

# **RENOVATION OF NHPC GERUKAMUKH BRANCH, ASSAM**

## **BOQ for Electrical Installation Works**

SL No	DESCRIPTION	UOM	QTY	Rate (Rs.) (Exclusive of GST on work contract)	Amount (Rs.) (Exclusive of GST on work contract)
1	<p><b>a. Main Panel</b> :- Supplying, Installing, testing and commissioning of factory fabricated 2MM thick CRCA, floor mounted cubicle type distribution Panel Board with 150 MM X 75 MM X 6MM ISMC base channel, suitable for 415 V TPN comprising of 300A <b>suitable double copper bus</b> bars with color coded heat shrink insulation with the followings:  200, 4P MCCB, 35 kA with adjustable overload, short circuit, ground fault, as incomer, 125 A <b>Onload changeover</b> with rotatory handle, R-Y-B LED indicating lamps, Digital multifunction meter of minimum size 150 MM X 150 MM to measure Voltage, Current, PF etc with all accessories  Outgoing:100 A 4P MCCB, 35kA for AC -1 Nos,  63 Amp 4P MCCB, 35kA for UPS - 1Nos,  63 Amp 4P MCCB, 35kA for Capacitor Panel - 1No,  63 Amp 4P MCCB, 35 kA -2 Nos. ATM &amp; SPARE. All MCCBs are should be thermally and magnetically adjustable only.  All outgoing must be in compartmentalized chamber fully isolated with 2 mm thick CRCA and 3 mm steel channel painted with 2 coats of red oxide primer paint followed by finishing paint with interconnection etc. as required.</p> <p><b>b. Capacitor Panel:</b> Supply and installation of 10 KVAR APFC panel, floor/wall mounted front operated totally enclosed vermin proof, indoor non-drawout-cubicle type power panel fabricated out of 16 SWG thick CRCA sheet having gasketed hinged cover on each cubicle fully powder coated with suitable bus bar for connecting the contactors, MCB's, Capacitors, etc with the following accessories  A set of R-Y-B LED indicating lamp at incomer  40 A, TPN MCB, 35kA as incomer - 1No  1 Nos. 32A 3P contactor for 5 KVAR,  2 Nos, 25A, 3P contactor for 2 KVAR and  1 No, 16A, 3P contactor for 1 KVAR  1 Nos. 5 KVAR, 2 Nos. 2 KVAR and 1 No. 1 KVAR.  1 no. 6-step APFC relay of minimum size 150 MM X 150 MM suitable for above arrangement  ON/OFF push button for each capacitor  ON/OFF LED type indication lamp for each capacitor</p>	Set	1		
2	<p>Sub-main line:- Wiring in MS conduit of IS specification of Proper size with core PVC insulated stranded copper wire 11KV grade (Finolex/Havells/Polycab/ RR Kabel/ Richa/KEI or equivalent) and with supply ,installation, commissioning of all the materials required including proper termination,connection in complete as required from main DB to various DBs:-</p>				
i)	with 2nos 4sq.mm + 1nos. 1.5sq.mm (1ECC)	RM	140		
ii)	with 2nos 6sq.mm +1nos 4sq.mm (1ECC)	RM	100		
3	Supply ,installation ,testing and commissioning of distribution board manufactures made sheet steel enclosure With the following MCBs (DB,MCB and MCCB Make- Legrand's/ Havells/ L&T/ SIEMENS or equivalent) and connecting the same to the system.				
i)	Computer/Raw power DB, 8-way, SPN double door with 40A (30mA)DP RCCB as incomer & 6 nos 10A SP MCB as outgoing.	No.s	2		
ii)	DB with 40A DP MCB.	No.s	4		
iii)	DB with 16A DP MCB.(Security and fire)	No.s	2		
iv)	DB with 32A DP RCCB.	No.s	5		
V)	DB with 40A MCB Changeover	Nos.	1		

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vi)	4-way, VTPN Double Door Distribution Board with 100 A 4 Pole MCCB (36kA) as incomer and 12 Nos. 32A SP MCB's at outgoing (AC )	Set	1		
vii)	4-way, VTPN Double Door Distribution Board with 63A 4 Pole MCCB (36kA) as incomer and 4 nos. of 40 A SP MCB, 4 Nos. of 32A MCB and 2 nos of 16A SP MCB at out going	Set	1		
viii)	Light DB, 8-way, SPN double door with 40A (30mA)DP RCCB as incomer & 6 nos 10A SP MCB as outgoing.	No.s	2		
ix)	Supply & installation of double door 4 way MCB DB with following accessories a) 1 No. 63 amp. TPN MCB as incomer, b) 7 Nos. 25 Amps SP MCB and 2 nos. 16A SP MCB in outgoing(ATM)	No.s	1		
4	Supplying, installing and commissioning of PVC Armored cable complete with proper cable glands and two nos. of 8SWG GI wire (Havell's/Richa/RR kebel/KEI or equivalent) alongwith all the other materials required including proper connection in complete as required from main Panel,Power Distribution Board to various DBs .				
i)	With 3.5 core x 35 sq. mm cable	RM	80		
ii)	With 3.5 core x 50 sq. mm cable	RM	60		
5	a) Supply, installing and commissioning of earth station including digging and refilling back the pit with black soil and with 3.15mm x300mm size copper plate duly tinned through out the surface of the plate, placed at least 1.5Mtr,below the ground level with 2nos 10sq.mm PVC insulated stranded copper conductor in 20mm GI pipe, fixed to the plate and providing 40mm,2mtr,long GI pipe with reducer and funnel at top for watering pipe with supplying and laying earth continuity wire of 2x10sq.mm copper stranded PVC green color in heavy duty MS conduit on the wall from earth plate to starting point of the line earth connector with proper earth pit.	Nos.	4		
	i) Supplying and fixing 25x3 mm copper strip, insulated by heat pressurized heavy gauge PVC sleeve, duly jointed by full lap brazing and drawn underground in 40 mm class B GI pipe from the inspection pit to the inside of the branch premises.	RM	20		
	ii)Supplying and fixing 2X8 SWG dia copper earth wire in PVC conduit on surface or in recess for loop earthing from panel to DB	RM	40		
	<b>b) Maintenance Free Chemical Earth Stations:</b> The items listed below shall be undertaken directly by Agencies providing Ashlock/ or True Power or, equivalent of approve Make Chemical earthing, The contractor shall provide the rates of getting the same executed by the agency. The representative of the agency shall measure and submit the test report of the earth directly to the branch and one copy to the Elect. Engr. along with their bill. The agency may also require to test and provide the test report of the earthing measurement if required to the branch and Elect. Engr. for monitoring upto a period of three years.				
	i) Supply and installation of pipe-in-pipe technology Ashlok Earthing / True Power system or equivalent of approve make Model T-19 with outer diameter of 50 mm, length 2000 mm embedded in the soil with masonry inspection pit with cover , which can be easily removed abd placed. complete in all respect. Earth pit installation test certificate to be submitted after measurement of earth resistance as per the provision in IS3043. (UPSs and Panel earthing)	Set	1		

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6	Computer/Raw Power point wiring in MS conduit of IS specification of proper size with 3nos 2.5sq.mm single core PVC insulated stranded copper wire 1.1KV grade(Finolex/Havells/Polycab/ RR Kabel/ Richa/KEI or equivalent) and with all material supply installation and commissioning complete from /PDB(Raw) .The wiring shall be carried out on surface above false ceiling by chiseling the existing surface and plastering the same with cement etc.after fixing the MS conduit with all accessories like saddles screws, bends T-joint etc. 2 coats of painting Matching to the surface including supply installing, testing, commissioning of modular plate type switch and socket (Legrands / MK or equivalent) for computer terminal on sheet steel enclosure (cadmium plated),duly fitted with screw to the steel conduit and fixed to the wall partition furniture with all interconnection and proper earthing .All the opening shall be covered with blank plate and be sealed to make the box vermin proof.B48(maximum three points in single circuit)				
i)	With 3nos 6A socket with single 16A switch.	No.s	14		
ii)	With 2nos 16A socket with individual switch.	No.s	8		
iii)	With 1nos 16A socket with individual switch.	No.s	5		
7	Supply & Fixing of 15Watt commercial down lights of <b>system efficacy &gt;100lm/W</b> . The light should be recessed mounted slim circular type LED panel with <b>die-cast aluminium housing</b> and smooth powder coated finish with anti glare UV stabilized diffuser and separate energy efficient electronic driver having inbuilt surge protection upto 2.5kV. (Make - as	Nos	32		
8	Supply, installation testing and commissioning of surface mounted circular LED downlighter with 15W LED lamp. Make :- Bajaj/Havells/Phillips/Wipro /Crompton or equivalent. (Make - as in tender make list)	Nos	6		
9	Supply and fixing of 2'x2' LED commercial Luminaire of 36 Watt with <b>system efficacy of 110lm/W</b> . The light should be recessed mounted type and low depth with CRCA powder coated housing, high transmittance diffuser for symmetric light distribution with non-integral energy efficient isolated electronic driver and inbuilt surge protection upto 3kV. (Make - as in tender make list)	Nos	16		
10	Supply and fixing of LED commercial batten Single Tube light fittings with 20W with glare free light distribution wall mounted at ceiling/false ceiling level/. (Make - as in tender make list)	Nos	12		
11	Supply and installation of Wall Mounted fan 400 mm full Metallic body and metallic Blade, 1400 rpm with inbuilt thermal overload protection crompton/ bajaj/ usha/ orient make	No.s	6		
12	Supply and installation of 5 Star rated BLDC Ceiling fan 1200 mm crompton/bajaj/usha/havell's make with including suitable hooks and extensions as per site requirement	No.s	2		
13	Supply and installation of heavy duty Exhaust Fan 300 mm crompton/ bajaj/ usha/ havells make	No.s	4		
14	Supplying, installation,testing & commissioning of Security ligh with 25W LED lamps with pressure die cast housing with epoxy coated dark graphite grey colour finish and prismatic polycarbonates cover with individual LED lenses, including necessary GI bracket with clamp. Make :- Bajaj/ Havells/ Phillips/ Wipro/ Crompton or equivalent	Nos.	4		
15	Supply and installation of 5 Meter roll IP20 Flexible LED Strip surface mounted alongwith required LED Driver as back lighting. Havells or equivalent make.	No.s	3		

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16	Wiring for light/fan/exhaust fan points using 3 X 1.5 1.1 kV grade PVC insulated stranded copper conductor wire (Finolex/ Havell's/ Richa/ RR kebel/ KEI or equivalent) for phase, neutral and earth in 25 mm dia heavy duty MS conduit along with associated accessories like MS junction boxes, bends, saddles, screws et. concealed in wall, floor, under flooring, below false ceiling or on surface as well as suspended from ceiling with 25mm X 3 mm MS flat suspenders duly painted above false ceiling from individual light/Fan/Exhaust Fan point outlet. etc. to individual modular type switch boards, 10 Amp modular plate type switches etc.(MK/Legrand's/Havell's or equivalent), as required complete including circuit wiring with 3 X 2.5 sqmm. 1.1 kV grade PVC insulated stranded copper conductor wire and as per site requirement and as instructed by SBILMS Engineer.				
i)	Light/fan point (one downlighter/ 2"X 2" rececced light fittings to be connected through one point)	No.s	40		
ii)	Light/fan point (two downlighter/ two 2"X 2" rececced light fittings to be connected through one point)		20		
iii)	6A socket & switch at same board	No.s	6		
iv)	Fan Point with electronic modular type regulator.	No.s	2		
v)	16A, 5 pin industrail plug & Socket with 25 A MCB protected (for Safe room & Record room) with 5 meter 3 core 10 sqmm copper wire	Nos.	2		
vi)	Modular type with 6A SP MCB for Exhaust fan and wall fan	No.s	10		
	<b>LAN NETWORK</b>				
17	Supply, Installation, commissioning & Testing of LAN I/O box (CAT 6)	No.s	15		
18	Supply of CAT-6 LAN cable(4 pair) (305 Meter per box)	No.s	1		
19	Supply, installation & Testing of company Made CAT 6 Patch cord with RJ 45				
a)	1 Meter length	No.s	5		
b)	3 Meter length	No.s	5		
20	Laying, instillation & testing of LAN cable in PVC conduit from switch to each node.	RM	200		
21	Supply, Installation & Testing rack mountable 24 Port patch panel	No.s	1		
22	supply and installation of wall mounting server 9U steel rack	No.s	1		
	<b>Total</b>				

GST on work contract will be extra as applicable.