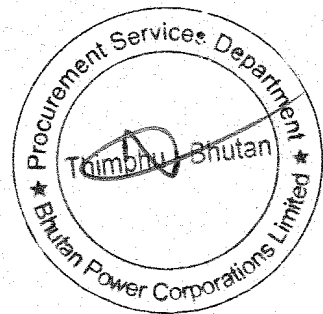


Guaranteed Technical Particulars

Lot 1: Poles

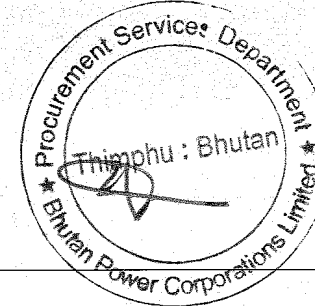
SI No.	Description	UoM	Bidders to Fill Up		
			Item 1.1	Item 1.2	Item 1.3
			Steel tubular Pole-7.5 m	10 m long steel tabular poles with base plate and pole cap	Galvanised Steel tubular pole - 7.5m
1	Manufacturer				
2	Place and country of Manufacturer				
3	Manufacturer's Type Designation				
4	Applicable Standards				
5	Dimensions				
5.1	Bottom Section				
	Outside Diameter	mm			
	Thickness	mm			
	Length	mm			
5.2	Middle Section				
	Outside Diameter	mm			
	Thickness	mm			

	Length	mm			
5.3	Top Section				
	Outside Diameter	mm			
	Thickness	mm			
	Length	mm			
6	Total Weight	kg			
7	Pole Strength	Nominal			
8	Weight per swaged section	Kg			
9	Zinc Coating	g/m ²			



GTP of Lot 1: Poles

Guaranteed Technical Particulars
Lot 3: Distribution Transformers, 11kV

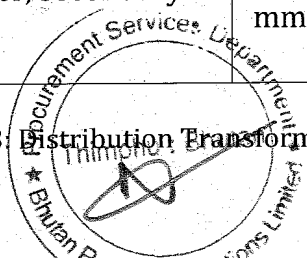


**All transformers have to be altitude corrected up to 2500m*

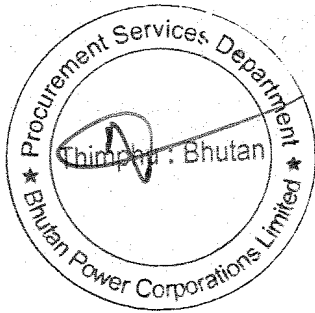
Sl. No.	Particulars	Unit	Bidders to fill up					
			Item 3.1	Item 3.2	Item 3.3	Item 3.4	Item 3.5	Item 3.6
1	Country of Manufacture							
2	Manufacturer's Type No.							
3	Applicable Standards							
4	Rated Power Output	kVA						
5	Number of Phases							
6	Rated frequency	Hz						
7	Rated Primary Voltage	kV						
8	Rated Secondary Voltage	kV						
9	Vector Group							
10	Off-Load Tapings, Primary	%						
11	Ambient temperature	°C						
12	Temperature Rise in	°C						

Sl. No.	Particulars	Unit	Bidders to fill up					
			Item 3.1	Item 3.2	Item 3.3	Item 3.4	Item 3.5	Item 3.6
	- Winding							
	- Top oil							
	- Core							
13	Applied Test Voltage 1 min, 50Hz	kV						
	- Primary winding							
	- Secondary winding							
14	Impulse Test Voltage Full wave, primary winding	kV						
15	No Load Losses	kW						
16	Load Losses	kW						
17	Impedance Voltage							
18	No Load Current							
19	Terminal Bolts							
	- material							
	-diameter, primary side	mm						
	- diameter, secondary side	mm						

GTP of Lot 3: Distribution Transformers, 11kV

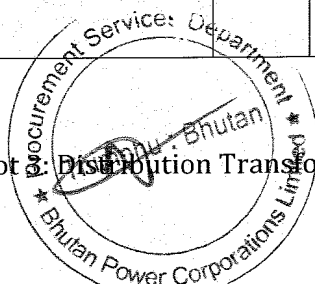


Sl. No.	Particulars	Unit	Bidders to fill up					
			Item 3.1	Item 3.2	Item 3.3	Item 3.4	Item 3.5	Item 3.6
20	Material of Windings							
	High voltage							
	Low voltage							
21	Mass of transformer	kg						
	Total mass							
	Mass of oil							
	Un-tanked mass							



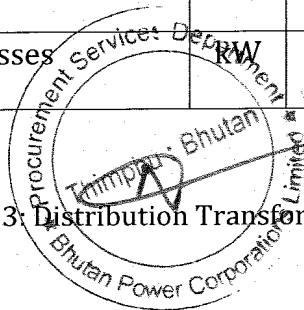
Sl. No.	Particulars	Unit	Bidders to fill up						
			Item 3.7	Item 3.8	Item 3.9	Item 3.10	Item 3.11	Item 3.12	Item 3.13
1	Country of Manufacture								
2	Manufacturer's Type No.								
3	Applicable Standards								
4	Rated Power Output	kVA							
5	Number of Phases								
6	Rated frequency	Hz							
7	Rated Primary Voltage	kV							
8	Rated Secondary Voltage	kV							
9	Vector Group								
10	Off-Load Tapings, Primary	%							

GTP of Lot 2: Distribution Transformers, 11kV



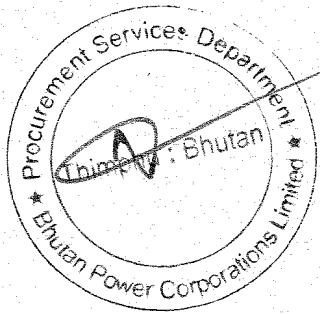
Sl. No.	Particulars	Unit	Bidders to fill up						
			Item 3.7	Item 3.8	Item 3.9	Item 3.10	Item 3.11	Item 3.12	Item 3.13
11	Ambient temperature	°C							
12	Temperature Rise in	°C							
	- Winding								
	- Top oil								
	- Core								
13	Applied Test Voltage 1 min, 50Hz	kV							
	- Primary winding								
	- Secondary winding								
14	Impulse Test Voltage Full wave, primary winding	kV							
15	No Load Losses	kW							

GTP of Lot 3: Distribution Transformers, 11kV

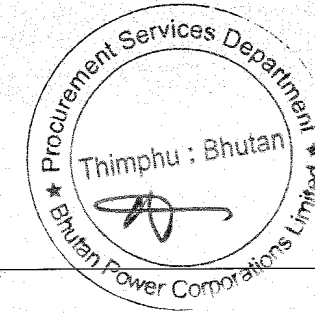


Sl. No.	Particulars	Unit	Bidders to fill up						
			Item 3.7	Item 3.8	Item 3.9	Item 3.10	Item 3.11	Item 3.12	Item 3.13
16	Load Losses	kW							
17	Impedance Voltage								
18	No Load Current								
19	Terminal Bolts								
	- material								
	-diameter, primary side	mm							
	- diameter, secondary side	mm							
20	Material of Windings								
	High voltage								
	Low voltage								
21	Mass of transformer	kg							
	Total mass								

Sl. No.	Particulars	Unit	Bidders to fill up						
			Item 3.7	Item 3.8	Item 3.9	Item 3.10	Item 3.11	Item 3.12	Item 3.13
	Mass of oil								
	Un-tanked mass								



Guaranteed Technical Particulars
Lot 4: Distribution Transformers, 33kV

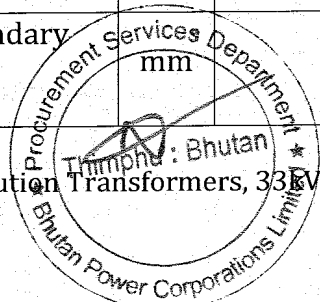


**All transformers have to be altitude corrected up to 2500m*

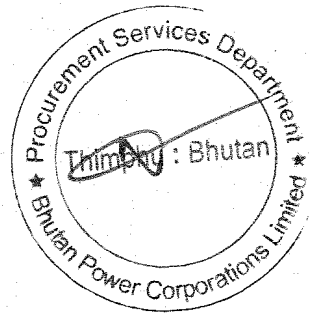
Sl. No.	Particulars	Unit	Bidders to fill up					
			Item 4.1	Item 4.2	Item 4.3	Item 4.4	Item 4.5	Item 4.6
1	Country of Manufacture							
2	Manufacturer's Type No.							
3	Applicable Standards							
4	Rated Power Output	kVA						
5	Number of Phases							
6	Rated frequency	Hz						
7	Rated Primary Voltage	kV						
8	Rated Secondary Voltage	kV						
9	Vector Group							
10	Off-Load Tapings, Primary	%						
11	Ambient temperature	°C						
12	Temperature Rise in	°C						

Sl. No.	Particulars	Unit	Bidders to fill up					
			Item 4.1	Item 4.2	Item 4.3	Item 4.4	Item 4.5	Item 4.6
	- Winding							
	- Top oil							
	- Core							
13	Applied Test Voltage 1 min, 50Hz	kV						
	- Primary winding							
	- Secondary winding							
14	Impulse Test Voltage Full wave, primary winding	kV						
15	No Load Losses	kW						
16	Load Losses	kW						
17	Impedance Voltage							
18	No Load Current							
19	Terminal Bolts							
	- material							
	- diameter, primary side	mm						
	- diameter, secondary side	mm						

GTP of Lot 4: Distribution Transformers, 33kV

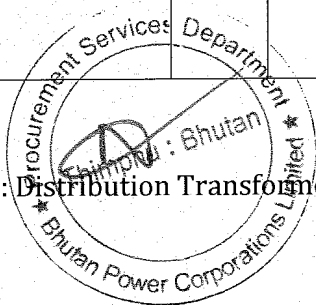


Sl. No.	Particulars	Unit	Bidders to fill up					
			Item 4.1	Item 4.2	Item 4.3	Item 4.4	Item 4.5	Item 4.6
20	Material of Windings							
	High voltage							
	Low voltage							
21	Mass of transformer	kg						
	Total mass							
	Mass of oil							
	Un-tanked mass							



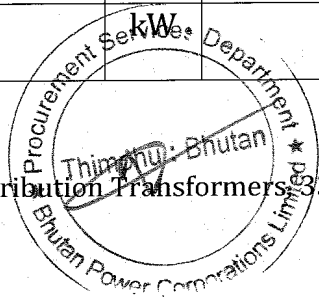
Sl. No.	Particulars	Unit	Bidders to fill up						
			Item 4.7	Item 4.8	Item 4.9	Item 4.10	Item 4.11	Item 4.12	Item 4.13
1	Country of Manufacture								
2	Manufacturer's Type No.								
3	Applicable Standards								
4	Rated Power Output	kVA							
5	Number of Phases								
6	Rated frequency	Hz							
7	Rated Primary Voltage	kV							
8	Rated Secondary Voltage	kV							
9	Vector Group								
10	Off-Load Tapings, Primary	%							

GTP of Lot 4: Distribution Transformers, 33kV

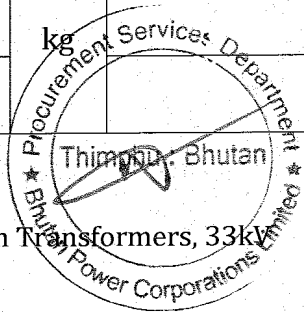


Sl. No.	Particulars	Unit	Bidders to fill up						
			Item 4.7	Item 4.8	Item 4.9	Item 4.10	Item 4.11	Item 4.12	Item 4.13
11	Ambient temperature	°C							
12	Temperature Rise in	°C							
	- Winding								
	- Top oil								
	- Core								
13	Applied Test Voltage 1 min, 50Hz	kV							
	- Primary winding								
	- Secondary winding								
14	Impulse Test Voltage Full wave, primary winding	kV							
15	No Load Losses	kW							

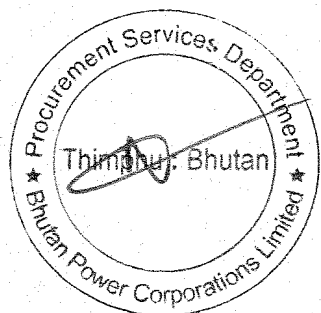
GTP of Lot 4: Distribution Transformers, 33kV



Sl. No.	Particulars	Unit	Bidders to fill up						
			Item 4.7	Item 4.8	Item 4.9	Item 4.10	Item 4.11	Item 4.12	Item 4.13
16	Load Losses	kW							
17	Impedance Voltage								
18	No Load Current								
19	Terminal Bolts								
	- material								
	-diameter, primary side	mm							
	- diameter, secondary side	mm							
20	Material of Windings								
	High voltage								
	Low voltage								
21	Mass of transformer	kg							
	Total mass								



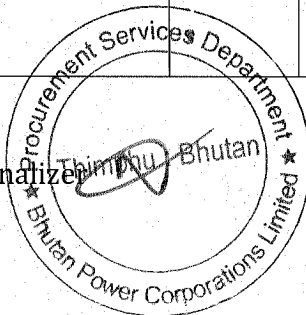
Sl. No.	Particulars	Unit	Bidders to fill up							
			Item 4.7	Item 4.8	Item 4.9	Item 4.10	Item 4.11	Item 4.12	Item 4.13	
	Mass of oil									
	Un-tanked mass									



Guaranteed Technical Particulars
Lot 5(a): Auto-Recloser Circuit Breakers

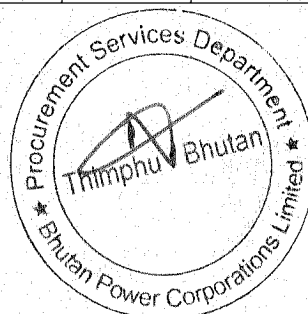
Sl.#	Specified Technical Requirement	Units	Offered Specification	
			33 kV	11 kV
A	Switching equipment			
1	Manufacturer			
2	Manufacturer's Type Designation			
3	Applicable Standards			
4	Rated Maximum Voltage	kV		
5	Rated Continuous Current	A		
6	Short circuit Making current	kA		
7	Short circuit breaking current	kA		
8	Short time current withstand	kA/sec		
9	Power Operating Time (Close / Open)	Secs		
10	Number of Phases	Nos.		
11	System Frequency	Hz.		
12	Interrupting Medium			
13	Bushing Insulation Medium			
14	Mechanical Operations	Nos		
15	Rated Full Load Operations	Nos		
16	Lightning Impulse Withstand Voltage (Corrected to altitude of 3000m above sea level)	kV		

GTP of Lot 5: ARCB and Sectionalized



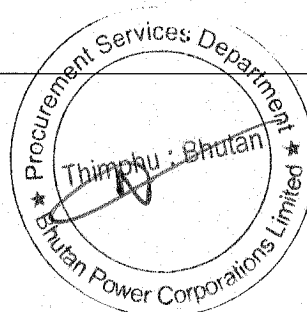
Sl.#	Specified Technical Requirement	Units	Offered Specification	
			33 kV	11 kV
17	One Minute Power Frequency Withstand Voltage (Corrected to altitude of 3000m above sea level)	kV		
18	Creepage Distance	mm		
19	Closing/Opening Mechanism			
20	Ambient Temperature (Min. / Max.)	°C		
21	Net weight	Kgs		
22	Dimensions of Tank (W / D / H)			
B Control equipment				
1	Manufacturer of control cabinet			
2	Integral Auxiliary Supply Voltage	V (AC)		
3	Net Weight	Kgs		
4	Dimensions of Control Cubicle (W / D / H)			
5	Manufacturer of control relay			
6	Remote Monitoring and Control	Yes / No		
7	Degree of Protection	IP		
8	Memory type	Volatile/ non		
9	Memory capacity			
10	Communication Protocols			

GTP of Lot 5: ARCB and Sectionalizer



Sl.#	Specified Technical Requirement	Units	Offered Specification	
			33 kV	11 kV
11	List all communication ports available			
12	Data transmission rate for Ethernet/TCP/IP			
13	Data transmission rate for serial			
14	Remote control of enlisted signals	Yes/No		
15	Remote indication of enlisted signals	Yes/No		
C	Potential Transformer			
1	Manufacturer			
2	Primary voltage	kV		
3	Secondary voltage	V		
4	Burden	VA		
5	Accuracy	Class		
6	Minimum Creepage distance	mm		
7	Lightning Impulse Withstand Voltage (Corrected to altitude of 3000m above sea level)	kV		
8	One Minute Power Frequency Withstand Voltage (Corrected to altitude of 3000m above sea level)	kV		
D	Battery			

GTP of Lot 5: ARCB and Sectionalizer



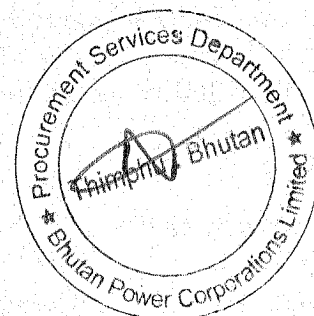
Sl.#	Specified Technical Requirement	Units	Offered Specification	
			33 kV	11 kV
1	Manufacturer			
2	Minimum life	Years		
3	AH	AH		
4	Battery type			
E	Current Transformer			
1	Manufacturer			
2	Primary current	A		
3	Secondary current	A		
4	Accuracy	Class		
5	Burden	VA		
F	Lightning Arrestor			
1	Manufacturer			
2	Rated Voltage	kV		
3	Nominal discharge current	kA		
4	MCOV	kV		
5	Minimum Creepage distance	mm		

Note: Bidder shall provide the documents and drawings as required in Technical Specifications

Name of Bidder

Signature of Bidder

Date



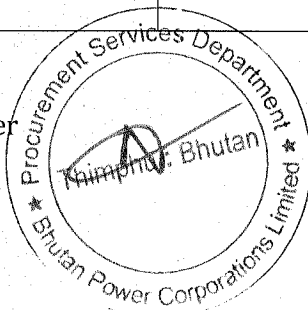
GTP of Lot 5: ARCB and Sectionalizer

Guaranteed Technical Particulars

Lot 5(b): Sectionalizers

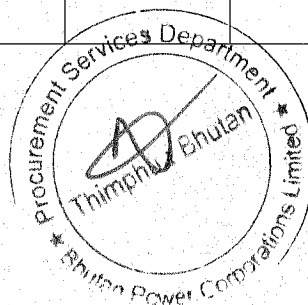
Sl.#	Specified Technical Requirement	Units	Offered Specification	
			33 kV	11 kV
A	Switching equipment			
1	Manufacturer			
2	Manufacturer's Type Designation			
3	Applicable Standards			
4	Rated Maximum Voltage	kV		
5	Rated Continuous Current	A		
6	Short circuit Making current	kA		
7	Short circuit breaking current	kA		
8	Short time current withstand	kA/sec		
9	Power Operating Time (Close / Open)	Secs		
10	Number of Phases	Nos.		
11	System Frequency	Hz.		
12	Bushing Interrupting Medium			
13	Insulation Medium			
14	Mechanical Operations	Nos		
15	Rated Full Load Operations	Nos		
16	Lightning Impulse Withstand Voltage (Corrected to altitude of 3000m above sea level)	kV		

GTP of Lot 5: ARCB and Sectionalizer



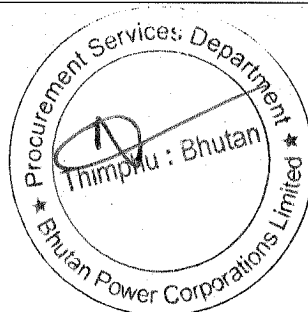
Sl.#	Specified Technical Requirement	Units	Offered Specification	
			33 kV	11 kV
17	One Minute Power Frequency Withstand Voltage (Corrected to altitude of 3000m above sea level)	kV		
18	Creepage Distance	mm		
19	Closing/Opening Mechanism			
20	Ambient Temperature (Min. / Max.)	°C		
21	Net weight	Kgs		
22	Dimensions of Tank (W / D / H)			
B	Control equipment			
1	Manufacturer of control cabinet			
2	Integral Auxiliary Supply Voltage	V (AC)		
3	Net Weight	Kgs		
4	Dimensions of Control Cubicle (W / D / H)			
5	Manufacturer of control relay			
6	Remote Monitoring and Control	Yes / No		
7	Degree of Protection	IP		
8	Memory type	Volatile/ Non volatile		
9	Memory capacity			
10	Communication Protocols			

GTP of Lot 5: ARCB and Sectionalizer



Sl.#	Specified Technical Requirement	Units	Offered Specification	
			33 kV	11 kV
11	List all communication ports available			
12	Data transmission rate for Ethernet/TCP/IP			
13	Data transmission rate for serial			
14	Remote control of enlisted signals	Yes/No		
15	Remote indication of enlisted signals	Yes/No		
C	Potential Transformer			
1	Manufacturer			
2	Primary voltage	kV		
3	Secondary voltage	V		
4	Burden	VA		
5	Accuracy	Class		
6	Lightning Impulse Withstand Voltage (Corrected to altitude of 3000m above sea level)	kV		
7	One Minute Power Frequency Withstand Voltage (Corrected to altitude of 3000m above sea level)	kV		
8	Creepage distance	mm		
D	Battery			

GTP of Lot 5: ARCB and Sectionalizer



Sl.#	Specified Technical Requirement	Units	Offered Specification	
			33 kV	11 kV
1	Manufacturer			
2	Minimum life	Years		
3	AH	AH		
4	Battery type			
E Current Transformer				
1	Manufacturer			
2	Primary current	A		
3	Secondary current	A		
4	Accuracy	Class		
5	Burden	VA		
F Lightning Arrestor				
1	Manufacturer			
2	Rated Voltage	kV		
3	Nominal discharge current	kA		
4	MCOV	kV		
5	Creepage distance	mm		

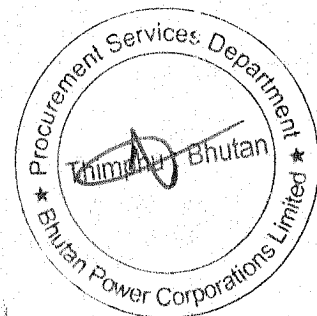
Note: Bidder shall provide the documents and drawings as required in Technical Specifications

Name of Bidder

Signature of Bidder

Date

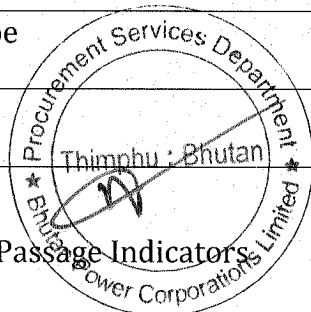
GTP of Lot 5: ARCB and Sectionalizer



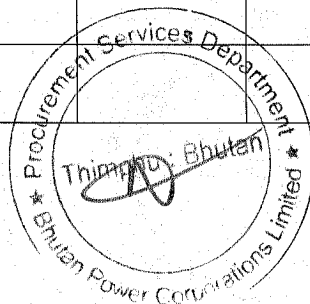
Guaranteed Technical Particulars

Lot 6(a): Overhead Fault Passage Indicators (Communicable)

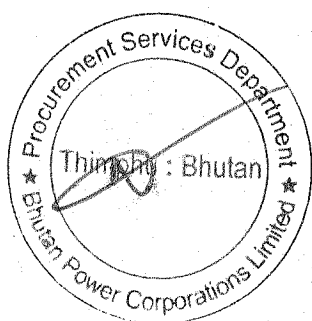
	DESCRIPTION	Units	Bidders to fill up
A	General		
1	Manufacturer		
2	Standard applicable		
B	Application		
1	Type		
2	Voltage	kV	
3	Power Frequency	Hz	
4	Short circuit Withstand	kA/ms	
5	Cable Diameter	mm	
6	Communication		
C	Fault detection Parameters		
1	Current setting Trigger value	A	
2	Low earth leakage fault detection setting	A	
3	Permanent Fault Verification time	sec	
4	Inrush Restraint	sec	
D	Reset (Permanent Fault)		
1	Automatic Power Return	V	
2	Timer Reset		
3	Manual Reset medium	Yes/No	
E	Fault indication		
1	Indication type		
2	Light Power	Lumens	



	DESCRIPTION	Units	Bidders to fill up
3	Visibility Angle	Degree	
4	Flash Period for permanent fault	Sec	
5	Flash Period for transient faults	Sec	
6	Standard total flash Duration	Hrs	
F	Hotsticks		
1	Insulation level (Higher than rated voltage)	kV	
2	Length	m	
G	Power Supply to FPI		
1	Details of Battery in FPI (detachable)		
2	Life of the Battery	Years	
H	Environment		
1	Operation Temperature	Deg C	
2	Storage Temperature	Deg C	
3	Ingress Protection Level of FPI		
I	Mechanical		
1	Wind Resistance	Km/hr	
2	Rainfall	mm	
J	Solar Panel		
1	Peak Power (Pmax)	Wp	
2	Open Circuit Voltage (Voc)	V	
3	Operating Temperature	°C	
K	Communication interface		



	DESCRIPTION	Units	Bidders to fill up
1	Event Storage Capacity	No. of events	
2	SMS Functionality	Yes/No	
3	Frequency bandwidth for Communication with FPI		
4	Communication protocol for communication with control center		
5	Communication Port		
6	Sim card slot	nos	
7	Aux. Power Supply type		
8	Aux. power supply battery type		
9	Ingress protection level of enclosure		
10	Life of the Battery		
11	Battery Capacity Monitoring	Yes/No	

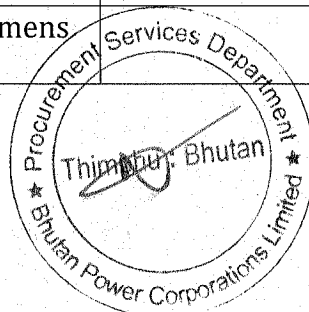


Guaranteed Technical Particulars

Lot 6(b): Overhead Fault Passage Indicators (Non-Communicable)

	DESCRIPTION	Units	Bidders to Fill Up
A	General		
1	Manufacturer		
2	Standard applicable		
B	Application		
1	Type		
2	Voltage	kV	
3	Power Frequency	Hz	
4	Short circuit Withstand	kA/ms	
5	Cable Diameter	mm	
C	Fault detection Parameters		
1	Current setting Trigger value	A	
2	Low earth leakage fault detection setting	A	
3	Permanent Fault Verification time	sec	
4	Inrush Restraint	sec	
D	Reset (Permanent Fault)		
1	Automatic Power Return	V	
2	Timer Reset	min	
3	Magnet Reset	Yes/No	
E	Fault indication		
1	Indication		
2	Light Power	Lumens	

GTP of Lot 6: Fault Passage Indicators



	DESCRIPTION	Units	Bidders to Fill Up
3	Visibility Angle	Degree	
4	Flash Period for permanent faults	Sec	
5	Flash Period for transient faults	Sec	
6	Standard total flash Duration	Hrs	
F	Hotsticks		
1	Insulation level (higher than rated voltage)	kV	
2	Length	m	
G	Power Supply of FPI		
1	Details of Battery in FPI (detachable)		
2	Battery capacity monitoring	Yes/No	
3	Life of the Battery	Years	
H	Environment		
1	Operation Temperature	Deg C	
2	Storage Temperature	Deg C	
3	Ingress Protection Level of FPI		
I	Mechanical		
1	Wind Resistance	Km/hr	
2	Rainfall	mm	
1	Wind Resistance	Km/hr	
2	Rainfall	mm	

