



BHARAT HEAVY ELECTRICALS LIMITED

RAMACHANDRAPURAM :: HYDERABAD-32
TOWNSHIP ADMINISTRATION

TENDER DOCUMENTS (PRICE BID)

**Electrical Works for installation of
500 LPM PVSA Oxygen Generation Plant at BHEL-HPEP Hospital.**

Tender Notice : HY/ TA/ E/ OT-04/ 2021-22, Dt. 21.12.2021 (N0AUX00387)

-- INDEX --

1. Schedule - A : Schedule of rates and approximate quantities

NAME & ADDRESS OF TENDERER:

PHONE NO. : _____

E-mail : _____

BHARAT HEAVY ELECTRICALS LIMITED
RAMACHANDRAPURAM :: HYDERABAD - 32
TOWNSHIP ADMINISTRATION / ELECTRICAL DEPARTMENT

Tender No.: HY/ TA/ E/ OT-04/ 2021-22
Date : 21.12.2021
(N0AUX00387)

SCHEDULE - 'A'

Electrical Works for installation of 500 LPM PVSA Oxygen Generation Plant at BHEL-HPEP Hospital.

| Sl. No. | SAC Code | Nature of work | Unit | Qty. | Rate | Amount (Rs.) |
|---------|----------|---|--------|------|-----------|--------------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 1 | 995469 | Laying of one number PVC insulated and PVC sheathed / XLPE, armoured power cable of 1.1 KV grade of size upto 95 sq. mm direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required. (3½-core, 70 sqmm cable will be supplied by BHEL) | Metre | 85 | 313.93 | 26,684.05 |
| 2 | 995469 | Laying of one number PVC insulated and PVC sheathed / XLPE, armoured power cable of 1.1 KV grade of size upto 95 sq. mm on wall surface as required with with necessary clamps as required. (3½-core, 50 sqmm cable will be supplied by BHEL) | Metre | 20 | 90.85 | 1,817.00 |
| 3 | | Supply and installation of following size hot dip GI perforated Cable Tray without cover along with Coupler plates, T's, Bends, Reducers, Anchor bolts, nuts, washers and slotted channels / Angle Iron Channels etc. as required for fixing of the tray on wall / steel structure; complete all as directed by Engr-in-charge. | | | | - |
| (a) | 995469 | 100mm x 25mm x 1.6mm thick | Metre | 20 | 167.20 | 3,344.00 |
| (b) | 995469 | 75mm x 25mm x 1.6mm thick | Metre | 66 | 149.60 | 9,873.60 |
| 4 | | Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required. | | | | - |
| (a) | 995469 | 3½ X 70 sq. mm | Each | 1 | 322.51 | 322.51 |
| (b) | 995469 | 3½ X 50 sq. mm | Each | 2 | 288.82 | 577.64 |
| (c) | 995469 | 4 X 10 sq. mm | Each | 2 | 192.10 | 384.20 |
| 5 | 995469 | Fabrication and supply of 200A MCCB power distribution panel of CRCA sheet, with ISMC channel base, MS angle stand, aluminium busbar, switchgears, metering unit, indication lamps, control & power wiring etc. and erection at site including cost of all materials, conveyance, painting and sundry expenses. Details and specifications given in the annexed drawing. | 1 unit | 1 | 54,800.00 | 54,800.00 |
| 6 | 995469 | Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required | Set | 1 | 10,341.35 | 10,341.35 |
| 7 | 995469 | Providing and laying earth connection from earth electrode with 4.00 mm dia copper wire in 15 mm dia GI. pipe from earth electrode including connection with copper thimble and excavation, re-filling for GI pipe etc. as required. | Metre | 30 | 225.66 | 6,769.80 |
| 8 | 995469 | Supplying and fixing 4 way (4 + 12), Double door, horizontal type three pole and neutral, sheet steel, MCB distribution board, 415 V, on surface/ recess, complete with tinned copper bus bar, neutral bus bar, earth bar, din bar, interconnections, powder painted including earthing etc. as required. (But without MCB/Isolator) | Each | 1 | 2,690.13 | 2,690.13 |
| 9 | | Supplying and fixing 5 A to 32 A rating, 240/415 V, 10 kA, "C" curve, miniature circuit breaker (MCB) of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. | | | | - |
| (a) | 995469 | 32A Triple pole and neutral MCB | Each | 1 | 957.72 | 957.72 |
| (b) | 995469 | 10A Single pole MCB | Each | 12 | 174.87 | 2,098.44 |

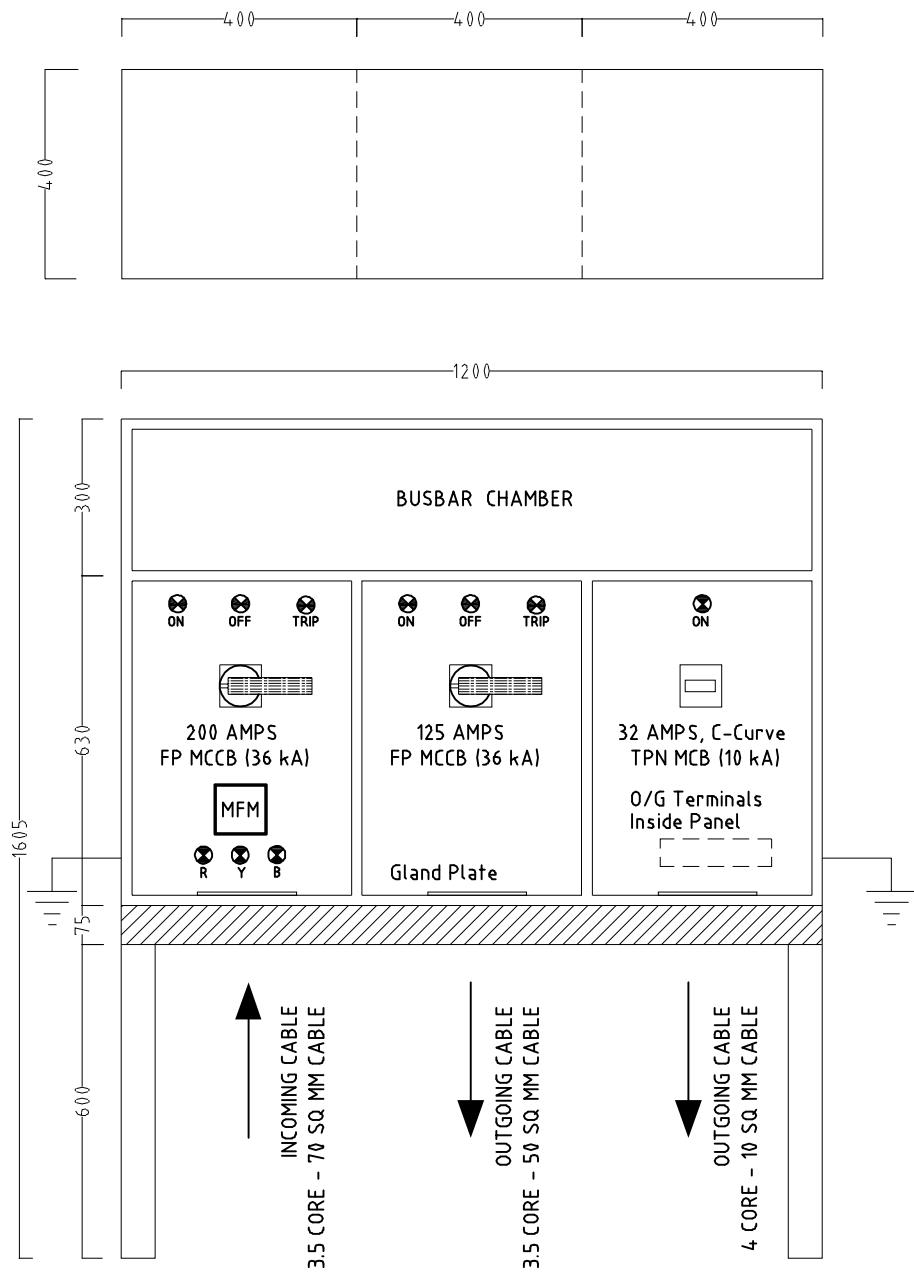
| Sl. No. | SAC Code | Nature of work | Unit | Qty. | Rate | Amount (Rs.) |
|---------|----------|---|-------------------------|------|-------|--------------------|
| (1) | (2) | (3) | (4) | (5) | (6) | (7) |
| 10 | 995469 | Supplying and fixing of 20mm medium class PVC conduit along with accessories in surface / on cable tray as required. | Metre | 70 | 73.23 | 5,126.10 |
| 11 | 995469 | Supplying and drawing 2 x 1.5 sq. mm of FRLS PVC insulated copper conductor, single core cable in the existing surface/recessed steel/ PVC conduit as required. | Metre | 70 | 36.27 | 2,538.90 |
| | | | TOTAL | | | 1,28,325.44 |

Note:- The tenderers are required to quote their tender value on %age basis at Excess / Less / on par with estimated value.

| Tender % | In Words | In Figures |
|---------------------------|----------|------------|
| Excess | | |
| Less | | |
| Estimate rate only | | |

Conditions :

| | |
|---|---|
| 1 | Taxes & Duties: The rate quoted by the contractor shall be exclusive of GST. All the terms & conditions of the contract with respect to Taxes & Duties are subject to the new taxation laws introduced from time to time (e.g., GST). The terms & conditions will be modified in accordance with the provisions of new laws (e.g., GST). |
| 2 | Contract Period & Maintenance Period: Period of contract : Two (2) months from the date of commencement Maintenance period : One (1) year from the date of completion |
| 3 | Penalty: Penalty amount determined as per penalty clause (as mentioned in pg. 5 of NIT) of the contract along with GST if applicable thereon shall be recovered |



| FABRICATION DETAILS | 1) Main Frame / Doors : 14 Gauge CRCA Sheet 2) Partitions / Covers : 16 Gauge CRCA Sheet 3) Gland Plates : 10 Gauge Removable Type 4) Base Frame : MS Channel ISMC 75 x 40 x 5 mm 5) Mounting Stand : MS Angle ISA 65 x 65 x 5 mm 6) Installation : Indoor 7) Cable Entry : Bottom Entry 8) Degree of Protection : IP-54 (dust & vermin proof) 9) Gasket : Good quality gasket for all doors & covers 10) Design of panel : Non-draw out type (fixed) 11) Front & rear side access cover for busbar & cable chambers. 12) Panel locks for all doors |
|---------------------|--|
|---------------------|--|

| | |
|---------------------|---|
| PAINTING DETAILS | Panel : Siemens Gray Powder Coated Base : Black |
| BUS-BAR DETAILS | Hard drawn high conductivity Electrolytic grade Aluminium Busbar (current density 0.8A/sq.mm) Phase : 30 x 6 mm ; Neutral : 25 x 5 mm Busbar insulation : PVC Heat shrinkable sleeves with R,Y,B & N colour coding. |
| EARTHING DETAILS | Panel Earthing : 25 x 5 mm GI Flat Door Earthing : 2.5 sq. mm flexible 1-core copper wire |
| PANEL RATING | 440V ± 10%, 3ph, 4Wire, 50 Hz ± 5% |
| MAIN INCOMING | 200A, 36 kA, FP MCCB with thermal magnetic release, auxiliary and trip switch, spreader links & extended rotary handle mechanism |
| OUTGOING FEEDERS | (1) 125A, 36 kA, FP MCCB with thermal magnetic release, auxiliary and trip switch, spreader links & extended rotary handle mechanism (2) 32A, TPN MCB, 10kA, C-curve |
| INDICATIONS | R-Y-B Phase Indication (LED) Lamps for incoming LED indication lamps for ON-OFF-TRIP on all feeders |
| METERING | Digital Multi Function Meter with multiline illuminated LCD display with V, A, F, PF, kW, kVA, kVAR, kWh, kVAh, kVARh, Max. Demand parameters |
| CURRENT TRANSFORMER | 300/5A, CL-1, 1.15VA |
| CONTROL WIRING | 1.5 Sq.mm PVC, multistranded flexible copper wire |
| CT WIRING | 2.5 Sq.mm PVC, multistranded flexible copper wire |

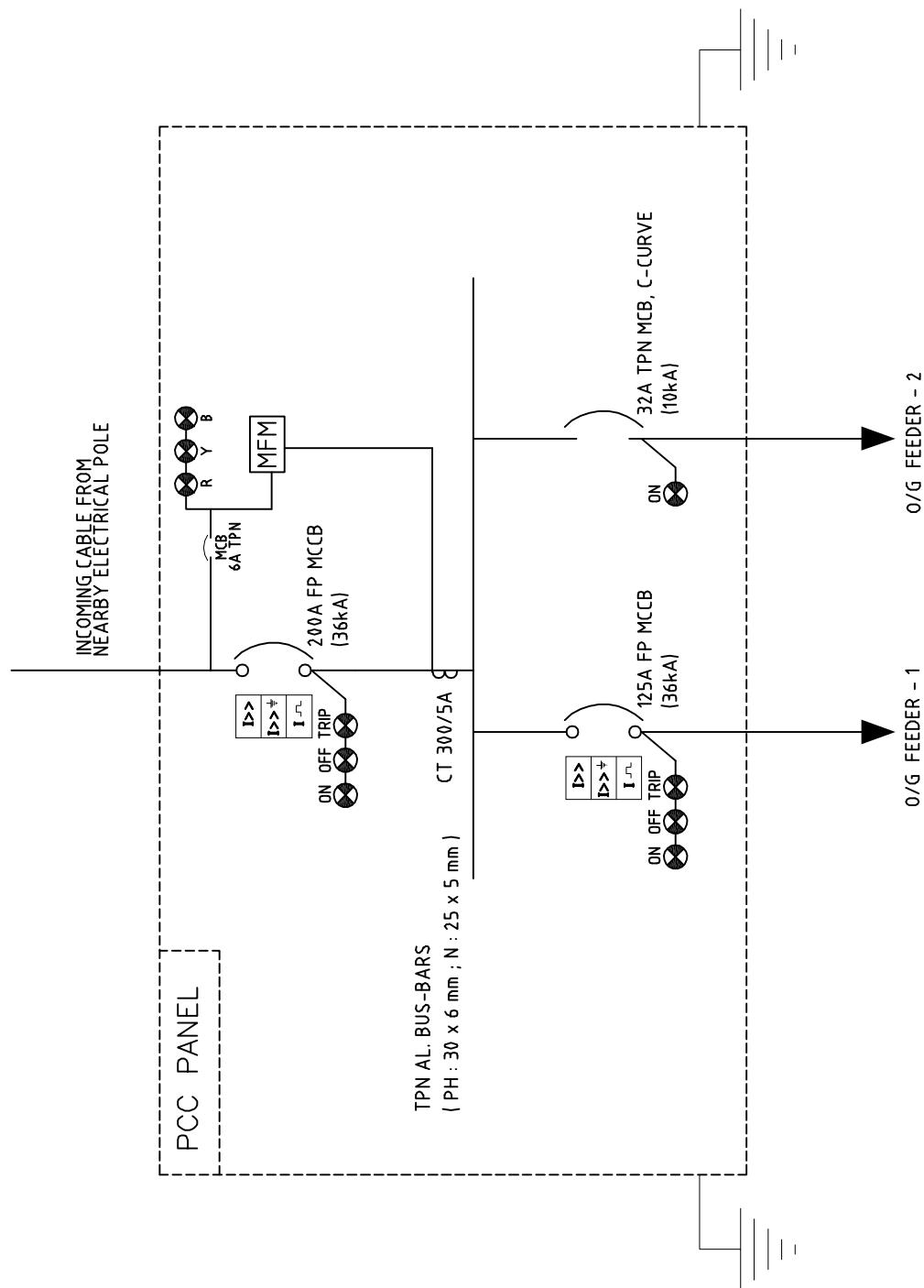
| MAKE OF ITEMS | |
|----------------------|---|
| SWITCHGEARS | HAVELLS / L&T / SCHNEIDER / SIEMENS / C&S |
| INDICATING LAMPS | EXBEE / TEKNIC / VAISHNO |
| CURRENT TRANSFORMER | ALTRAN / SREESTAA |
| MULTI-FUNCTION METER | L&T / C&S / SECURE / ELMASURE |



BHARAT HEAVY ELECTRICALS LIMITED

RAMACHANDRAPURAM :: HYDERABAD - 32.

| | | | | |
|-------|------------|---|----------|--------------------------|
| SCALE | N T S | TITLE: PCC PANEL FOR OXYGEN PLANT (GENERAL ARRANGEMENT) | | |
| | | | | |
| DRAWN | S K | CHECKED | APPROVED | DRG.No. TA-EL/2021/PCC-1 |
| DATE | 12.12.2021 | | | SHEET No. 1 REV. No. |



| | |
|-------------------------------------|---|
| | BHARAT HEAVY ELECTRICALS LIMITED |
| RAMACHANDRAPURAM :: HYDERABAD - 32. | |
| SCALE | 1:5 |
| DATE | 12.12.2021 |
| NAME | TA - EL / 2021 / PCC - 1 |
| APPROVED | DRG.No. |
| CHEKED | |
| SHEET NO. | 2 |
| REV. NO. | |

TITLE: PCC PANEL FOR OXYGEN PLANT
(SCHEMATIC LINE DIAGRAM)