

**Ministry of Health & Family Welfare
(GOVERNMENT OF INDIA)
Ministry of Health & Family Welfare
Nirman Bhavan, Maulana Azad Road
New Delhi – 110011**

Tender for

**Supply, Installation, Testing &
Commissioning of Substation Equipment for
Housing Complex for AIIMS-like-Institution at
Raipur under PMSSY**

**Volume - V
BILL OF QUANTITIES (BOQ)**

Tender No. HSCC/PMSSY/RAIPUR/SS/2010

NOVEMBER 2010

Consultant

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PROJECT: AIIMS HOUSING AT RAIPUR.

S.No.	Description.	Qty.	Unit.	Rate in Figures (in Rs.)	Rate in words (in Rs.)	Amount (in Rs.)
1	2	3	4	5	6	7
	SUBHEAD 1: H.T. SUB STATION					
1.00	SUBSTATION EQUIPMENTS					
1.01	HT Panel					
	Supply, erection, testing and commissioning of indoor type HT Panel having 630A, 33 kV, 3 Phase, 50 Hz., metal clad, dead front, 18.4 KA rupturing capacity Vacuum Circuit Breakers with interlocking scheme for the operation of different VCB, connections etc. complete with following incomers and outgoing including interlocking as per technical specifications and as required.					
	a INCOMER :					
	i 1No. VCB Panel having following					
	1 No. 630A, 33 kV, 3 Phase, 50Hz., metal clad, dead front, 18.4 KA rupturing capacity, Fully Drawout type, Vacuum Circuit Breaker (VCB)					
	1 set of 33kV/110V Potential Transformers with HRC fuses					
	1 Set of Phase indicating lamps with HRC fuses					
	1 No. 0-33 kV voltmeter with selector switch					
	1 set of indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY					
	2 No. Push button for CLOSE and TRIP					
	1 set of 50/5-5A Current Transformer for metering and protection					
	1 No. 0-50 Amps ammeter with selector switch					
	1 Set of CDG 61 (2 No. O/C, 1 No. E/F) relay					
	8 window Alarm annunciator with separate hooter, accept and rest push buttons.					
	1 Set of undervoltage relay and Overvoltage relay					
	1 set of trip circuit supervision relay					
	Auxiliary Relay with shunt trip coil.					

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1	2	3	4	5	6	7
	1 No. Master Trip relay					
	1 No. Power factor meter					
	1 No. Tri Vector meter					
	1 No. Frequency meter					
	1 No. 3-Phase digital Trivector Meter of suitable rating					
	BUSBARS :					
	33kV, 630 Amps, 18.4 KA Three Phase busbars of aluminium.					
	b OUTGOINGS :					
	i 2 No. VCB Panels each having following					
	1 No. 630A, 33kV, 3 Phase, 50Hz., metal clad, dead front, 18.4 KA rupturing capacity, Fully Drawout type, Vacuum Circuit Breaker (VCB)					
	1 set of indicating lamps to indicate OPEN, CLOSE, TRIP, SPRING CHARGED, TRIP CIRCUIT HEALTHY					
	Push buttons for CLOSE and TRIP					
	1 set of 25/5-5A Current Transformer for metering and protection					
	1 No. 0-25 Amps ammeter with selector switch					
	1 Set of CDG 61 (2 No. O/C, 1 No. E/F) relay					
	1 No. Master Trip Relay					
	1 set of trip circuit supervision relay					
	Auxiliary Relay with shunt trip coil.					
	8 window Alarm annunciator with separate hooter, accept and rest push buttons.					
	HT Panel as mentioned above.	1	Set			

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1	2	3	4	5	6	7
1.02	TRANSFORMER					
	Supply, erection, testing and commissioning of 1000 KVA, 33/0.433 kV, 3 Phase, 4 wire, 50 Hz., ON-AN Transformer for out door duty with an -10% to + 5% in the steps of 1.25% on-load tap changer including RTCC Panel etc with cable box at primary (HT side) and secondary end (LT side) shall be connected through busduct/ Cable , the transformer shall be complete with first filling of oil, with buchholz relay protection, high winding temperature sensors, complete with all fittings, interconnection of control cables and accessories, soak pit for transformer oil, fencing and gate as required as per detailed technical specifications and as required.	2	Set			
1.03	BATTERY CHARGER PANEL					
	Supply, erection, testing and commissioning of 110 V DC battery charger panel complete with battery, control cabling etc. as required.					
	Sealed Maintenance Free (SMF) battery of suitable ampere hour capacity for above 33kV VCB panels in HT Panel Room of the building as specified above.					
	Boost and Trickle charger suitable for above items.					
	1 No. AC Voltmeter (0-500Volt)					
	1 No. DC Voltmeter					
	1 No. DC Ammeter					
	1 set of AC and DC indicating lamps					
	1 No. DC Battery charging position indicator					
	DC distribution board suitable for above application to incoming & outgoing MCBs include tripping, closing and indication etc.					
	Control cabling between DC Distribution panel to the HT panel of the Substation with suitable core 1.5 sqmm copper cable					
	Battery Charger as mentioned above.	1	Set			

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1		2	3	4	5	6	7
1.04		L.T. CABLE					
		Supply of following sizes of 1.1 kV grade multicore aluminium conductor PVC sheathed armoured AYFY cable as per IS 1554.					
		3.5 Core 400 Sqmm.	300	Metre			
1.05		H.T. CABLE					
		Supply of following sizes of 33 kV grade multicore aluminium conductor XLPE armoured and overall HRPVC seathed power cable as per IS : 7098.					
	i	3 Core, 185 sq mm	1000	Metre			
1.06		Laying of one number 33 kV, XLPE power cable of 3 core 185 Sqmm direct into ground including excavation, sand cushioning, protective covering and refilling the trench, providing the rout marker at suitable distances & as per requirement, complete as required including MS clamps etc for indoor area.	1000	Metre			
1.07		Supplying and making end termination with heat shrinkable jointing kit complete with all accessories including lugs suitable for following size 3 Core, XLPE aluminium conductor cable of 33kV grade as required.					
	i	185 sqmm	6	Each			
1.08		Earthing with copper plate 600mm x 600 mm x 3mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. including charcoal and salt complete as per IS:3043 and as required.	12	Set			
1.09		Supplying and laying 25mm X 5mm copper strip on surface including soldering etc. as required.	100	Metre			
1.10		Supplying and laying 25mm X 5mm copper strip at 0.5m below ground level as strip earth electrode, including soldering etc. as required.	100	Metre			

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1		2	3	4	5	6	7
1.11		Double pole structure with GOD, AB switch/ D.O. fuse and lightning arresters etc with pin/ disc insulators of 33 KV grade complete with foundation of pole etc complete as per requirements of State Electricity Board and as required.	1	Set			
		TOTAL FOR SUB HEAD 15: H.T. SUB STATION					0