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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 VITARAN NIGAM LIMITED
(PROCUREMENT CIRCLE)
OLD POWER HOUSE PREMISES, BANI PARK, JAIPUR -06**

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BID DOCUMENTS FOR PURCHASE OF ISI MARKED 11 KV ALUMINIUM CONDUCTOR SCREENED CROSS-LINKED POLY ETHYLENE (XLPE) INSULATED ARMoured SHIELDED PVC SHEATHED POWER CABLE UNDER SPECIFICATION NO.JPD/SE/PROC/SPO-I/TN-4341.

S.No	ITEM	QUANTITY
1	11 KV, 3CX300 Sq.mm HT Power Cable	41 Kms
2	11 KV, 3CX185 Sq.mm HT Power Cable	761 Kms
3	11 KV, 3CX120 Sq.mm HT Power Cable	450 Kms

LAST DATE AND TIME FOR : 13.04.2011 UPTO 2.30 P.M.
RECEIPT OF BID

DATE AND TIME OF : 13.04.2011 AT 3.00 P.M.
OPENING OF BID

EARNEST MONEY TO BE : Rs.7,50,000/-
DEPOSITED

COST OF THE : RS.2,500/-(non refundable)
SPECIFICATION

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

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.

SECTION-III**TECHNICAL SPECIFICATION AND SCHEDULE OF REQUIREMENT FOR SUPPLY OF
11 KV CROSS-LINKED POLYETHYLENE (XLPE) INSULATED POWER CABLES
AGAINST TN-4341****1. SCOPE:**

1.1 This section provides for manufacture, testing before dispatch, supply and delivery F.O.R. destination of **ISI Marked** 11 KV Aluminium conductor Screened, Cross linked Polyethylene (XLPE) Insulated Armoured Shielded PVC Sheathed cable of rated voltage 11 KV (earthed system) conforming to IS:7098 (Part-II/1985) with latest amendment. The requirement of 11 KV Power XLPE Cables 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 & may vary at the time of placement of order.

The 11 KV Aluminium Conductor, Screened CROSS-LINKED POLYETHEYLENE (XLPE) INSULATED Armoured Shielded PVC Sheathed Power cable shall be **ISI marked**. **The bidder should be a manufacturer of tendered item. The offers from Sole Selling Agents / Authorised Dealers shall not be entertained.**

The bidder must possess valid ISI License for the bid item. **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 firm must possess ISO-9001 or above certification.**

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:7098(Part-II) : Cross linked Polyethylene Insulated PVC sheathed cable for voltage from 3.3 KV upto & Including 33 KV.
- ii) IS:8130 : Conductors for insulated Cables.
- iii) IS:5831 : PVC insulation and sheath of Electric cables.

- iv) IS:3975 : Mild steel wires, strips and tapes for armouring cables.
- v) IS:10810 : Methods of test for cables.
- iv) IS:10418 : Drums for Electric Cables

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) Min. 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. 100 kg/ sq. mm.
- xi) Altitude not exceeding 1000 M

4. GENERAL REQUIREMENT:

4.1 The 11 KV power cable shall be **ISI Marked** Aluminium conductor screened cross linked polyethylene insulated armoured shielded and over all PVC sheathed. The 11 KV XLPE Cable shall conform to IS: 7098 (Part-II)/1985 with latest amendments **shall bear ISI Certification mark.** The cable shall be capable of withstanding the normal stresses associated with transportation, erection, reeling and unreeling operations without getting deformed.

4.2 The 11 KV XLPE Cable shall be suitable for the following conditions of laying:

- i) Laid directly in ground.
- ii) Installed outdoor in free air in vertical position.
- iii) Drawn into underground ducts.

4.3 The 11 KV XLPE Power Cable shall be suitable for use where combination of ambient temperature and temperature rise due to load results in conductor temperature not exceeding 90 degree C. under normal operation and 250 degree C under short circuit conditions.

4.4 The cable shall be used on 11 KV earthed system. The cables shall be suitable for continuous operation at a power frequency voltage 10% higher than rated voltage.

5.0 MATERIAL:

5.1 **CONDUCTOR:** The conductor shall be composed of aluminium wires complying with the requirement of Class-2 of IS: 8130/1984.

The bidder must guaranteed the minimum weight of Aluminium in Kg/Km corresponding to nominal cross sectional area of conductor as mentioned in the G.T.P.

5.2 INSULATION:

The insulation shall be cross linked polyethylene conforming to the requirement given in Table-1 of IS:7098(Part-II)/1985.

5.3 SCREENING:

The screening shall consist of one or more of the following:

- i) Non-Metallic semi conducting tape.
- ii) Non-Metallic semi conducting compound and
- ii) Non-Magnetic Metallic tape wire, strip or sheath.

5.4 FILLERS AND INNER SHEATH:

5.4.1 The filler and inner sheath shall be of the following:

- a) Vulcanized or Un-vulcanized rubber or
- b) Thermoplastic material.

5.4.2 Vulcanized or Un vulcanized rubber or Thermoplastic material used for inner sheath shall not be harder than XLPE and PVC used for insulation and outer sheath respectively. The filler and inner sheath material shall be chosen to be compatible

with the temperature rating of the cable and shall have no deleterious effect on any other components of the cable.

5.4.3 The Central hole / void, if any, of the cable shall be invariably filled with suitable filler material so that there is no gap in the center.

5.5 **ARMOURING:**

5.5.1 The Armouring shall be of Galvanized Steel Strip.

5.5.2. Galvanized steel strips shall comply with the requirements of IS:3975/1979 with latest amendments.

5.6 **OUTER SHEATH:**

5.6.1 The outer sheath shall be of Poly Vinyl Chloride (PVC) compound conforming to the requirement of type ST-2 of IS:5831/1984.

6. **CONSTRUCTION:**

6.1 **CONDUCTOR:**

The Conductor shall be of stranded construction complying with Class-2 of IS:8130/1984. The aluminium shall be reasonably uniform in size and shape and its surface be free from any sharp edges.

6.2 **CONDUCTOR SCREENING:**

The conductor screening shall be provided over the conductor by applying non-metallic semi conducting tape or by extrusion of semi conducting compound or a combination of the two.

6.3 **INSULATION:**

The Conductor (with screen) shall be provided with cross linked polyethylene (XLPE) insulation applied by extrusion. The insulation shall be so applied that it fits closely on the conductor (or conductor screening) and it shall be possible to remove it without damaging the conductor. The thickness of insulation and tolerance of thickness of insulation shall be as per Clause No.11 of IS:7098 (Part-II)/1985.

6.4 **INSULATION SCREENING:**

6.4.1 The insulation screening shall consist of two parts namely metallic and non-metallic.

6.4.2 Non-metallic part shall be applied directly over the insulation of each core and shall consist of either a semi conducting tape or extruded semi conducting or a combination of the two or either material with a semi conducting coating.

6.4.3 Metallic part shall consist of either tape or braid or concentric serving of wires or a sheath should be non-magnetic and shall be applied over the non metallic part.

6.5 CORE IDENTIFICATION:

The core identification shall be done as per Clause-13 of IS:7098 (Part-II)/ 1985.

6.6 LAYING UP OF CORES:

The Cores (with screening) shall be laid together with a suitable right hand lay. Wherever, necessary the interstices shall be filled with non-hygroscopic material.

6.7 INNER SHEATH (COMMON COVERING):

The laid up core shall be provided with inner sheath applied either by extrusion or by wrapping. **However, application of inner sheath by EXTRUSION shall be preferred.** It shall be ensured that the shape is as circular as possible. The inner sheath shall be so applied that it fits closely on the laid up cores and it shall be possible to remove it without damage to the insulation. The thickness of inner sheath shall be as per Clause No.15.3 of IS: 7098 (Part-II)/ 1985 (with latest amendments)

6.8 ARMOURING:

The armouring shall be applied over the inner sheath. The Galvanized Steel Armoured strips shall be applied as closely as practicable. The direction of lay of the Armour shall be left hand. A binder tape may be applied on the armouring. The dimensions of the galvanized steel strips shall be as specified in Table-4 of IS:7098 (Part-II)/1985. The joints in Armour strips if any shall be made by brazing or welding and the surface irregularities shall be removed. A joint in any strip shall be at least 300 mm. from the nearest joint in any other armour strips in the completed cable.

6.9 OUTER SHEATH:

6.9.1 The outer sheath shall be applied by extrusion over the armouring. The colour of outer sheath shall be black.

6.9.2 The thickness of the outer sheath shall be as per Clause No.17.3 of IS: 7098 (Part-II)/1985 with latest amendments.

7. TYPE TESTS:

7.1 The material offered, shall be fully type tested as per relevant standard of specification of IS:7098 (Part-II/1985) 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".** The following shall constitute type tests:

- a) Tests of Conductor:
 - i) Annealing test (for copper)
 - ii) Tensile test (for aluminium)
 - iii) Wrapping test (for aluminium)
 - iv) Conductor Resistance test

- b) Tests for armouring wires/strips.
- c) Tests for thickness of insulation and sheath.
- d) Physical tests for insulation:
 - i) Tensile strength and elongation at break.
 - ii) Ageing in air oven.

 - iii) Hot test.
 - iv) Shrinkage test.
 - v) Water absorption (gravimetric).

- e) Physical test for outer sheath:
 - i) Tensile strength and elongation at break.
 - ii) Ageing in air oven.
 - iii) Shrinkage test.
 - iv) Hot deformation,

- f) Partial discharge test.
- g) Bending test.

- h) Dielectric power factor test:
 - i) As a function of voltage.
 - ii) As a function of temperature.

- i) Insulation resistance (volume resistivity test).

- j) Heating cycle test.

- k) Impulse withstand test.

- l) High voltage test.

- m) Flammability test.

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

7.3 The bidder must also clearly indicate various testing facilities available at their works for testing the material as per relevant standards. In case of otherwise particulars of the place where such testing is proposed to be conducted during the course of inspection shall be indicated with the offer.

8. INSPECTION (TEST BEFORE DISPATCH):

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. The following **Acceptance tests** as per Clause No.18.2 of IS:7098(Part-II)/1985 shall be conducted in presence of the purchaser's authorized representative / agency on each lot of offered cables:

- i) Tensile Test.
- ii) Wrapping Test.
- iii) Conductor Resistance Test.
- iv) Test for thickness of insulation & sheath.
- v) Hot Set Test for insulation.
- vi) Tensile strength & elongation at break test for insulation and sheath.
- vii) Partial Discharge Test (for screened cables only).
- viii) High voltage test and
- ix) Insulation resistance (Volume resistivity) Test.
- x) Test for Armour:
 - a) Verification of Dimension of Strip.
 - b) Tensile Strength & elongation at break.
 - c) Uniformity of Zinc Coating.
 - d) Weight of Zinc Coating.
 - e) Winding Test on Armour.
 - f) Resistivity Test on Armour.

Cold impact test for outer sheath (IS:5831/1984) shall constitute the optional test and shall be conducted on first lot of the offered cables of each size as per Clause No.18.4 of IS:7098(Part-II)/1985.

8.2 ROUTINE TEST:-

The following shall constitute routine tests:

- a) Conductor resistance test
- b) Partial discharge test
- c) High voltage test.

8.3 **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.** The purchaser reserves the rights to insist for witnessing the acceptance / routine tests of the bought out items.

8.4 At least 5% of total numbers of drums subject to minimum of two (2) in the lot put up for inspection shall be selected at random to ascertain the length of cable by the following method.

“At the works of manufacturer of the cable shall be transferred from one drum to another for checking any manufacturing defects in the cable, at the same time measuring its length with the help of the graduated pulley and cyclometer. The difference in 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).”

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 TYPE TESTS ON SAMPLE(S) TO BE SELECTED FROM MATERIAL RECEIVED IN STORE:

The first offered lot shall not be less than 10% of ordered quantity of HT Power Cable or minimum quantity of 1 Km. of each size of HT Power Cable whichever is higher.

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 HT POWER 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 Accredited.

However, suppliers own lab shall not be considered for the purpose of type test reports. **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.
- d) The supplier shall have to pay the type test charges again for testing of fresh sample for which the testing charges should be remitted through D.D. in favour of Test House.

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, Jaipur 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, Jaipur 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.

8.8 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:

- a) Rewinding test (Measurement of Length) & Checking of Manufacturing defects.
- b) Measurement of Resistance of conductor.
- c) Tensile strength & Elongation at Break Test for Insulation & Sheath
- d) Test for Thickness of Insulation & Sheath
- e) Hot Set Test
- f) Test for Armour:
 - i) Verification of Dimension of Wire / Strip.
 - ii) Tensile Strength & elongation at break.
 - iii) Uniformity of Zinc Coating.
 - iv) Weight of Zinc Coating.
 - v) Winding Test on Armour.
 - vi) Resistivity Test on Armour.
- g) 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.

vi) **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 to 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 sample(s) fails 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.

8.9 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 IDENTIFICATION:

10.1 The manufacturer shall be identified throughout the length of cable as per Clause No.20.1 of IS:7098(Part-II)/ 1985.

10.2 The cable code employed shall be as per Clause No.20.3 of IS:7098 (Part-II) /1985.

10.3 EMBOSSING:

The cable shall also be required to be embossed with the word `Name of manufacturer or Trade name, ELECTRIC/ Voltage Grade/ NAME OF DISCOM/ TN-cable code, size of cable & year of manufacture at every meter length for which no extra charges shall be paid. **The cable should be ISI marked & same should be embossed on the outer sheath of every meter length of HT Cable.**

11. MARKING:

The progressive length of cable in meter shall be marked on the outer sheath of every meter length of HT Cable.

12. PACKING AND MARKING:

12.1 The cable shall be wound on a non returnable wooden drum conforming to IS: 10418/1982 of suitable size. The ends of cables shall be sealed by means of non-hygroscopic material. Only one cable length shall be supplied on a drum. The cable can also be supplied on M-Steel Drums as per relevant ISS as applicable.

12.2 The cable drums shall carry the following information either stenciled or painted.

- i) Manufacturer's name, Brand or trade mark.
- ii) Type of cable and voltage grade.
- iii) Number of cores.
- iv) Nominal cross-sectional area of the Conductor.
- v) Cable Code.
- vi) Length of cable on the drum.
- vii) Direction of rotation of drum (by means of an arrow).
- viii) Gross mass.
- ix) Year of manufacture.

- x) ISI Certification mark.
- xi) Purchase order/bid No. and
- xi) Name of Consignee.

13. **STANDARD LENGTH:** The cable shall be supplied in standard length of **250 Mtrs** in one Drum for size **11 KV, 3CX300 Sq.mm, 11 KV, 3CX185 Sq.mm** and in standard length of **500 Mtrs** in one drum for size **11 KV, 3CX120 Sq.mm** .

13.1 A tolerance of (+/-) 5% shall be allowed on standard length.

14. **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**

15. **QUANTITY TOLERANCE:**

The ordered quantity of the cable(s) can be supplied with quantity tolerance of (+/-) 2% in each size.

16. **DETAILS OF PAST EXPERIENCE:**

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.

17. **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**.

18. **DRAWINGS & DOCUMENTATIONS:**

The bidder is required to furnish the detailed constructional drawing of cable clearly showing shape of core, type, size of fillers/ interstices along with Center Filler etc. **The calculations of weights of different components of the cable along with weight of armouring and calculation of number of armour strips indicating Lay Ratio & Lay Factor shall also be furnished. In absence of this, the bids are likely to be ignored. The drawing of drums shall also be furnished as per relevant applicable ISS.**

19. 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 Nine 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**

20. 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 **1.03.2011**. The Price Variation shall be governed by Clause No. 1.10 of Section-I (Instruction to Bidder).