**ODISHA POWER TRANSMISSION CORPORATION LIMITED**
**(**A GOVERNMENT OF ODISHA UNDER TAKING)
CIN- U40102OR2004SGC007553
**OFFICE OF THE GENERAL MANAGER,**
**EHT (O&M) CIRCLE, CUTTACK**
AT: MADHUSUDAN NAGAR, TULSIPUR, CUTTACK-753008
Phone: 0671 2300226 Fax: 0671-2300547

## OPEN TENDER CALL NOTICE NO. 04/CTC/2018-19

Sealed tenders are invited by the undersigned for **Strengthening of earthing system by making of new earthpits in place of existing old earthpits of 132KV & 33KV switchyards of Grid Sub-station Bidanasi and Phulnakhara & Construction of one no. of transformer oil sump for 132/33KV 40MVA BHEL transformer no.3 at 132/33KV grid s/s Phulnakhara** from experienced contractors with HT/MV contractor license issued by Govt. of Odisha/Govt. of India / Railways/ Military possessing valid I.T. Pan Card / GST registration/ clearance certificates.

Cost of Tender Paper: **Rs 4480/- (Non-refundable) in shape of Cash/DD and EMD: 1% of tendered value in shape of DD only.** The detail tender specification can be obtained from the office of the undersigned, on payment of dues as mentioned below during office hours from 11.00A.M. to 5.00P.M. from **Dt. 26.04.2018 to Dt.10.05.2018**. The tenders shall be received up to 3 P.M. on **Dt.11.05.2018** and will be opened at 3.30P.M on same date in the office of the undersigned. The ***Demand draft towards tender paper cost and EMD is to be*** drawn in favour of **EHT (O&M) Circle, OPTCL, Cuttack, *Payable at Cuttack*** without which the tender will be rejected.

This office will not be responsible for non-receipt / late receipt of tender document due to postal delay. All other terms and conditions of OPTCL purchase & contract regulation will also be applicable to the successful bidders while placing the work order.

The undersigned reserves the right to reject any or all the tenders without assigning any reason thereof.

| SL No | Name of the item | Cost Of tender specification | Eligibility Criteria for bidders |
|---|---|---|---|
| 1 | A. Strengthening of earthing system by making of new earthpits in place of existing old earthpits of 132KV & 33KV switchyards of Grid Sub-station Bidanasi and Phulnakhara<br>B. Construction of one no. of transformer oil sump for 132/33KV 40MVA BHEL transformer no.3 at 132/33KV grid s/s Phulnakhara | Rs4000/- +GST @ 12% i.e Rs. 480/- =Rs4480/- (Non-refundable in shape of DD only (separately For each vehicle) | Experienced contractors with Civil contractor license issued by Govt. of Odisha / Govt. of India / Railways/ Military possessing valid I.T. Pan Card / GST registration/ clearance certificates are eligible to apply |

**Sd/-**

**GENERAL MANAGER**

**EHT (O&M), Circle, Cuttack**

## DETAILS OF THE WORK

### A. FOR STRENGTHENING OF EARTHING SYSTEM BY MAKING OF NEW EARTHPIT IN PLACE OF EXISTING OLD EARTHPIT OF 132KV & 33KV S/Y OF GRID S/S BIDANASI

| SL. NO. | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 1 | Dismantling of the super structure made in first class KB Bricks Masonary (1:6) and cleaning with stacking the Bricks in a proper manner as directed by the Engineer in charge<br>=[(0.7X0.7X0.45)- (0.4X0.4X0.45)] X76<br>= (0.2205-0.072) X76 = 0.1485X76 = 11.2860 | CUM | 11.2860 |
| 2 | Picking of 20/40mm hard granite metals from switchyard area and stacking of the same as per instruction of Engineer in charge (Area for excavation near earth pit) {(2X2) – (0.7X0.7) } X76 = 266.76 | SQM | 266.76 |
| 3 | Excavation & back filling for foundation of equipment & column including supply of all materials labour & T &P as per the instruction of Engineer-in-charge ( for earth pit & earth pit chamber) (1X1X3)- X76 = 228.29<br>i) Soft/ loose soil | CUM | 228.29 |
| 4 | Filling of Excavated Area for earth pit with borrowed earth with supply of all labour, T &P (Slurry of bentonite powder & borrowed earth)<br>{(1X1X3) – (0.225X0.7X0.7)} X76 = 219.62 | CUM | 219.62 |
| 5 | Spreading of 20mm hard granite metals in switchyard as per the instruction of Engineer in charge with supply of all labour & T &P (without supply of metal)<br>{(2X2) - (0.7X0.7)} X76} X0.1= 26.676Sqm<br>Taking account 30% less<br>26.676 – 8.0028= 18.6732 | CUM | 18.6732 |
| 6 | PCC (1:3:6) for earth pit chamber with cost of cement and without steel = {(0.8X0.8X0.075) - (0.45X0.45X0.075)} X76 | CUM | 2.494 |

| | | | |
|---|---|---|---|
| | =(0.048X-0.01518) X76 = 2.494 | | |
| 7 | RCC with ratio of concrete (1 :1.5: 3) with cost cement & without steel<br>**a)** <u>For earthpit wall</u><br>={0.7X0.45X 0.075)X2} + {(0.55X0.45X0.075)X2}}X76<br>=(0.04725 + 0.037125) X76<br>=0.084375 X 76 = 6.4125<br>**b)** <u>Slab for earth pit chambers</u><br>={0.7X0.7X0.075}X76 = 2.793<br>Total RCC = 9.2055 | CUM | 9.2055 |
| 8 | Requirement of rod with Cutting, bending, binding placing in position of steel rods for foundation concreting including cost of binding wire<br>With supply of all size rod (TATA/RINL/SAIL make)<br>**a)** <u>For Earth pit walls</u><br>Vertical 10mm dia rod spacing=150mm & each length 0.45m<br>Nos of pieces = (2500/150)+1=17Nos.<br>So, 17X0.45m=7.65m<br>Hence, 7.65mX(0.617kg/1m) = 4.72kg<br>(As 10mm rod,1m=0.617kg)<br>Ring 8mm dia rod with spacing =200mm & earth of length 2.5m<br>Nos. of pieces = (450/200) +1=3Nos.<br>So, 3X2.5m=7.5m<br>Hence, 7.5mX (0.395kg/1m)=2.96kg<br>(As 8mm rod, 1m=0.22kg)<br>Total weight =4.72+2.96=7.68kg<br>Add 10% extra for wastage<br>=7.68+0.768=8.448kg for 76pits<br>= 8.448X76=642.048kg = 0.642MT<br>**b)** <u>For Slabs of Earth pit Chamber</u><br>10mm dia rod spacing =150mm & each of length 0.7m Nos. of pieces =(700/150) +1=5Nos.<br>Both ways =5nos. X2=10nos.<br>Total length = 10X0.7=7m<br>So, 7mX(0.617kg/1m=4.319kg<br>(As per 10mm rod, 1m) =0.617kg<br>Add 10% extra for wastage<br>=4.319+0.4319=4.75kg<br>For 76pits<br>=4.75X76=361kg = 0.361MT<br>So total weight of all rod required<br>=0.361+0.642=1.003MT | MT | 1.04 |
| 9 | Connection of earth pit electrode to the newly made earthmat & the concerned equipment by using GI flat of size 50X6mm with supply of GI flat by welding of different size flats application o bituminous paint wrapping of HT Tapes over it with supply of all Labour and T & P<br>Approximately 5mtr for each earth pit.<br>Hence 5X76=380mtr | MTR | 380 |

**B. <u>FOR STRENGTHENING OF EARTHING SYSTEM BY MAKING OF NEW EARTHPIT IN PLACE OF EXISTING OLD EARTHPIT OF 132KV & 33KV S/Y OF GRID S/S PHULNAKHARA.</u>**

| Sl. No. | Description | Unit | Quantity |
|---|---|---|---|
| **1** | Dismantling of the super structure made in first class KB Bricks Masonary (1:6) and cleaning with stacking the Bricks in a proper manner as directed by the Engineer in charge<br>=[(0.7X0.7X0.45)- (0.4X0.4X0.45)] X79<br>= (0.2205-0.072) X79 = 0.1485X79 = 11.7315 | CUM | 11.7315 |
| **2** | Picking of 20/40mm hard granite metals from switchyard area and stacking of the same as per instruction of Engineer in charge (Area for excavation near earth pit) {(2X2) – (0.7X0.7) } X79 = 277.29 | SQM | 277.29 |
| **3** | Excavation in Soft/Loose Soil & back filling for foundation of equipment & column including supply of all materials labour & T &P as per the instruction of Engineer-in-charge ( for earth pit & earth pit chamber) (1X1X3)- X79 = 228.29 | CUM | 228.29 |
| **4** | Filling of Excavated Area for earth pit with borrowed earth with supply of all labour, T &P (Slurry of bentonite powder & borrowed earth)<br>{(1X1X3) – (0.225X0.7X0.7)} X79 = 228.29 | CUM | 228.29 |
| **5** | Spreading of 20mm hard granite metals in switchyard as per the instruction of Engineer in charge with supply of all labour & T &P (without supply of metal)<br>{(2X2) - (0.7X0.7)} X79} X0.1= 27.729sqm<br>Taking account 30% less<br>27.729 – 8.3187= 19.4103sqm | SQM | 19.4103 |
| **6** | PCC (1:3:6) for earth pit chamber with cost of cement and without steel = {(0.8X0.8X0.075) - (0.45X0.45X0.075)} X79<br>=(0.048X-0.01518) X79 = 2.59278 | CUM | 2.59278 |
| **7** | RCC with ratio of concrete (1 :1, 5: 3) with cost cement & without steel<br>**a)** <u>For earthpit wall</u><br>={0.7X0.45X0.075)X2} + {(0.55X0.45X0.075)X2}}X79<br>=(0.04725 + 0.037125) X79<br>=0.084375 X 79 = 6.665625<br>**b)** <u>Slab for earth pit chambers</u><br>={0.7X0.7X0.075}X79 = 2.90325<br>Total RCC = 9.568875 | CUM | 9.568875 |

| | | | |
|---|---|---|---|
| **8** | Requirement of rod with Cutting, bending, binding placing in position of steel rods for foundation concreting including cost of binding wire<br>With supply of all size rod (TATA/RINL/SAIL make)<br>**a)** <u>For Earth pit walls</u><br>Vertical 10mm dia rod spacing=150mm & each length 0.45m<br>Nos of pieces = (2500/150)+1=17Nos.<br>So, 17X0.45m=7.65m<br>Hence, 7.65mX(0.617kg/1m) = 4.72kg<br>(As 10mm rod,1m=0.617kg)<br>Ring 8mm dia rod with spacing =200mm & earth of length 2.5m<br>Nos. of pieces = (450/200) +1=3Nos.<br>So, 3X2.5m=7.5m<br>Hence, 7.5mX (0.395kg/1m)=2.96kg<br>(As 8mm rod, 1m=0.22kg)<br>Total weight =4.72+2.96=7.68kg<br>Add 10% extra for wastage<br>=7.68+0.768=8.448kg for 79pits<br>= 8.448X79=667.392kg = 0.667392MT<br>**b)** <u>For Slabs of Earth pit Chamber</u><br>10mm dia rod spacing =150mm & each of length 0.7m<br>Nos. of pieces = (700/150) +1=5Nos.<br>Both ways =5nos. X2=10nos.<br>Total length = 10X0.7=7m<br>So, 7mX(0.617kg/1m=4.319kg<br>(As per 10mm rod, 1m) =0.617kg<br>Add 10% extra for wastage<br>=4.319+0.4319=4.75kg<br>For 79pits<br>=4.75X79=375.25kg = 0.37525MT<br>So total weight of all rod required<br>=0.37525+0.667392=1.042642MT | MT | 1.042642 |
| **9** | Connection of earth pit electrode to the newly made earth mat & the concerned equipment by using GI flat of size 50X6mm with supply of GI flat by welding of different size flats application of bituminous paint wrapping of HT Tapes over it with supply of all Labour and T & P<br>Approximately 5mtr for each earth pit.<br>Hence 5X79=395mtr | MTR | 395 |

## C. FOR CONSTRUCTION OF ONE NO. OF TRANSFORMER OIL SUMP FOR 132/33KV 40MVA BHEL TRANSFORMER NO. 3 AT 132/33KV GRID S/S PHULNAKHARA

| SL. NO. | DESCRIPTION | UNIT | QTY |
|---|---|---|---|
| 1 | Earth work in Excavation of normal soil including the cost of T & P, Labour etc 4X4X2.6=41.6cum | | |
| a | 4X4X1.5=24cum (up to 1.5mtr depth) | CUM | 24 |
| b | 4X4X1.1=17.6cum (from 1.5mtr to 3mtr depth) | CUM | 17.6 |
| 2 | Filling of sand/ crusher dust at the bottom 4X4X0.10=1.6cum | CUM | 1.6 |
| 3 | Lean concrete padding at the bottom (1:3:6) 4X4X0.10=1.6cum | CUM | 1.6 |
| 4 | Brick Masonary work in the ratio 1:5 with supply of first class K.B. bricks, good quality river sand, Labour & T & P (0.25X3.45mX2.05m)X4=7.07cum | CUM | 7.07 |
| 5 | Cement plastering with Mortar of 1:6 ratio & 12mm thickness with supply of all fine aggregates (good quality river sand), all labour (2.3X3.2X4) + (3.2X3.2) + (3.7X3.7X2) = 67.06sqm | SQM | 67.06 |
| 6 | PCC M20 (1:1, 5:3) for RCC work of roof, bottom padding & roof beam (3.7X3.7X0.10)+(3.7X3.7X0.10)+(0.25X3.7X0.25)= 2.969cum | CUM | 2.969 |
| 7 | MS Rod:<br>a) <u>For Roof:</u><br>8mm Rod=3.6X38X2=273.6mtr = 103.7kg<br>b) <u>For Roof Beam</u>:<br>12mm rod =0.25X75=18.75mtr=11.49kg<br>8mm rod = 15X2=30mtr = 11.37kg<br>Total = 126.56kg = 0.12656MT | MT | 0.12656 |