SI. No.	Parameter Description	BHEL's Requirement	Vendor's Response
1	General Description	Metal enclosed, indoor, floor mounted freestanding Form 4A With requisite sections.The design of panel must be dust and vermin proof.The panels shall be constructed only of materials capable of withstanding the mechanical, electrical and thermal stresses as well as the effects of humidity, which are likely to be encountered in normal service.The panel shall be made up of minimum 14SWG thickness cold rolled steel plates(CRCA) so as to house the components contributing to the major weight of the equipment, such as Switch fuse unit, MCCB's, main horizontal busbars, vertical risers and other front mounted accessories.	
2	Application	Indoor	
3	Degree of Protection	IP 54 (Minimum)	
4	Rated Voltage	415V	
5	Design Ambient Temperature	45 C	
6	Temperature rise over an ambient temperature of 45ºC	40 C	
7	Busbar	1) Bus bar current carrying capacity shall be 1200A	
		2) The busbars shall be air insulated and made of high conductivity, high strength, 99.99% Purity Electrolytic grade Aluminium.	
		3)The busbars shall be suitably braced with non-hygroscopic SMC supports to the neutral as well as the earth bar should also be capable of withstanding the stress of electrical fault. Ridges shall be provided on the SMC supports to prevent tracking between adjacent busbars.	
		4)Busbars shall be color coded for easy identification of individual phases and neutral with heat shrinkable PVC sleeves.	
		5)The main busbars shall have uniform current ratings throughout their length. The current rating of the neutral shall be half that of the phase busbars throughout the length of the switchboard	
		6)The busbar and supports shall be capable of withstanding 65 KA Short circuit current at 415 V for 1 Sec in the main MV Panel	
8	Number Phase / Wires	3 Phase, 4Wire	
9	Insulation Level	Power Frequency withstand Voltage 2.5KV	
10	Painting	Epoxy Powder Coating	
11	Cable entry	Provision of bottom entry shall be made with sufficient head room for cable termation. 3 mm thick removable gland plates shall be provided for cable termination.	

12	Earthing of panel	Provision for double body earthing should be given for the panel.	
13	Panel cooling	The panel shall be placed in industrial shop floor where ambient temperature may reach 45 deg C in summer. Suitable cooling facility to be provided.	
14	Incoming feeder current rating at 415 V AC, 50 Hz	630A, 415V, 3P + Neutral switch fuse disconnector type with 630A HRC Fuse	
15	Outgoing feeder	100A 3 pole MCCB- 5 Nos	
		150A 3 pole MCCB- 5 Nos	
		1)MCCbs shall comply with standards IS/IEC 60947-1 & 2.All MCCBs shall be thermal magnetic type with adjustable overload settings from 0.7 to 1 times In and fixed magnetic settings. 2)Short circuit , Earth fault protection with adjustable setting shall be provided	
16	Make and model of the SFU / MCCBs	Reputed makes like Siemens, GE, Schneider, ABB, L&T are acceptable	
17	CT	CT of suitable rating shall be provided for individual multifunction meters.Tape wound, CL 0.5, 800/5A, make Kappa/Kalpa.	
18	**Specifications of Metering Cubicle**		
	The metering cubicle shall be comprising of Three phase LED indicators with Multifunction meter.		
	Multifunction Meter Specification:		
	Type of measurement	3 Phase 4 Wire	
	Measurement Accuracy	Class 0.5	
	Display type and resolution	LED	
	Measuring circuit		
	Input voltage	50 - 550 VLL,PT Primary and Secondary user programmable for LT and HT applications	
	Input current	5A and 1A site selectable,CT Primary and Secondary user programmable for LT and HT applications	
	Aux voltage	80 - 300VAC/DC	
	Communication	RS485 port Modbus RTU	
	Measuring parameters	Instantaneous Parameters like voltage, current, real, reactive and apparent power, power factor, phase angle	
		Cumulative Parameters like import Wh,Vah,VArh and export Wh,Vah,VArh	
	Make	Schneider, L&T, MECO,Rishabh	
19	Control Wiring	CT Circuits : 2.5 Sq mm Cu Multistranded	
		Others : 1.5 Sqmm Cu Multistranded	
20	Type test & routine test certificate shall be provided as per relevent IS standard		
21	Test certificatefrom NABL accredited Lab must be provide.		