



**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

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**OPEN TENDER CALL NOTICE NO. 03/CTC/2018-19**

Sealed tenders are invited by the undersigned for **Supply and erection of tubular street light poles along with Supply And Fixing of 90 watt LED based street light fittings complete with Cable, Pipe and all other accessories for Grid Sub-Station Bidanasi And Jagatsinghpur on turnkey basis** 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	<b>Supply and erection of tubular street light poles along with Supply And Fixing of 90 watt LED based street light fittings complete with Cable, Pipe and all other accessories for Grid Sub Bidanasi And Jagatsinghpur on turnkey basis</b>	Rs4000/- +VAT @ 12% i.e Rs. 480/- =Rs4480/- (Non-refundable in shape of DD only (separately For each vehicle)	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 are eligible to apply

Sd/-

**GENERAL MANAGER**

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

**DETAILS OF THE WORK**

<b>PART-A: Supply of Materials</b>			
Sl. No	Description	Unit	Quantity
1.	<p>Supply and erection of Galvanized octagonal pole, which shall be single pole section with galvanized single cross arm designer luminaire mounting bracket and inclusive of stud connector and 6A MCB as per the specification and direction of Engineer-in-Charge.</p> <p><b><u>Specification</u></b></p> <p><b>Galvanization:</b> The pole shall be hot dip galvanized as per I.S.-2629 I.S.-2633 / I.S- 4799 standard with average coating thickness of 70micron. The galvanization shall be done in single dipping.</p> <p><b>Design:</b></p> <p>a) The design shall be as per the diagram included.</p> <p>b) There shall not be any circumferential weld joint.</p> <p>c) The pole shall be bolted on to precast foundation with a set of four foundation bolts with anchor plates within the concrete precast for greater rigidity.</p> <p>d) The galvanized mounting single armed bracket made out of G.I tubular pipes of suitable size shall be supplied along with the pole for installation of the luminaries as per the design with MS plate for rigidity between cap and pipe and with provision of passing electrical cable from the pole to the end of cross arm for connection of street light LED luminary.</p>	Nos	21

	<p>e) The pole shall have door of approximate 500mm length at the elevation of 500mm from the base plate. The door shall be vandal resistant and shall be weather proof to ensure the safety of inside connection. The door shall be flush with the extension surface and shall have suitable locking arrangement. The poles shall be adequately strengthened at location of door to compensate for loss in section.</p> <p><b>Electricals:</b> The pole should have 4pin loop in loop out stud connector system with <b>6A MCB of B Series</b> of reputed make (Legrande / L&amp;T / Schneider / C&amp;S). There shall be suitable arrangement for the purpose of earthing. Cable gland at bottom of suitable size for entry &amp; exit of 25 Sq. mm, 3 ½ core, armoured aluminium cable.</p> <p><b>Pole Dimensions:</b>  Height of pole: 7Mtr.,  Top Dia: 104mm,  Bottom Dia: 160mm,  Thickness:3mm,  Base plate dimension: (LxBxT) 275mm x 275mm x 16mm,  Foundation of pole Steel grade EN-8,  Bolt Size- (No x Dia) 4x24mm,  Pitch Circle diameter: 270mm,  Projected bolt length: 125mm,  Single arm designer bracket length: 1.5Mtr Long.</p>		
2	<p>Supply &amp; fixing of lighting fixture of 90watts LED street light complete fitting with secondary optical lens and 10KVA Surge Protection Device.</p> <p><b>Specification:</b>  <b>Make-</b> Havells / Bajaj / Crompton / Phillips / Wipro / Oreva)  <b>Luminaire Body:</b> Pressure die cast Aluminium housing having good quality powder coating with clear toughened glass.  <b>LED Chip:</b> LM80 certified high power cool blue LED Chip of reputed make (LED Chip Make: Cree, Nichia, Phillips, Osram).  <b>Lens:</b> 120degree Suitable secondary lens for better light distribution,  <b>LED Driver:</b> Integral electronic constant current driver of min 85% efficiency, Internal wiring: Teflon insulated, Cu Conductor,  <b>Hardware:</b> SS &amp; MS Zinc plated &amp; passivated nuts, bolts and other necessary hardware,  <b>Ingress Protection:</b> IP 66 and above,  <b>Lumen Maintenance:</b> 50,000 Hrs @ L80,  <b>Operating Temperature:</b> 10° C to 50° <b>Rated Voltage:</b> 240V, 50Hz AC,  <b>Wattage:</b> 90W±10%,  <b>Current:</b> ,0.43A,  <b>PF:</b>&lt;10%,  <b>Lumen:</b> 7700Lm,  <b>Efficiency:</b>&gt;85Lm/W,  <b>CCT:</b>5700K,  <b>CRI:</b>&gt;70,  <b>Weight:</b> 4.Kg.  <b>Protections:</b> Open &amp; Short Circuit protection, reverse polarity operation &amp; 10KVA Surge protection Device.  <b>Test Report:</b> LM79 for luminaire</p>	Nos	21

3	<p>Supply and fixing of ISI marked 3.5 core 25mm<sup>2</sup> Aluminium conductor armored cable of reputed make from pole to pole and up to lighting / AC distribution board.</p> <p><b><u>Specification</u></b>  <b>Make:</b> Finolex / KEI Industries / R R Kabel / Havells India/ Universal Cables.  <b>Size:</b> 25 mm<sup>2</sup>  <b>Core:</b> 3 ½  <b>Conductor Material:</b> Aluminium  <b>Material:</b> PVC Insulated  <b>PVC Type:</b> C for inner sheath, ST2 for outer sheath  <b>Current rating:</b> 97A  <b>Overall Diameter (Strip / Wire):</b> 23.8mm / 22.2mm  <b>Min. Insulation of Inner Sheath:</b> 0.3mm  <b>Thickness of PVC insulation:</b> 0.9mm/0.7mm  <b>Nominal Dimension of Armour (Strip/Wire):</b> 4 x 0.8mm  <b>DC Resistance (Max) @ 20<sup>0</sup>C / km:</b> 1.4 Ohms  <b>AC Resistance (Max) @ 70<sup>0</sup>C / km:</b> 1.54 Ohms  <b>IS:</b> 7098</p>	Mtr	630
4	<p>Supply and laying of ISI marked HDPE Pipes of reputed make with continuous run from pole to pole and up to lighting / AC distribution board as per instruction of Engineer-in-Charge. The HDPE pipe should be brought out of the concrete foundation through the foundation bolts and base plate.</p> <p><b><u>Specification</u></b>  <b>Size:</b> 40mm or 1 ¼ inch  <b>Type:</b> PE- 63  <b>IS:</b></p>	Mtr	630
5	<p>Supply &amp; fixing of ISI marked 1.5mm<sup>2</sup> 3Core PVC Insulated Fire retardant Flexible Copper Cable from pole MCB/ TB to light fitting of reputed make.</p> <p><b><u>Specification</u></b>  <b>Make:</b> Finolex / KEI Industries / R R Kabel / Havells India/ Universal Cables.  <b>Size:</b> 1.5 mm<sup>2</sup>  <b>Core:</b> 3  <b>Length:</b> 90-100mtrs/roll  <b>Conductor Material:</b> Copper  <b>Material:</b> PVC Insulated  <b>Current rating:</b> 15A  <b>Resistance (Max) / km @ 20<sup>0</sup> C:</b> 14 Ohms  <b>Number/ Nominal Dia of Wire:</b> 30 /0.25mm  <b>Nom. Thickness of Insulation:</b> 0.6mm  <b>Nom. Thickness of Sheath:</b> 0.9mm  <b>Max. Overall Diameter:</b> 8.0 mm  <b>IS:</b> 694</p>	Roll	4

<b>PART B: Work</b>			
<b>SL. No</b>	<b>Specification</b>	<b>Unit</b>	<b>Quantity</b>
<b>1</b>	<b>Pole Foundation:</b> Supply of all Materials, labour, T&P and transportation for providing earth work, filling in foundation with clean coarse river sand, PCC (1:3:6) using 40 mm size hard granite stones, M150 grade RCC (1:2:4) using 12mm size hard granite stone chips with centering, shuttering and including supply, cutting, bending, binding, fitting and placing uncoated MS Rod reinforcement complete as per drawing along with binding wire, providing 6mm thick cement plaster finished smooth over RCC Surface, painting two coat of cement paint over one coat of primer and carriage of excavated materials with lead/lift by mechanical means cost, conveyance, royalty taxes etc. all complete as per the direction of Engineer-in-Charge. (Refer Detailed Calculation Below)	Set	21
<b>2</b>	Breaking of existing concrete road for renovation work as per the instruction of Engineer-in-charge, including supply of T&P, labour etc. (Only in Bidanasi Grid Substation)	Cum	3
<b>3</b>	<b>Pipe Laying:</b> Excavation (depth up to 600mm, width: 300mm from pole to pole to control room & back filling with clean coarse river sand / loose soil for laying ) for laying of HDPE pipe as per instruction of Engineer-In-Charge and disposal of surplus excavated earth (after back filling) with lead / lift by mechanical means cost, conveyance, royalty taxes etc. all complete	Cum	114
<b>4</b>	<b>Earthing:</b> Pipe earthing including excavation of earth, treatment of bentonate compound, back filling with borrowed earth, termination to street light poles by nut and bolting, apply of paint where necessary with supply of labour and T&P as per IS-3043 and as per direction of Engineer-in-Charge, with cost of earthing pipe (Dia:50mm and Length: 3050mm Medium Guage) and 8SWG GI Wire to nearest poles	Set	4

### **VOLUME CALCULATION FOR ONE NUMBER POLE FOUNDATION**

1. **Excavation** in first depth: (L x W x H = 1000mm x 1000mm x 1350mm) = 1.35Cum

2. **Sand Filling:** (L x W x H = 1000mm x 1000mm x 50mm) = 0.05Cum

3. **PCC(1:4:8):** (L x W x H = 1000mm x 1000mm x 75mm) = 0.075Cum

4. **RCC(1:2:4):**

*Section 1:* (L x W x H = 900mm x 900mm x 300mm) = 0.432Cum

*Section 2:* (L x W x H = 600mm x 600mm x 1200mm) = 0.243Cum

Total: 0.675Cum

5. **MS Rod** of 8Tor @ 100Kg/Cum = 0.675Cum x 100Kg/Cum = 67.5Kg

6. **Back Filling:**

(Total Excavated Volume) – (Total Concrete and sand filled Volume)

= 1.35Cum – (0.675Cum + 0.05Cum)

= 1.35Cum – 0.68Cum = 0.625Cum