	U	Υ		Υ	C.I.P
h	Turns ratio measurement (Ratio error at no load)for special purpose protection (Class PS)cores.	Electrical	100% For 1st Lot	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	U	Υ		Υ	C.I.P
i	Interturn over voltage test (all cores will be tested seperatly)	Electrical	100% For 1st Lot	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	U	Y		Y	C.I.P

	BIHAR STATE POWER TRANSMISSION COMPANY LIMITED MANUFACTURING QUALITY PLAN 220 kV CT													
		Customer		Vendor's Code:	Item:	M.Q.P. No. 017					l Fror	n:	15.01.2016	
		BSPTCL			220 KV CT	Rev. No. 00				Valid	l Upto	o :	Till Revision 1 of 17	
						Date:	02.01.2016			Page	No.			
Sr. No.	Components / Operations & Description of Test	Type of check	Quantum of Check /	Reference document for Testing	Acceptance Norms	Format of Record	Appli	icable	Code	es		Remarks		
			Sampling with basis				1	2	3	4	5	6		
2	Acceptance Test			<u> </u>									1	
j	Determination of composite error	Electrical	100% For 1st Lot	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	Α	J	U	Y		Y	C.I.P	
k	Measurement of capacitance & tan delta at 0.3,0.7,1.0 &1.1 Um/root3 kV. before & after HV Test applicable for 66 kv & above	Electrical	100% For 1st Lot	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	A	J	U	Y		Y	C.I.P	
I	Instrument Security Factor Test	Electrical	100% For 1st Lot	BSPTCL Specs / IS2705/IEC60044.1	BSPTCL Specs / IS2705/IEC60044.1	EM register as per BSPTCL	А	J	U	Y		Y	C.I.P	
m	IR measurement between Primary & Secondary (Earth)	Electrical	100% For 1st Lot	BSPTCL Specs.	BSPTCL Specs.	Test Report	Α	J	U	Υ		Υ	C.I.P	
n	Painting Shade & Thickness Check	Measure	100% For 1st Lot	BSPTCL Specs./85 Micron Min.	BSPTCL Specs./85 Micron Min.	Test Report	А	J	U	Υ		Υ	C.I.P	

BIHAR STATE POWER TRANSMISSION COMPANY LIMITED														
MANUFACTURING QUALITY PLAN 220 kV CT														
	Customer		Vendor's Code:	Item:	M.Q.P. No.		017		017		Valid From:			15.01.2016
	В	SPTCL		220 KV CT	Rev. No.	00			Valid Upto:			Till Revision		
					Date:	oate: 02.01.		02.01.2016		No.		1 of 17		
Components / Operations &	Type of check	Quantum of Check /	Reference document for Testing	Acceptance Norms	Format of Record	Applicable Code		les			Remarks			
Description of Test		Sampling with basis	J			1	2	3	4	5	6			

D. Section PACKING & DESPATCH - CT

1	N2 Gas Filling	Mechanical	100%	N2 is filled at 10 psi.	Pressure is observed after 1 hour. To check leakage	Α	J	s	w	N	
2	Checking for completeness of the equipment and accessories including spares as per order.	Visual	100%	As per EM Process Specification	As per EM Process Specification	A	J	s	w	N	
3	Check for proper packing	Visual	100%	As per EM Process Specification	As per EM Process Specification	Α	J	s	w	N	
4	Ensure supply of operation manual,packing list and test reports along with copy of inspection reports,CUIP and MICC		100%	As per EM Process Specification	As per EM Process Specification	Α	J	s	w	N	