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Note: The bidders, in their own interest are requested to read very carefully Section-I (Instruction to Bidders), Section-II (General Condition of Contract) & Section-III (Technical Specification) before filling the bid. The Bid documents be downloaded from JVVNL website www.jaipurdiscom.in . No hard copy of the bidding documents will be provided to the bidders through this office. In case of any discrepancy found in the bidding documents downloaded from the website and appended with the bid (as a bid document) and the original copy of such document available in the office of Superintending Engineer(Proc), Jaipur discom, Jaipur then the copy available with Superintending Engineer(Proc), Jaipur discom, Jaipur will be considered as final document for all purposes. The cost of Bid document as published in NIT shall be furnished along with downloaded bid document in the manner prescribed in bid document.

JAIPUR VIDYUT VITRAN NIGAM LIMITED
(PROCUREMENT CIRCLE)
OLD POWER HOUSE PREMISES, BANI PARK, JAIPUR-06
TELEPHONE : 2208098 TELE FAX : 0141-2208098

BID DOCUMENTS FOR PURCHASE OF LT XLPE INSULATED AERIAL BUNCHED CABLES WITH BARE MESSENGER WIRE FOR LT OVER HEAD LINES SUITABLE FOR WORKING VOLTAGE UPTO & INCLUDING 1100V CONFORMING TO IS:14255/1995 AMENDED UPTO DATE OF THE FOLLOWING SIZES UNDER SPECIFICATION NO.JPD/SE/PROC/ SPO-I/ TN- 4346.

S.No	SIZE of Aerial Bunched Cable	Quantity (Approx)
1	3CX16+25 Sq. mm	1523 Km
2	3CX50+35 Sq. mm	773 Km

LAST DATE AND TIME FOR : 10.03.2011 UPTO 2.30 P.M.
RECEIPT OF BID

DATE AND TIME OF : 10.30.2011 AT 3.00 P.M.
OPENING OF BID

EARNEST MONEY TO BE : RS.5,00,000/-
DEPOSITED

COST OF THE : RS. 2500/- (Non refundable)
SPECIFICATION

VALIDITY : 120 DAYS FROM THE NEXT DATE OF
OPENING OF TECHNO-COMMERCIAL
BID.

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SECTION-III**TECHNICAL SPECIFICATION AGAINST TN-4346 FOR SUPPLY OF LT XLPE INSULATED AERIAL BUNCHED CABLES WITH BARE MESSENGER WIRE FOR LT OVER HEAD LINES SUITABLE FOR WORKING VOLTAGE UPTO & INCLUDING 1100V****1. SCOPE:**

1.1 This specification covers manufacture, testing before dispatch, supply and delivery F.O.R.destination of LT XLPE insulated Aerial Bunched cables twisted over a central high strength Bare Aluminium alloy messenger for use on LT overhead lines conforming to the requirement of IS:14255/1995 with latest amendments. **However, the insulation (XLPE) shall be U.V. Resistant which shall be ensured by adding 2.5 +/- 0.5% Carbon Black in XLPE in well dispersed manner.**

Mandatory Tools as specified in this specification are also covered in the scope of this specification. The requirement of Aerial Bunched cable shall be as per schedule of requirement annexed with this section at **Schedule-I**. It may be noted that the requirement indicated in the schedule is tentative and may vary at the time of placement of order.

The bidders should be a manufacturer of offered Aerial Bunched Cable. The bidder must possess valid ISI License in case of Three Phase Aerial Bunched Cable. **The technical bid of the bidder shall be considered for opening in the absence of non-furnishing of above required ISI License along with the bid. However, price bid of the responsive bidder shall only be opened if bidder furnishes above required ISI License upto official working hours of one working day prior to the scheduled / notified date of opening of price bids, failing which price bid of the bidder shall not be opened. The tenders from trading firms shall not be considered. The firms having ISO: 9001 will be preferred**

2. STANDARDS:

Unless otherwise stipulated in this specification the following standards with latest amendments shall be applicable. Any departure from the Standards be indicated in **Schedule-III**.

- i) IS: 14255/1995 : Aerial bunched cables for LT lines.
- ii) IS:10810/1984 : Methods of test for cables. (Series)
- iii) IS:8130/1984 : Conductors for insulated cables.
- iv) IS:10418/1982 : Drums for Electric Cables
- v) IS:398(P.T-IV) /1994 : Aluminum alloy conductors.

- vi) CENELAC HD 626 : Over head distribution cables of rated voltage
S1 A1/A2 2002 U_o/U(U_m):0.6/1(1.2) KV.

NOTE: The specification has mostly considered references from Indian Standard. However, reference have also been derived from the above referred International Standard in meeting the onerous site requirement of Jaipur Discom.

3. CLIMATIC CONDITIONS:

- | | |
|--|--------------|
| i) Peak ambient temperature
in shade. | 50 deg.C |
| ii) Maximum average ambient
temperature in a 24 hours
period in shade. | 40 deg.C |
| iii) Minm. ambient air temperature in shade | (-)5 deg.C |
| iv) Maximum temperature attainable
by an object exposed to sun. | 60 deg.C |
| v) Maximum relative humidity. | 100% |
| vi) Average number of thunder
storm days per annum. | 40 |
| vii) Average number of rainy days
per annum. | 100 |
| viii) Average annual rainfall | 10 to 100 cm |
| ix) Number of months of tropical
monsoon conditions. | 4 months |
| x) Maximum wind pressure. | 100kg/sq.mm. |
| xi) Altitude not exceeding | 1000 M |

4. PRINCIPAL PARAMETER:

The Aerial Bunched Cables shall consist of Three phase conductors XLPE insulated aluminium conductors twisted over a **central high strength bare aluminium alloy messenger wire** for use on LT over-head lines. The principal parameters of Aerial Bunched Cables shall be in accordance to IS:14255/1995 (latest amendments, if any) and as enumerated in subsequent clauses.

5. GENERAL TECHNICAL REQUIREMENTS:

5.1 The XLPE insulated phase conductors shall be twisted over a central **Bare Aluminium Alloy Messenger Wire**, which shall carry the main weight and take all the mechanical stress. The messenger wire shall also serve as the earth-cum- neutral wire.

The **cable** shall be suitable for use where the combination of ambient temperature and temperature rise due to load, including temperature on exposure to direct sunlight results in conductor temperature not exceeding the following:

Type of Insulation	Normal Continuous Operation	Short Circuit Operation
Cross Linked Polyethylene (XLPE)	90 DEG.C	250 DEG.C.

6.0 MATERIAL:

6.1 CONDUCTORS:

6.1.1 PHASE CONDUCTOR:

The conductor shall be of H2 or H4 grade Aluminium complying with the requirement of IS: 8130/1984 or latest amendment, if any.

6.1.2 MESSENGER (NEUTRAL CONDUCTOR OR OTHERWISE):

The conductor shall be of heat treated aluminium-magnesium-silicon alloy wires containing approximate 0.5 percent magnesium and approximately 0.5 percent silicon conforming to IS: 398(Part-4): 1979 or latest amendment, if any.

The Messenger (Neutral conductor) or otherwise shall be either stranded circular or compacted circular type and shall have minimum 7 strands. The surface of the conductor shall be smooth.

The size of messenger conductor and its breaking load shall be as given below:

S.No.	Nominal Cross Sectional Area of Phase Conductor (Sq.mm)	Messenger Conductor		
		Nominal Cross Section Area (Sq.mm.)	Maximum D.C. Resistance at 20 Dec.C. (Ohm/Km.)	Minimum Breaking Load (KN)
1	2	3	4	5
1	16	25	1.38	7.0
2	50	35	0.986	9.8

There shall be no joints in any wire of the messenger conductor except those made in the base rod or wires before final drawing. The direction of outer layer of wires in messenger conductor shall be right hand.

6.1.3 A protective barrier may be applied between the conductor and insulation, if required. Such barrier when used shall be compatible with insulating material and suitable for the operating temperature of the cable.

6.2 INSULATION:

The insulation shall be of CROSS LINKED POLYETHYLENE COMPOUND (XLPE) conforming to the requirements given in Table-1 of IS: 14255/1995 with latest amendment, if any.

The conductor (with protective barrier, wherever applied) shall be provided with cross-linked polyethylene insulation applied by extrusion.

The average thickness of insulation shall be not less than the nominal value (t) specified as below:

Sl. No	Nominal Area of Conductor Sq.mm	Nominal Thickness (t) mm.
1	16	1.2
2	50	1.5

The smallest of measured values of thickness of insulation shall not fall below the nominal value (t) specified in above table by more than $0.1\text{mm} + 0.1(t)$.

The insulation shall be so applied that it fits closely on the conductor (or barrier, if any) and it shall be possible to remove it without damaging the conductor.

The colour of INSULATION (XLPE) shall be Black & Messenger Wire shall be bare.

The Black Carbon Contents 2.5+/-0.5% in well dispersed manner shall be added in XLPE for making the Insulation UV Resistant.

6.3 CORE IDENTIFICATION:

The phase conductors shall be provided with 'ridge' as shown in Fig.1 of IS: 14255/ 1995 for quick identification. The messenger conductor shall not have any identification mark.

The Approx. dimension of Ridges are as under:-

- a) Width :- 1.00 mm
- b) Height :- 0.5 mm
- c) Distance Between Consecutive Ridges :- 2.7 mm

6.4 ASSEMBLY (LAYING UP):

Insulated phase conductor shall be twisted around the bare messenger conductor without fillers with a lay **not exceeding 35 times the diameter of the insulated phase conductor.**

The direction of lay shall be right hand.

6.5 COMPOSITIONS AND DESIGNATION OF FINISHED CABLES:

The composition and designation of finished cables are given in the following table:

S.No.	Designation of finished cable
1	3CX16+25 Sq.mm
1	3Cx50+35 Sq.mm

Note: The first part of the designation refers to the number and size of the phase conductor and the last to the size of messenger wire. The sizes shown are the nominal cross-sectional area of the conductors.

7. TESTS:

7.1 The material offered, shall be fully type tested as per relevant standard of specification of IS:14255/1995 amended up to date. **The bidder must furnish type test reports of similar rating & design of tendered material along with bid as detailed at Schedule-IIIA "Pre-Qualification Requirement".**

7.2 However, the purchaser reserves the right to demand repetition of some or all the type tests in presence of purchaser's representative.

7.3 TESTS BEFORE DESPATCH:

The aerial bunched cables shall be subjected at manufacturer's works before dispatch, to the following tests as per ISS/relevant standards.

7.3.1 ACCEPTANCE AND OPTIONAL TESTS:

The Aerial Bunched Cables shall be subjected at manufacturer's works before dispatch to the following acceptance /optional tests as per relevant ISS in presence of the purchasers' representative.

The following shall constitute acceptance tests and shall be conducted as per IS: 14255/1995 & IS: 5831 / 1984 and other relevant ISS with latest amendments, if any:

- a) Tensile test (for phase conductor),(N.A on shaped conductor)
- b) Wrapping test(for phase conductor),(N.A on shaped conductor)

- c) Breaking load test for messenger conductor.
- d) Elongation test for messenger conductor.
- e) Conductor resistance test.
- f) Test for thickness of insulation.
- g) Tensile strength and elongation at break test of Insulation.
- h) Hot set test for XLPE insulation.
- i) Insulation resistance test and
- j) **High voltage test** is to be conducted **on all drums of offered lot.**
- k) **Carbon Black:**
 - i) **Contents:- 2.5+/-0.5%**
 - ii) **Dispersion :- In well dispersed manner**
- l) Any other test as per latest ISS.

The following shall constitute optional test:-

Bending test on complete Cable.

7.3.2 TYPE TESTS:

7.3.2.1 **The first lot offered for inspection shall not be less than 10% of ordered quantity of each size of LT Aerial Bunched Cable or minimum quantity of 20 Kms whichever is more.**

7.3.2.2 **If the bidder has already got conducted the requisite type test from the 1st lot of material received in Nigam`s Store against any previous / earlier tender of JVVNL and such Type Test reports are valid i.e not older than 3 Years on the date of opening of Techno-Commercial Bids, then the requirement of conducting Mandatory Type Test on the sample selected from 1st Lot of supply received in Nigam`s store is RELAXED. For this purpose date of conducting type test will be considered.**

ALTERNATIVELY

In case the bidder do not meet above requirement then one sample of 15 Mtr. Length from the 1st Lot of each size of LT XLPE Insulated Aerial Bunched Cable as received in purchaser's store shall be selected and sealed in the presence of representative of supplier for getting it Type Tested at Govt. / Govt. approved / Govt. Recognized / NABL accredited Laboratory / ILAC Accrediated.

The selected and sealed sample for type test shall be identified by providing Polycarbonate Seals on both ends of cable and two stickers seals provided along the length of the cable. The transportation charges of sample from store to test house shall be borne by NIGAM, whereas the charges incurred towards type test of the material at test house shall be borne by the Supplier. **The testing charges should be remitted through D.D. in favour of Test House. The name of the test house shall be intimated separately.**

In case sample from first lot fails then:

a) Supplier shall have to replace the full quantity of the respective inspected lot supplied to various stores and lying unused at stores.

b) For the quantity already utilized against the order in field a deduction of @ 30% (Thirty Percent) of F.O.R. Destination price of the material supplied shall be made.

c) Sample from next lot shall be selected again for type test. All test charges incurred towards type test of the material for second time shall be borne by the Supplier.

In case sample again fails in the type test then:

a) The quantity lying unused at various stores shall be rejected.

b) For the quantity already utilized against the order in field a deduction of @ 30% (Thirty Percent) of F.O.R. Destination price of the material supplied shall be made.

c) **Further supplies shall not be accepted.**

“At the option of purchaser, the material received in the stores may be utilized in the field after receipt of successful test report from CTL, for the mandatory test checking on the samples selected from the material received at stores against first lot and subsequent lot(s) in anticipation of successful type test report(s).”

NOTE:

1. The 70% payment shall be released after receipt of successful Test reports from CTL of JVVNL for the mandatory test checking on the samples selected from the material received at stores against first lot and subsequent lot(s) in anticipation of successful type test reports.

2. The balance 30% payment shall be released after receipt of successful type test reports on the samples selected from the material received in the stores.

The following tests shall be conducted as per requirements of Clause No.10.1 of IS: 14255/1995 & IS:5831 /1984 (latest amendment):

(a) Tests on phase conductor:

- i) Tensile test.(N.A. on shaped conductors)
- ii) Wrapping test.(N.A. on shaped conductors)
- iii) Resistance test.

(b) Tests on messenger conductor:

- i) Breaking load.
- ii) Elongation test.
- iii) Resistance test.

(c) Physical test for XLPE Insulation:

- i) Tensile strength and elongation at break.
- ii) Ageing in air oven.
- iii) Hot set test.
- iv) Shrinkage test.
- v) Water absorption (Gravimetric).
- vi) **Carbon black:**
 - 1. **Content :- 2.5+/-0.5%**
 - 2. **Dispersion:- In well dispersed manner.**

(d) Test for thickness of insulation.

(e) Insulation resistance (Volume resistivity) test.

(f) High voltage test.

(g) High Voltage Test of Core in water (duration of immersion > 1 Hour) and apply Test voltage 3.5 KV AC for five minutes. (Testing Method as per CENELAC HD 626 S1 A1/A2 2002)

(h) Any other test as per ISS.

7.3.3 ROUTINE TESTS:

The following shall constitute routine tests on Aerial Bunched Cables and shall be conducted in accordance to IS: 14255/1995 along with other relevant ISS with latest version thereof:

- a) Conductor resistance test, and
- b) High Voltage test.

7.4 SAMPLING:

The number of samples to be selected shall depend on the number of drums in the lot. Sampling for conducting acceptance tests shall be in accordance to Clause No.10.2.1 of IS: 14255/1995, which is briefed as under:

SCALE OF SAMPLING:

Samples shall be taken and tested from each lot for ascertaining the conformity of the lot to the requirements of the specification.

The number of drums (n) to be selected from the lot of drums (N) of consignment of cables shall be in accordance with column 2 and 1 of the following Table respectively. The samples shall be taken at random.

In order to ensure the randomness of selection, random number tables shall be used.

Number of Drums to be selected for Sampling and Permissible Number of Defectives.

Number of Drums in the Lot	Number of Drums to be taken as Sample	Permissible Number of Defectives
(1) N	(2) n	(3) a
Up to 50	2	0
51 to 100	5	0
101 to 300	13	0
301 to 500	20	1
501 to above	32	2

7.5 At the works of the manufacturer, the cable shall be transferred from one drum to another for checking any manufacturing defects in the cable drums selected for conducting acceptance tests, at the same time measuring its length with the help of the graduated pulley & cyclometer. The difference in the average length thus obtained from the declared length by the supplier in the packing list shall be applied to all the drums if the cable is found short during checking the sample lot(s).

7.6 TOLERANCE ON TEST RESULTS:

The tolerance on the test results will be permissible as mentioned in the Indian Standard.

7.7 TEST AT SITE:

The purchaser reserves the right to conduct all tests on Aerial Bunched Cables after arrival at site and the contractor shall guarantee test certificate figures under actual service conditions.

8. INSPECTION:

8.1 The inspection may be carried out by the purchaser at any stage of manufacturer. The Inspection & Testing shall be governed by Clause No. 1.27 of **Section-II** (General Conditions Of Contract). Acceptance of any equipment / material under this specification by the purchaser shall not relieve the supplier of his obligation of furnishing equipment in accordance with the specification and shall not prevent subsequent rejection if the equipment/material is found to be defective.

8.2 The Inspection may be carried out by the purchaser at any stage of manufacture / before dispatch as per relevant standard.

8.3 The Bidder shall keep the purchaser informed in advance, about manufacturing programme so that arrangements can be made for inspection.

8.4 **The bidder shall furnish Packing list mentioning serial Nos. of Drums, length in each drum, gross weight of drum without lagging alongwith inspection offer duly signed by the authorized representative of the firm.**

8.5 The supplier shall present the latest Calibration Certificate(s) of testing instruments / equipments to be used for the testing of the material covered in the Purchase Order to the authorized inspecting officer/ inspecting agency of the purchaser. The testing instruments/ meters/ apparatus etc. should be got calibrated by the supplier from time to time from Govt. Laboratory or any independent test laboratory/house having valid accreditation from National Accreditation Board for Testing and Calibrating Laboratories for the testing equipments / original manufacturer having trace ability to NABL/NPL or equivalent.

8.6 The calibration certificate(s) should not in any case be older than one year at the time of presenting the same to the inspecting officer/ inspecting agency of the purchaser. The testing instruments/ equipments should be duly sealed by the Calibrating Agency and mention thereof shall be indicated in the calibration certificate(s).

8.7 TEST CHECKING OF MATERIAL AT STORES:

i) **Sample drums from the material received at stores shall be selected for testing at CTL as per sampling plan given hereunder in presence of firm's representative. The selected sample drum / drums shall be transported to CTL by concern S.S / ACOS of Nigam.**

ii) **The selected sample drum for CTL testing shall be identified by the seals provided by Inspecting Officer / Inspecting Agency during pre-dispatch inspection at firms works and these sealing details shall be invariably mentioned in the selection Memo by the nominated officers of Nigam.**

iii) The tests in the Nigam Testing laboratory (CTL) shall be conducted in the presence of representative of supplier for which a 7 days notice shall be issued through Fax / Speed Post stating Date & Time to the firm, so that supplier can depute their representative to witness the test . In case the supplier or his representative does not turn up the testing shall be proceeded & completed. **The payment shall be released only after receipt of successful test reports** for the samples selected at purchaser's stores for mandatory test checking on the samples to be selected from material received at Nigam's stores by officers to be nominated by Circle SE's / SE (I&S) for testing at CTL.

iv) SAMPLING:

One number Drum out of each lot / sub-lot of 25 Nos. Drums or part thereof for the material received in Stores of Nigam.

v) TESTS:

The following tests shall be carried out as per relevant clause of latest IS on each selected drum by drawing sample of 10 Mtr. at CTL from random distance during re-winding:

- i) Rewinding test (Measurement of Length) & Checking of Manufacturing defects.
- ii) Measurement of Resistance of conductor.
- iii) Tensile test for insulation.
- iv) Elongation test for insulation
- v) Test for thickness of insulation
- vi) Hot Set Test
- vii) Breaking load test on messenger wire.
- viii) Verification of Marking

In addition to above tests remaining acceptance tests as per relevant IS shall also be conducted at CTL provided the testing facility is available at CTL for these tests time to time. Only those tests shall be conducted for which testing facilities are available in NIGAM's Lab.

iv) CRITERIA FOR ACCEPTANCE:

a) If the measured of conductor resistance of the sample(s) exceeds beyond 2% as per the resistance specified in the contract, the material shall be rejected and the same shall have be replaced by the supplier.

b) If the measured conductor resistance of the sample(s) exceeds the value specified in the contract but does not exceed by more than 2% of the resistance value specified in the contract, the material contained in the lot / sub-lot to which the sample belongs shall be accepted with a deduction @ 1.5% of the cost of cable for increase in resistance for every 1% or part thereof.

c) If the samples fail in any other test, the material shall be rejected and shall have to be replaced by the supplier.

d) If the contractor / supplier fails to lift the material declared rejected or any part thereof from the consignee within a period of 15 days from the date of dispatch of information from the purchaser, the purchaser shall be entitled to effect recovery along with other actions as per Clause No. 1.62 of Section-II (General Condition of Contract).

e) The results of measurement of length test shall be made applicable to all drums contained in each lot / sub lot by making deduction of less length of cable in a Sample Drum.

8.7 TEST CHARGES: All test charges incurred towards test checking of the material received in our stores shall be borne by the NIGAM.

9. CHALLENGE TESTING CLAUSE :

The other manufacturer can also request challenge testing for any test based on specification. The challenger would request for testing with testing fee. The challenge test fee are proposed at least three time cost of testing. This is likely to deter un-necessary challenges. The challenger would have the opportunity to select the sample from the store and any such challenge should be made within the guarantee period. The party challenged, the challenger & the utility could witness the challenge testing. The challenged testing would cover all the type tests as per relevant IS.

The challenge test could be conducted at NABL Accredited Laboratory like ERDA, CPRI, Bangalore / Muradnagar / Bhopal. If the values are within limit the products gets confirmed else not confirmed. If the product is not confirmed the manufacturer would pay the challenge fee and challenger would get the fee refunded. However, as a redressal system the challenger would be asked for fresh selection of two more samples from the stores and the same be tested in a NABL Laboratory (which shall be other than previously selected NABL Accredited Lab) at the cost of supplier in presence of party challenged, challenger and the utility. If any one or both samples does not confirmed the tests then the product is said to have failed the tests. In such cases, the manufacturer will be declared as unsuccessful manufacturer for the said product and balance supply shall not be availed and the order shall be cancelled with levy of maximum penalty.

10. (i) IDENTIFICATION:

The manufacturer shall be identified throughout the length of cable by providing legible Embossing as under:

(ii) EMBOSSING:

The cable shall also be required to be embossed on outer sheath with the word **Manufacturer's Name or Trade Mark, Electric, XLPE90, Voltage Grade, NAME OF DISCOM , TN-4346, size of cable & year of manufacture'** at every meter length for which no extra charges shall be paid.

11 PACKING AND MARKING:

11.1 The cable shall be supplied on non-returnable wooden drum as per ISS (10418/1982) of suitable size and packed (seasonal wood not be insisted). The ends of cables shall be sealed by means of non-hygroscopic sealing material. Only one cable length shall be supplied on a drum. The shaft diameter of drum should be as per relevant ISS but not less than 50 mm. The cable can also be supplied on M-Steel Drums as per relevant ISS as applicable.

11.2 The cable shall carry the following information stenciled / painted on the drum:

- i) Manufacturer's name, Brand name or trade mark.
- ii) Type of cable and voltage grade.
- iii) Number of Cores.
- iv) Nominal Cross-sectional area of phase conductor.
- v) Cable Code.
- vi) Length of cable on the drum.
- vii) Approximate gross weight.
- viii) Year of manufacture.
- ix) Name of the Consignee and full destination.
- x) Tender number/Purchase Order No.
- xi) Direction of rotation of drum by means of an arrow.
- xii) IS:14255/1995

12. STANDARD LENGTH:

12.1 The cable shall be supplied in the standard length of 1000 meter.

12.2 A tolerance (+/-) 5% shall be allowed in standard length.

12.3 Non-Standard length measuring not less than 50% of standard length to complete the ordered quantity shall be accepted up to 2% of the total ordered quantity.

13. QUANTITY:

- a) The quantities as mentioned in the schedule of requirement are tentative & these may increase/decrease as per the requirement of the Nigam (**Schedule-I**).
- b) Details of offered quantity alongwith justification with reference to Qualifying Requirement shall be furnished in **Schedule-IVA**

14. QUANTITY TOLERANCE:

A quantity tolerance of (+/-) 2% shall be allowed in each size for completion of supply.

15. DELIVERY SCHEDULE:

The bidder is required to quote monthly delivery in **Schedule-VIII**. **The delivery of quoted quantity should be as under:**

- Commencement** : **After 30 days from the date of receipt of purchase order.**
- Completion** : **In 9 months thereafter at equal monthly rate of each size of cable.**

In case of ordered quantity is different than the quoted quantity, then monthly delivery shall be adjusted proportionately. **Bids of bidders in which monthly delivery rate is not quoted shall be considered as Non-Responsive**

16. PRICES:

- a) The bidder shall quote the Prices in **Schedule-IV** strictly in the manner prescribed in Clause No. 1.09 of Section-I (Instruction to Bidders) & Clause No. 1.33 of Section-II (General Conditions of Contract).
- b) The **prices** quoted shall be **variable as per PV formula** given in the specification at **Schedule-II** without any ceiling with **Base Date** as **1.02.2011**. The Price Variation shall be governed by Clause No. 1.10 of Section-I (Instruction to Bidder).

17. DETAILS OF PAST EXPERIANCE:

The details of past orders executed by the bidder may be indicated in the relevant **Schedule- VII & VII A** . The bid must furnish the documentary evidence like copy of purchase order placed for detailing of past supplies.

18. DRAWING & DOCUMENTATION:

The bidder is required to furnish the detailed constructional drawing of the cable clearly showing the various components. The calculation of weights of different components of the cable shall also be furnished in absence of this, the tenders are likely to be ignored.

19. GUARANTEED TECHNICAL PARTICULARS:

The bidder shall furnish guaranteed technical particulars in the relevant **Schedule VA & VB**. Any departure from the G.T.P be indicated in **Schedule-V**.

20. MANDATORY TOOLS:

The successful bidders are required to supply essentially the following mandatory tools free of cost, the quantity of which is indicated against each:

Pulley for A.B.C. : One Set per 25 Kms. of each size of A.B. Cable

The Pulley is used to receive low voltage Aerial Bunched Cables. It should suit the sizes of Aerial Bunched Cable as mentioned at Clause-6.5 of this specification. Fixing on poles is ensured by a 1.20 Mtrs. strap in order not to stress the Pulley during cable unwind.