

TECHNICAL SPECIFICATION

33KV OUT DOOR ROOF BUSHING TYPE STAND ALONE PANEL VCB KIOSK

S.No	Description	Ratings	Qty/Panel
1	Vacuum Circuit Breaker		
1.1	Horizontal Draw Out VCB fitted with Manual / Motor Operated spring charging mechanism with 230V AC Motor & Motor Control Switch, Mechanical ON / OFF indicator Operation Counter, Automatic safety shutters & push button as IEC and IS.	33kV, 800A, 25kA	1 No. (800A)
1.2	Shunt trip and series Coil	110V DC	
1.3	Closing Coil	110V DC	
1.4	Spare auxiliary contact 6 NO +6 NC(silver plated contacts)	6 NO +6 NC	
1.5	Antidumping Feature	110V DC	
1.6	Degree of protection	IP 55	
2	Potential Transformer		
2.1	Single Phase, Resin cast, Dry type, Fixed type potential transformer with one set of HTFS / LTFS and one no. Neutral Link	(33kV/ $\sqrt{3}$) / (110V/ $\sqrt{3}$)	3 Nos.
	Core 1: for meter	TO BE SUITABLE SPECIFICATION AS PER DESIGN	
3	Current Transformer		
3.1	single phase, Resin Cast, Dry Type Current Transformer		3 Nos.
	Core 1: for meter	TO BE SUITABLE SPECIFICATION AS PER DESIGN	CT rating 50-150A
	Core 1: for protection (Separate cores shall be used for metering and protection).		
4	Metering		
4.1	96 sq.mm Digital Ammeter with Inbuilt Selector Switch		1No
4.2	96 sq.mm Digital Voltmeter with Inbuilt Selector Switch		1No
4.3	3 Φ , 4 wire, 3 Element Digital Multifunction Meter		1No
5	Protections		
5.1	Numerical Non-directional IDMT combined 3 O/C+1 E/F relay with high set	TO BE SUITABLE SPECIFICATION AS PER DESIGN	1No
5.2	High speed/Master trip relay		1No
5.3	Door interlock with breaker		
6	Indication Lamps		
6.1	VCB OFF/ON/Auto trip/Trip circuit healthy/Spring charge indication lamps	LED	1 Set.

6.2	R,Y,B Phase Indication Lamps	LED	1 Set
7	Control Switches / Push Buttons		
7.1	Breaker Control Switch (Close-Neutral-Trip)	(T-N-C)	1 No.
7.2	Local Remote selector switch	L/R	1 No.
7.3	Flush Head type Trip Circuit Healthy Push Button		1No
8	Control wiring with appropriate colors		1 Lot
9	Busbar Ratings		
9.1	33kV, 800Amps Busbar with PVC Sleeve (85 *12.5mm)	Aluminium	1Set
9.1	Earth bus 40 *6 mm	Aluminium	1Set
10	Common For Switchgear		
10.1	Heater ON / OFF switch with filament type 80Watts space heater & thermostat , single phase switch with socket, 40W cubicle Lamp for panel illumination with snap type door limit switch, Fuses / MCBs for AC / DC control.		1Set
10.2	MS Sheet steel enclosure & installation with paint shade of RAL 7032.	Outdoor	1 Set.
10.3	Incoming Terminal: Outdoor roof bushing type.		
10.4	Outgoing Terminal: Outdoor roof bushing type.		
	NOTE: 1. VCB, PT, CT, METERS, CONTROL SWITCHES, HEATER & THERMOSTAT, MCB etc...all are reputed make only. 2. Surge Arrestor shall be provided as per IE standards. 3. 110V DC for operation of the circuit breaker and protection relays shall be taken from power pack (110V DC) with suitable capacity battery and charging circuit arrangement. This is to ensure the operation of breaker in case of power supply failure. (2 open and 2 close operations). 4. Only 230 volts AC supply shall be provided by BHEL. 5. VCB shall be operated from remote control panel and all fault / trip indication points are taken to remote control panel		

Adm

[Signature]

TECHNICAL SPECIFICATION

11KV 630A OUT DOOR ROOF BUSHING TYPE STAND ALONE PANEL VCB KIOSK

S.No	Description	Ratings	Qty/Panel
1	Vacuum Circuit Breaker		
1.1	Horizontal Draw Out VCB fitted with Manual / Motor Operated spring charging mechanism with 230V AC Motor & Motor Control Switch, Mechanical ON / OFF indicator Operation Counter, Automatic safety shutters & push button as IEC and IS.	11kV, 630A, 25kA	1 No. (630A)
1.2	Shunt trip and series Coil	110V DC	
1.3	Closing Coil	110V DC	
1.4	Spare auxiliary contact 6 NO + 6 NC(silver plated contacts)	6 NO +6 NC	
1.5	Antipumping Feature	110V DC	
1.6	Degree of protection	IP 55	
2	Potential Transformer		
2.1	Three Phase, Resin cast, Dry type, Fixed type potential transformer with one set of HTFS / LTFS and one no. Neutral Link	(11kV/ $\sqrt{3}$) / (110V/ $\sqrt{3}$)	1 No.
	Core 1: for meter	TO BE SUITABLE SPECIFICATION AS PER DESIGN	
3	Current Transformer		
3.1	single phase, Resin Cast, Dry Type Current Transformer		3Nos
	Core 1: for meter	TO BE SUITABLE SPECIFICATION AS PER DESIGN	
	Core 1: for protection (Separate cores shall be used for metering and protection).		CT range – 300- 500 A
4	Metering		
4.1	96 sq.mm Digital Ammeter with Inbuilt Selector Switch		1No
4.2	96 sq.mm Digital Voltmeter with Inbuilt Selector Switch		1No
4.3	3 ϕ , 4 wire, 3 Element Digital Multifunction Meter		1No
4.4	Trivector Meter 3phase 3wire system		1No
5	Protections		
5.1	Numerical Non-directional IDMT combined 3 O/C+1 E/F relay with high set	TO BE SUITABLE SPECIFICATION AS PER DESIGN	1No
5.2	High speed/Master trip relay		1No
5.3	Door interlock with breaker		
6	Indication Lamps		
6.1	VCB OFF/ON/Auto trip/Trip circuit healthy/Spring charge indication lamps	LED	1 Set.
6.2	R,Y,B Phase Indication Lamps	LED	1 Set

Handwritten signature

Handwritten signature

7	Control Switches / Push Buttons		
7.1	Breaker Control Switch (Close-Neutral-Trip)	(T-N-C)	1 No.
7.2	Local Remote selector switch	L/R	1 No.
7.3	Flush Head type Trip Circuit Healthy Push Button		1No
8	Control wiring with appropriate colors		1 Lot
9	Bulbar Ratings		
9.1	11kV, 630 Amps Bulbar with PVC Sleeve (63.5 X 12.5mm)	Aluminium	1Set
9.1	Earth bus 35 *6 mm	Aluminium	1Set
10	Common For Switchgear		
10.1	Heater ON / OFF switch with filament type 80Watts space heater & thermostat , single phase switch with socket, 40W cubicle Lamp for panel illumination with snap type door limit switch, Fuses / MCBs for AC / DC control.		1Set
10.2	MS Sheet steel enclosure & installation with paint shade of RAL 7032.	Outdoor	1 Set.
10.3	Incoming Terminal: Outdoor roof bushing type.		
10.4	Outgoing Terminal: Outdoor roof bushing type.		
	NOTE: 1 VCB, PT, CT, METERS, CONTROL SWITCHES, HEATER & THERMOSTAT, MCB etc...all are reputed make only. 2 Surge Arrestor shall be provided as per IE standards. 3 110V DC for operation of the circuit breaker and protection relays shall be taken from power pack (110V DC) with suitable capacity battery and charging circuit arrangement. This is to ensure the operation of breaker in case of power supply failure. (2 open and 2 close operations). 4 Only 230 volts AC supply shall be provided by BHEL. 5 VCB shall be operated from remote control panel and all fault / trip indication points are taken to remote control panel		




①

PRE QUALIFICATION CRITERIA FOR 11kV 630A /33KV 800A OUTDOOR VCB PANEL

INDENT NO: IND: 17: PS: 0005: FEX: 27 DATED: 19.12.2017

BIDDER SHALL MEET ALL THE FOLLOWING REQUIREMENTS

- **MINIMUM ONE MEMBER OF 11KV 630 AMPS OR HIGHER CAPACITY OUTDOOR TYPE AND MINIMUM ONE MEMBER OF 33KV 800 AMPS OR HIGHER CAPACITY OUTDOOR TYPE VCB PANEL AS PER CUSTOMER TECHNICAL SPECIFICATION SHOULD HAVE BEEN MANUFACTURED AND SUPPLIED BY OEM OR SUPPLIED BY THEIR APPROVED AGENCIES ANY WHERE IN INDIA DURING THE LAST 5 YEARS.**

- **PERFORMANCE CERTIFICATE OF AT LEAST ONE NUMBER OF THE 11KV 630 AMS AND ONE NUMBER OF 33KV 800A OBTAINED FROM ANY OF THE PSU OR FROM ANY GOVT ORGANAISATION TO BE FURNISHED BY THE BIDDER. THE CERTIFICATE SHALL BE IN ENGLISH DULY SIGNED AND STAMPED BY CONCERNED CUSTOMER.**



SR. ENGINEER/FEX