

General Terms and Condition

It is desirable to have pole factory location away from the existing Pole factory, however UGVCL reserves the right to allow or disallow the new factory location nearer to existing Pole factory.

1.1.Registration:-

All new Suppliers shall get themselves registered by paying non-refundable Registration Fees, as detailed below, to the concerned subsidiary Company with Vendor Registration Application Form and all relevant documents.

- 1.1.1. For factory within Gujarat State.
 - 1.1.1.1. Rs. 15,000/- for Micro and Small Industries.
 - 1.1.1.2. Rs. 25,000/- for remaining Industries.
- 1.1.2. For factory within Country but out of Gujarat State.
 - 1.1.2.1. Rs. 50,000/- for Micro and Small Industries.
 - 1.1.2.2. Rs. 75,000/- for remaining Industries.
- 1.1.3. In case of multiple Pole factory locations of Vendor, fees shall be paid for each location.
- 1.1.4. Vendor Registration shall be issued on Pole factory-wise of the firm.
- 1.1.5. The Vendor Registration shall be given in the name of item only.
- 1.1.6. The Registration Charge shall be reviewed every three years.
- 1.1.7. Registration Charge shall be non-refundable even if registration is denied.
- 1.1.8. Payment of registration fees does not guarantee the registration as approved vendor.
- 1.1.9. Period: The registration is valid for five years from the date of Vendor Registration. The subsidiary Companies of GUVNL shall inspect the factories every two years, if required.
- 1.1.10. The Vendor Registration / Re-Registration Application Form duly filled in with requisite Registration Fees and relevant documents as per **Annexure – I** shall be submitted to the UGVCL.
- 1.1.11. In case of the factories located outside concern UGVCL area, the bidder shall have to transport /cart PSC Poles up to nearby store of UGVCL or as directed by UGVCL, at free of cost. The supplier of 8M PSC Poles who wish to supply poles from outside UGVCL area has to deliver the poles to nearby UGVCL store or destination as directed by UGVCL authority and the ex. factory rates quoted for both excisable and non-Excisable poles shall be considered for supply of poles at given destination in UGVCL area.
- 1.1.1. Mere Vendor registration shall not itself vest any right on a firm to receive orders from GUVNL's any subsidiary company or to claim any damages or compensation for non-placement of the order against any tender.

1.2. General:-

The subject covers the manufacture and supply of Prestressed Concrete Poles for Overhead Power traction lines 8 Meters in length and capable of sustaining working load of 200 Kg. (As stipulated in Cl. No. 3.7 of IS 1678 -1998). The offer is for supply of readymade PSC Poles manufactured in accordance with specifications and the drawing mention in forthcoming tender. Alternate design /Specification shall not be considered.

New vendor is expected to know the procedure for manufacturing activities of Prestressed Concrete Poles and have a clear understanding of various problems connected with the smooth running of the factory and also to study carefully design, drawing, specifications etc....

1.3. Drawing:-

The work shall be carried out as per Drawing “Prestressed Concrete Pole - 8M/200Kg. showing detailed dimensions” bearing no. C-583 Rev.2

1.4. Labour Wages:-

Terms and conditions regarding industrial laws and other related matters like wages payment to the labours, compliance of the labour laws including payment of workman compensation etc. shall be the responsibility of PSC Pole suppliers.

1.5. Workmanship:-

The supplier will be responsible for the general soundness as well as good finish of each pole. The workmanship shall be of a high degree and poles having flaws and defects will be rejected in accordance with applicable Indian Standards.

1.6. Water and Electricity:-

The supplier have to make his own arrangement for water and electricity required for manufacturing work of PSC poles along with statutory approval, if any, The Company does not take any responsibility for the same.

1.7. Tools Plants and Machinery:-

The supplier shall make his own arrangement for all the tools, plants and machineries such as formwork, electrically /Mechanically operated Mixer, Vibrator, Submersible Pump, Cube testing Machine, Gauges, Chain Pulley block, Gantries, Measuring instrument, tension test assembly etc. required for manufacturing, inspection and testing of PSC Poles.

I/We Confirm, having read the above conditions and also accept the same without any deviations.

Signature and stamp of Supplier /Manufacturer

Name of Pole factory location:

Name of authorized signatory:

Date & place:

ANNEXURE - I
VENDOR REGISTRATION APPLICATION FORM.

1(a)	Name of the firm	
1(b)	Address of the registered Office of the Firm.	
	Phone / Fax no.; E-Mail address	
1(c)	Address of the Pole Factory	
1(d)	The date of commencement of production at the Factory	
2(a)	Whether Proprietary Concern; Partnership Firm: Pvt. Ltd. Co.; Or Public Ltd. Co. [Certified Copy of relevant documents to be enclosed along with Registration of Firm where ever applicable]	
2(b)	Name of the Proprietors, Partners, Directors, as the case may be along with their address.	
3	Total Investment excluding Loan Capital.	
4	Loan Capital if any	
5	Land Area of the Factory with approved layout & ownership detail in the name of bidder or Lease agreement document if any.	
6	Built up area of the Factory	
7	No. of shifts in the Factory	
8	Factory License No.	
9(a)	Small Scale Certificate No.	
9(b)	Value of Plant and Machinery certified by SSI in case of SSI Units, Or certificate of a Chartered Accountant.	
10	Details of machinery installed with their capacities.	
11	Details of testing equipment with their capacities.	
12	Qualified personnel employed in the Factory.	
	Managerial/Production staff	
	Quality Control staff.	
	Skilled Workmen.	
	Unskilled Workmen.	
	Others	

13	Sources of supply of raw materials.				
A	Portland Cement (43/53 grade)				
B	H.T. Steel Wire (4mm)				
C	Steel bars (6mm)				
D	Sand				
E	Aggregates (Coarse & fine)				
F	Water for concrete mixing.				
14	Production Capacity Details for manufacture of 8/10 meters PSC poles				
A	No of casting Beds installed & commissioned				
B	No. of Poles per bed				
C	Production capacity per month C= (A x B x 30) / 3				
15	Pole Curing Capacity for 8/10 meters PSC poles details of ponds with sizes (Sizes to be specified in meter)				
Pond No.	Length	Width	Depth	Volume	Pole Capacity
1					
2					
3					
4					
16	Whether the firm possesses ISO 9001/9002 Certificate; If yes furnish ISO number & validity				

Remarks.

Signature of Supplier /Bidder with Round seal

Date:

Place:

DOCUMENTS TO BE ENCLOSED WITH VENDOR REGISTRATION FORMAT

Following documents as applicable are to be attached in single copy.

Sr. No.	Document to be submitted	Enclosed Copy
1	Declaration of proprietorship, Partnership Deed or Article of Association and Registration of Firm	YES / NO
2	Latest Audited Balance Sheet for Regular Vendor / Financial credentials for New Vendor	YES / NO
3	Factory License	YES / NO
4	VAT registration	YES / NO
5	CST registration	YES / NO
6	PAN/TAN registration	YES / NO
7	Valid SSI and NSIC/DGS&D/CSPO Registration Certificate (if applicable)	YES / NO
8	Details of machinery installed with their capacities	YES / NO
9	Details of testing equipment with their capacities	YES / NO
10	List of Orders for PSC Poles executed during last one year or Prestressing work experience certificate.	YES / NO
11	Detailed Approved Layout of pole factory [Drawn to scale] with ownership detail.	YES / NO
12	Land documents i.e Sale Deed, Index-2, Proof for applied for N.A. permission etc. If, premises is on Lease, Lease Deed Agreement for period of minimum 3 years in case of rental premises, If premises in GIDC area, GIDC Possession order	YES / NO
13	Connected Motive Power Load of the factory. [Enclose copy of bill]	YES / NO

Note- 1. New vendors shall have to submit above Documents or proof of applied to respective authority, whichever applicable, along with application for Vendor Registration.

2. Final vendor registration shall be issued on submission of above documents, whichever applicable after factory inspection.

ANNEXURE - II

STANDARAD REQUIREMENT FOR A POLE FACTORY

1. Non Agricultural land in the name of Supplier or Lease agreement in the name of supplier. Location should be accessible in all seasons.
2. Water: Potable water in sufficient quantity for use and concrete and curing pond should be available.
3. Electrical connection of required electrical load is required at site.
4. Casting bed for manufacturing poles to required capacity.
5. Cement godown suitable to store minimum 500 bags.
6. Site laboratory equipped with Cube testing Machine.
7. Site office with Computer and operator.
8. Labour colony with toilet facility.
9. Test bed with all testing facilities.
10. Storage space for H.T. wires, Fine and Coarse aggregates.
11. Mobile cranes for handling of poles.
12. Steel formwork of suitable capacity.
13. Pan Mixer /Mini Batching plant for manufacturing required grade concrete.
14. Hand cart or motor operated cart for handling of fresh concrete.
15. Vibrator of suitable capacity.
16. Factory license and all other relevant documents to be arranged by manufacturer.

Signature of Supplier /Bidder with Round seal

Date:

Place:

ANNEXURE - III

<u>TECHNICAL TERMS AND CONDITIONS:</u>																																		
1	<p>SCOPE OF WORK: The scope of the work covers fabrication and supply of PSC Poles 8 meter long and 200Kgs. working (transverse) load in accordance with the technical terms and drawing of this specification. Alternate design / specifications shall not be considered which may be noted.</p>																																	
2	<p>DIMENSIONS AND TOLERANCES:</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">SR NO</th> <th style="text-align: center;">DESCRIPTION</th> <th style="text-align: center;">STANDARD IN MM</th> <th style="text-align: center;">MAXIMUM IN MM</th> <th style="text-align: center;">MINIMUM IN MM</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>LENGTH</td> <td style="text-align: center;">8000</td> <td style="text-align: center;">8015</td> <td style="text-align: center;">7985</td> </tr> <tr> <td style="text-align: center;">2</td> <td>WIDTH - TOP - BOTTOM</td> <td style="text-align: center;">114.30 336.55</td> <td style="text-align: center;">117.3 339.55</td> <td style="text-align: center;">111.3 333.55</td> </tr> <tr> <td style="text-align: center;">3</td> <td>THICKNESS</td> <td style="text-align: center;">139.7</td> <td style="text-align: center;">142.7</td> <td style="text-align: center;">136.7</td> </tr> <tr> <td style="text-align: center;">4</td> <td>UP RIGHTNESS</td> <td style="text-align: center;">1 TO 72</td> <td style="text-align: center;">0.5 %</td> <td style="text-align: center;">0.5 %</td> </tr> <tr> <td style="text-align: center;">5</td> <td>PLANTING DEPTH</td> <td style="text-align: center;">1675</td> <td style="text-align: center;">-</td> <td style="text-align: center;">-</td> </tr> </tbody> </table> <p>NOTE: All dimensions are in mm.</p>				SR NO	DESCRIPTION	STANDARD IN MM	MAXIMUM IN MM	MINIMUM IN MM	1	LENGTH	8000	8015	7985	2	WIDTH - TOP - BOTTOM	114.30 336.55	117.3 339.55	111.3 333.55	3	THICKNESS	139.7	142.7	136.7	4	UP RIGHTNESS	1 TO 72	0.5 %	0.5 %	5	PLANTING DEPTH	1675	-	-
SR NO	DESCRIPTION	STANDARD IN MM	MAXIMUM IN MM	MINIMUM IN MM																														
1	LENGTH	8000	8015	7985																														
2	WIDTH - TOP - BOTTOM	114.30 336.55	117.3 339.55	111.3 333.55																														
3	THICKNESS	139.7	142.7	136.7																														
4	UP RIGHTNESS	1 TO 72	0.5 %	0.5 %																														
5	PLANTING DEPTH	1675	-	-																														
3	<p>WORKMANSHIP: The contractor will be responsible for the general soundness as well as good finish of each pole. The workmanship should be of high degree and poles having flaws and defects will be rejected.</p>																																	
4	<p>STANDARDS: The poles shall comply with the relevant provisions made in the following Indian standard specifications with latest amendment.</p> <p>i) IS: 1678/1998: Specification for Prestressed concrete poles for overhead Power traction and telecommunication lines ii) IS: 2905/1989: Method of test for concrete poles for Overhead Power and Telecommunication lines. iii) IS:1343 & IS: 456:Code of practice for Prestressed and plain/reinforced Concrete.</p>																																	
5	<p>MATERIALS: The materials shall conform to this specification and be in accordance with the guaranteed particulars given. The quality of materials to be used for manufacturing of PSC poles shall be as under. [A]CEMENT: The Ordinary Portland Cement used in manufacture of prestressed concrete poles shall be relevant to IS: 8112/1989 of 43-Grade / 53- Grade to get 28 days strength of 450 Kg/ cm². [B] STEEL: The 4mm H.T. Steel wire used in manufacture of Prestressed concrete poles shall be conforming to 6003/1983 of latest amendment thereof respectively.</p>																																	

	<p>[C]AGGREGATE: Aggregate used for the manufacturing of Prestressed concrete poles shall conform to IS: 383-1963. Aggregate shall consist of naturally occurring crushed black metal. They shall be hard, strong, dense, durable, clear and free from veins and adherent coating, and free from injurious amount of disintegrated pieces, alkali, vegetable material, and other deterious substances. As far as possible flaky and allocated pieces should be avoided. It should not contain organic or other admixture that may cause corrosion of the reinforcement or impair the strength or durability of the concrete.</p> <p>The coarse aggregate shall consist of trap (preferably black) metal and in no case exceed 20 mm size. The fine aggregate shall be sharp, free from impurities and required fineness modules as specified. The sand shall be washed before use by installing a sand washing machine in the factory and the same shall not contain silt and deterious materials. The grading of fine aggregate shall be in accordance with IS: 2386 - 1963 with latest amendment.</p> <p>[D]WATER: Water to be used for process of manufacturing PSC poles like concrete mix and curing should be free from chlorides, other salts and organic materials and it should be got tested in Govt. Laboratory at test once in a year by the party. Potable water is preferable.</p>
<p>6</p>	<p>STORAGE OF MATERIALS</p> <p>The cement shall be stored at the work side in such a manner as to prevent deterioration due to moisture or intrusion of foreign matter.</p> <p>Steel reinforcement shall ordinary be staggered in such a way so as to avoid distortion and to prevent deterioration and corrosion, it is good practice to coat reinforcement with cement wash before stacking to prevent scale and rust.</p> <p>The aggregates shall be stored in such a way as to prevent mixing of foreign materials. The heaps of fine and coarse aggregates shall be kept separately. When different sizes of fine or coarse aggregate are procured separately, they shall be stored in separate stockpiles, to prevent the material at the edges of the piles from getting intermixed.</p> <p>Any material, which has deteriorated or has been damaged or is otherwise considered defective, shall not be used for the concrete.</p>
<p>7</p>	<p>TESTING OF MATERIALS:</p> <p>The Supplier shall arrange for the necessary testing of the material like Metal, Sand, Water etc. and see that the materials to be used in the manufacturing confirm to relevant IS.</p>
<p>8</p>	<p>METHOD OF MANUFACTURING OF PSC POLES:</p> <p>The Prestressed concrete poles are generally manufactured by long line multiple bed method for mass production.</p>

(A)BED AND MOULD:

The length and number of rows of concrete casting bed shall be according to the production capacity of pole factory. Preferably one pole bed separately should be provided to minimise wastage of H.T.Steel wire.

The Prestressed poles are to be cast in a steel mould having accurately machined bottom bed and side faces. The steel mould should be strong enough to resist distortion. The bed should be absolutely horizontally levelled and free from any undulation. The mould should be capable of being opened in such a way that edges of the poles are not damaged.

At both the ends of row of concrete casting bed, the anchor blocks are provided for fixing and stretching of H.T.Steel Wire.

(B)STIRRUPS:

The stirrups shall be prepared as per the design / drawing of the UGVCL from 4 MM dia H.T. Steel. The stirrups shall be placed in position as per approved drawing. Stirrups shall have standard lap lengths and be welded to ensure maintaining proper shape and position. .

(C)PREPARATION OF REINFORCEMENT:

All the reinforcement and window boxes shall be accurately placed and maintained in position during the fabrication. As per the Design / Drawing all the stirrups made out of H.T.steel, H.T.Steel wire shall be placed in respective position of the mould and thereafter continuous H.T.Steel wires are arranged through holes and plates of the mould. The welded joints in H.T. Steel wire will not be permitted. The H.T.Steel wires are stretched up to the required tension 10% of UTS as specified in relevant I.S. code with the help of Jacks and anchor blocks. All the wires shall be accurately stretched with uniform prestressing in each wire. Each wire shall be anchored positively during the casting. The tension applied shall be checked with the help of suitable Gauge/Meter.

(D)CONCRETE MIX:

The concrete mix to be used for manufacturing of PSC Poles shall be prepared by weight batching only in such a manner and proportion so as to achieve the compressive strength of the concrete mix as per IS: 456 and none of the test specimen shall have strength less than 225 and 450 KG/CM² after 3 and 28 days respectively. The cement concrete shall be mixed only in electrically / mechanically operated concrete mixer machine. Gradation of the aggregate used in concrete mix shall adhere to the appropriate Mix Design and proportions be checked in regular interval. Water in concrete shall be added with proper measurement to maintain required water cement ratio. The hand broken metal shall not be permitted.

(E)PLACING OF CONCRETE MIX:

The mould should be free from Dust, Dirt and other organic materials and oil is to be applied before placing the concrete mix. The machine mixed concrete is, thereafter poured in the mould and shall be compacted by spinning, vibrating, shocking or other suitable mechanical means. Over-vibration or under-vibration or vibration of very wet mix is harmful and should be avoided. The Hand compaction shall not be permitted.

On application of vibrator the concrete Mix will compact & get to 2 to 3 mm below form/mould level. This gap shall also be filled up with

	<p>prepared concrete Mix only & re vibrated. The mixture of cement & sand for filling up the gap as well as finishing work will not be permitted. Finishing work shall be done only with cement slurry. Care should be taken to see that anchorages do not yield before concrete attains necessary strength. Proper cover for concrete should be maintained throughout process of pouring, compacting etc. of concrete mix.</p> <p>On achieving setting time, the side faces of the mould shall be removed from the bed and watered at intervals to prevent the surface cracking of the pole. The concrete shall be covered with a layer of sacking, canvas, Hessian or similar absorbent materials and kept constantly wet up to the time when the strength of the concrete reaches to the minimum strength of the concrete at transfer of prestress i.e. for about 72 hours. The Steam curing may be permitted in exigency or emergency cases with the approval of the competent authority only.</p> <p>(F) DETENSIONING, CUTTING OF WIRE AND REMOVING OF POLES FROM THE BED:</p> <p>After ascertaining that concrete has attained required strength of min. 225 KG/CM² by checking the cube strength stretched wires are released from the anchor blocks and cut with the help of welding machine. The cutting shall be started only from the centre of the bed length. The pole is then removed from the bed by lifting at 2 points using gantry and moved to the Curing Pond.</p> <p>(G) CURING:</p> <p>The curing of the pole shall commence after setting of the concrete. Continuous curing on bed should be done till it is shifted to curing pond, The curing pond shall be full of water and each pole must be immersed in the water for a period of at least 28 days. If required, water sprinkling shall be done at intervals to keep the poles constantly wet as per I.S.No.1678-1998.</p> <p>(H) STORING OF POLES READY FOR INSPECTION:</p> <p>The poles prepared vide method stated above shall be stacked in chronological method and indication of the date of manufacturing and number of poles be put before with particular lot so as to identify the lot by inspecting officer.</p>
<p>9</p>	<p>MARKING:</p> <p>The poles shall be clearly and indelibly marked with the following particulars during manufacture, at a position between 5th (W5) and 6th (W6) window indicated in the drawing so as to easily read after erection in position. The mark shall be done by pressing embossed figures / letters of 50 mm height and 20 mm width with gap of 5 mm between two figures. The sample drawing No. - C 583 - A is attached with the tender.</p> <p>(a) Date, month & year of manufacture, (On front face) (b) Serial number of pole, and (On front face) (c) Maker's serial number or mark (On front faces)</p> <p>Maker's serial number or mark on both sides of faces in oil painting to be marked before placing in curing pond.</p>

	<p>(d) UGVCL (in words) (above planting depth) The pole shall also be suitably marked for the planting depth i.e. 1381 mm from bottom. On both the end of pole the anti-corrosive paint i.e. epoxy based bituminous paints two coats are to be applied. One before putting in curing pond and second after removing from the pond.</p>
<p>10</p>	<p>CUBE TESTING: Total 6 Nos. Cubes of 100mm X 100mm X 100mm size concrete shall be cast daily and tested at release, i.e. after approx. 72 Hours of cast as well as after 28 days, in accordance with Indian Standard specification at Supplier's own expense. The mix for concrete adopted shall be such as to give cube strength not less than 225Kg/cm² at release (after 3 days) and 450 Kg/cm² after 28 days. Cube testing machine shall always be kept in the working condition and regular cube tests shall be taken and results be recorded in the registers duly signed by engineer-in -charge and representative of the Supplier.</p>
<p>11</p>	<p>METHOD OF INSPECTION AND TESTING GENERAL: The tests on poles shall not be carried out earlier than 28 days from date of manufactured for poles manufactured from ordinary Portland cement or blast furnace slag cement. If a chloride free ad mixture is used or rapid hardening Cement of Grade 43 / 53 is used than pole can be tested at 14 days of age. The specimens shall be inspected and any specimen with visible flaws shall be discarded. If any test specimen fails because of mechanical reasons, such as failure of testing equipment of improper specimen preparation, it shall be discarded and another specimen shall be taken. INSPECTION: The Tenderer shall offer Ready Made PSC Poles lot for inspection and relevant tests. (01) DIMENSIONS: All the Poles shall be manufactured in accordance with the detailed dimensional drawing. The tolerance on dimension shall be limited to... (i) For length - ± 15 mm. (ii) For Web thickness - ± 5 mm. (iii) Upright ness - 0.5 % (i.e. 72 to 1.005 / 0.995) (02)METHOD OF TESTING: The pole shall be tested only in the horizontal position or as specified in I.S. 1678 / latest amendment & I.S. 2905 /1989 latest amendment .While testing in the horizontal position, provision shall be made by suitable supports to compensate for the overhanging weight of the pole; for this purpose the overhanging portion of the pole may be supported on a movable trolley or similar device. The frictional resistance of the supporting devices should be separately determined and deducted from the total final load applied on the pole. Theoretically the permanent deflection should be as per IS 2905 / 1966 and latest amendment thereof. The recovery of deformations should not be less than 90%.</p>

A] Testing Arrangement -

The pole shall be fixed in the crib longitudinally from butt to its ground line and then it shall be secured firmly in place. Wooden saddles with concave surfaces and other packing shall be placed around the pole to prevent injury to the butt section as specified in IS: 2905/1966 - latest amendment.

To minimize vertical movement at the point of load application and to reduce the stresses due to dead weight of the pole, a rail support shall be provided near the point of load application, or alternately a number of friction less supports in the form of trolleys may be provided near the end or throughout the length of the pole. The rail support or other forms of support shall be such that any friction associated with the deflection of the pole under load shall not be a significant portion of the measured load on the pole.

B] Loading -

The load shall be applied at a point 600 mm from the top of the pole by means of a suitable device, such as a wire rope and winch placed in a direction normal to the direction of the length of the pole, so that the minimum length of the straight rope under pull (excluding the curved portion near the transmitting devices) is not less than two times the length of the pole. If the loading device is set sufficiently far away from the pole to make the angle between the initial and final positions of pulling line small, the error in assuming that the pull is always perpendicular to the original direction of the pole axis will be negligible. The pulling line shall be kept level between the winch position and the point where load is applied to the pole. The load shall be applied at a constant rate of 4 percent of the specified test load per minute and in accordance with procedure.

C] Pulling Line:

The pulling line shall be secured around the pole at the load point. Load measuring device shall be placed in a way so as to accurately measure in the tension in the pulling line. The other end of which is attached to the loading equipment (winch).

D] Load Measurement:

Load Cell with accuracy of 5 Kg. for measurement may be adopted. Load cell shall be calibrated before every test. The load measuring device shall be supported in such a way that the force required to pull it shall not add to the measured load on the pole and that no damage is cause to the instrument if the pole suddenly breaks under test. No pulleys or any other device in between load application point and load cell will be allowed.

E] Deflections -

The deflection of the pole and the load applied shall be measured simultaneously at different stages of loading to provide at least five sets of readings or as specified in I.S.2905 & latest amendment thereof. The measurement of the deflection of the load point shall be made in a direction perpendicular to the unloaded position of the pole axis. The measurement shall be made correct to the nearest 1 mm by use of datum board. A second datum line shall also be established from which the movement of the ground line if any, shall be measured.

F] PROCEDURE:

Load shall be applied at a point 600 mm from the top of the pole and shall be steadily and gradually increased to 250 kg. till formation of 1st crack recording deflection at each increment.

The load shall be then reduced to zero and then increased gradually in 50 Kg. increments up to 400Kg load. Then Each load increment be successively increased by 25Kg. up to design ultimate transverse load (i.e. 500 Kgs.). The load shall be increased in steps of 25 Kgs. to measure ultimate transverse load, until failure occurs. Each time the load is applied same shall be held for 2 minutes. The load applied to Prestressed concrete poles at the point of failure shall be measured to the nearest five kilograms.

G] RECORDING OF DATA AND MEASUREMENTS:

(i) Any hair cracks appearing at a stage prior to the application of the design transverse load at first crack shall be measured using feeler gauges & shall be recorded. It should also be recorded, whether the hair cracks, if any, produced on application of the 60 percent of the minimum ultimate transverse load close up on the removal or reduction of the test load.

(ii) The load applied to the pole at the time of failure shall be measured to the nearest 5Kg.

iii) A Prestressed concrete pole shall be deemed not to have passed the test if crack wider than 0.1mm appears at a stage prior to the application of the design transverse load at first crack (200 Kgs.)

(iv) The definition of failure of PSC Pole in test will be (i) permanent set more than 2.5 Cm. at load of 500 Kgs. Or (ii) Deflection of more than 25 Cms at load of 500 Kgs.

H] ULTIMATE FAILURE:

The conditions existing when the pole ceases to sustain a load increment owing to either crushing of concrete or snapping of the Prestressing tension or permanent stretching of the steel in any part of the pole.

At least one pole shall be subjected to destruction test in the contract in presence of representative from UGVCL, Mehsana.

Signature of Supplier /Bidder with Round seal

Date:

Place:

ANNEXURE - IV

TECHNICAL DATA OF 8M /200 KG. PSC POLES

The Guaranteed Particulars of PSC Poles 8 MTR/ 200 Kg.

- | | | |
|-----|--|---|
| 01. | Working load | : 200 Kg. |
| 02. | Factor of safety | : 2.5 |
| 03. | Ultimate Load | : 500 Kgs. |
| 04. | Dimensions | : |
| (a) | Bottom Cross-Section | : 336.55 x 139.7 mm. |
| (b) | Top Cross-Section | : 114.3 x 139.7 mm. |
| (c) | Total height | : 8,000 mm. |
| (d) | Web thickness. | : 57.15 mm (2.25 inch) |
| (e) | Planting Depth | : 1381 mm. |
| 06. | No. of 20mm dia. holes. | |
| | On Front face | : 02 nos. (100 mm apart). |
| | On side face | : 06 nos. (300 mm apart). |
| 07. | Minimum requirement: | |
| (a) | Cube Test (Each Specimen) | : 450 Kg/Cm ² (28 days).
: 225Kg/Cm ² (3 days) - at release of
Prestress. |
| (b) | Initial tension in HT Steel Wire/Pole. | : 70% of 175.00 Kg/mm ²
as specified in related I.S.Code |

Signature of Supplier /Bidder with Round seal

Date:

Place:

ANNEXURE - V

Addresses of Existing Pole factory

Name of Pole factory	Address
Shihori Pole Factory	M/S Ambica Prestress Industries, National Highway -27, Shihori, Dist.Banaskantha.385550
Palanpur Pole Factory	M/S Shrinathji Prestressed Pvt. Ltd, Palanpur.
Sidhpur Pole factory	M/s V.P.Trust, Brhmanwada, Sidhpur.
Kalol (CGSM) Pole Factory	M/S Charotar Gramoddhar Sahakari Mandal Ltd., Kalol.
Kalol (PSP) Pole Factory	M/S Patel Spun Pipe, D-804, Kalol
Dhanap Pole Factory	M/S Janpath Prestressed Work, Dhanap, Near Chiloda.
Himatnagar Pole Factory	M/S R.Builders, Hadiol, Himatnagar.
Idar Pole Factory	M/S G.P. Prestress Concrete Works, Gambhirpura, Idar.
Merwada Pole Fcatory	M/S Balaji Infra Tech, Merwada, Palanpur.
Rahiyol Pole Fcatory	Shree Raj Enterprise, Rahiyol, On Dhansura Modasa Road, Dhansura.
Ditasan Pole Factory	M/S Varahi Prestress Concrete Industries, Ditasan, On Mehsana ahmedabad highway, Mehsana.
Malpur Pole Factory	M/S Prerna Prestege Concrete Works, Malpur Road, Malpur.