

Sl.No.	Description for BHEL Requirement	Specified/ To be confirmed by	Offered	Deviations
	Design, manufacture and supply of Medium Voltage, floor mounting, free standing, indoor, Industrial type switchboard comprising of fuse switches, busbar chamber and conforming to the specification and features given below.			

Annexure 1A to Enquiry No. 89107 Dated 15.01.2009				
1.0	Incomer Fuse Switch unit with fuses:			
1.1	Current rating at 415V, 50Hz	800A		
1.2	Configuration	Three poles and neutral		
1.3	Type of enclosure	Sheet steel		
1.4	Fuses for 3 phases	630A		
1.5	Quantity of Incomer fuse switch	1 no.		
2.0	Outgoing Fuse switch Units with fuses:			
2.1	Configuration	Three poles and neutral		
2.2	Current rating at 415V, 50Hz	400A		
2.2.1	Type of enclosure	Sheet steel		
2.2.2	Fuses for 3 phases	400A		
2.2.3	Quantity of 400A fuse switch	1 no.		
2.3	Current rating at 415V, 50Hz	200A		
2.3.1	Type of enclosure	Cast iron		
2.3.2	Fuses for 3 phases	200A		
2.3.3	Make of the Fuse switch	GE, CH2003N(U)		
2.3.4	Quantity of 100A fuse switch	6 nos.		
2.4	Current rating at 415V, 50Hz	100A		
2.4.1	Type of enclosure	Cast iron		
2.4.2	Fuses for 3 phases	100A		
2.4.3	Make of the Fuse switch	GE, CH1003N(U)		
2.4.4	Quantity of 100A fuse switch	6 nos.		
3.0	Busbars:			
3.1	Current rating at 415V, 50Hz	800A		
3.2	Configuration	Three poles and neutral		
3.3	Material	Aluminium		

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3.4	Busbar chamber	CRCA sheet steel of min. 2 mm thickness.		
4.0	Accessories:			
4.1	Voltmeter with selector switch	Analog type, a.c., 0-500V, 96mm square, accuracy class 1.0		
4.2	Voltmeter and switch make	Vendor to specify		
4.3	Indication lamp	3 lamps for the phases		
5.0	Approx. overall dimensions of the Panel	Vendor to specify		
6.0	Make of the Fuse switches- L&T/ GE ,C&S make only	Vendor to specify		
6.1	Technical leaflet of the fuse switch offered to be enclosed with the offer.	Vendor to confirm		
7.0	General Features of the Fuse switches:			
7.1	The switches shall be totally enclosed and fully shrouded			
7.2	Provided with On/Off indication and two earthing terminals			
7.3	Quick make, quick break mechanism, independent of the speed of the operator.			
7.4	Double break isolation arrangement ensuring complete isolation of fuse units when unit is in off position			
7.5	All current carrying parts shall be hard silver plated			
7.6	Units to be provided with bolted type neutral links with facility to disconnect neutral easily.			
7.7	Interlock to ensure the lid cannot be opened until the switch is in off position and the possibility to defeat the interlock by a competent examiner.			
7.8	Provided with phase-phase, phase-earth barrier			
8.0	General Features of Switchboard:			
8.1	The panel shall be of Industrial type construction with enclosed busbar chamber in the middle and the fuse switch units mounted on the top and bottom of the busbar chamber.			
8.2	Busbars shall be made of high conductivity aluminium alloy with 75mmx10mm or			

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	equivalent cross section.			
8.3	The neutral busbars shall have a continuous current rating of 50% of the phase busbars. All busbars shall be insulated, colour coded for easy identification of individual phases and neutral.			
8.4	The earth busbar of size 6 x 50mm G.I.Flat shall run through out the length of the switchboard and be terminated at the two ends.			
8.5	High tensile bolts and spring washers shall be provided on all busbars and connection joints.			
8.6	All sheet steel used in the panel shall undergo a rigorous metal treatment process involving alkaline degreasing, descaling in dilute sulphuric acid, phosphating and painting.			
8.7	The switches shall be provided with cable adopter boxes in sheet steel for termination of armoured aluminium cable suitable for the current rating of the switches.			
8.8	Adequate number of busbar supports shall be provided to withstand short circuit current.			
8.9	The busbar chamber covers shall be fitted with dust proof neoprene gaskets.			
8.10	The switchboard shall be provided with 50x50x6mm size angle for main frame and 40x40x6mm angle for aux. frames for floor mounting.			
8.11	The connections from the busbars to the switches shall be through flexible insulated copper conductors of adequate cross section.			
8.12	The switchboard shall be painted with one coat of red oxide primer and two coats of enamel paint to match the colour of the switches.			
8.13	The construction of the panel shall generally conform to the Indian Electricity Rules and switches shall conform to the relevant IS.			
9.0	Qualifying Conditions:			
9.1	Only those vendors who have supplied and commissioned same or higher capacity switchboard that is working satisfactorily for at least one year after commissioning should quote.			
9.2	Information about the companies where similar equipments have been supplied with copy of few purchase orders is to be submitted.			
10.0	Scope of Supply	Quantity		
10.1	Industrial type switchboard of the configuration and specification as furnished above	1 no.		

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Annexure 1B to Enquiry No. 89107 Dated 15.01.2009				
1.0	Incomer Fuse Switch unit with fuses:			
1.1	Current rating at 415V, 50Hz	800A		
1.2	Configuration	Three poles and neutral		
1.3	Type of enclosure	Sheet steel		
1.4	Fuses for 3 phases	630A		
1.5	Quantity of Incomer fuse switch	1 no.		
2.0	Outgoing Fuse switch Units with fuses:			
2.1	Configuration	Three poles and neutral		
2.2	Current rating at 415V, 50Hz	400A		
2.2.1	Type of enclosure	Sheet steel		
2.2.2	Fuses for 3 phases	400A		
2.2.3	Quantity of 400A fuse switch	2 no.		
2.3	Current rating at 415V, 50Hz	200A		
2.3.1	Type of enclosure	Cast iron		
2.3.2	Fuses for 3 phases	200A		
2.3.3	Make of the Fuse switch	GE, CH2003N(U)		
2.3.4	Quantity of 100A fuse switch	4 nos.		
2.4	Current rating at 415V, 50Hz	100A		
2.4.1	Type of enclosure	Cast iron		
2.4.2	Fuses for 3 phases	100A		
2.4.3	Make of the Fuse switch	GE, CH1003N(U)		
2.4.4	Quantity of 100A fuse switch	4 nos.		
3.0	Busbars:			
3.1	Current rating at 415V, 50Hz	800A		
3.2	Configuration	Three poles and neutral		
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5.0	Approx. overall dimensions of the Panel	Vendor to specify		
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