

NOTICE INVITING TENDER (NIT)
FOR
RATE CONTRACT FOR SUPPLY
OF
SUPPLY OF 11KV XLPE/AB POWER CABLES OF
VARIOUS SIZES

NIT NO: CMC/BY/20-21/RB/SV/54

Due Date for Submission: 14.04.2021, 15:00 HRS

BSES YAMUNA POWER LIMITED (BYPL)
CONTRACTS & MATERIALS DEPT.,
SHAKTI KIRAN BUILDING, KARKARDOOMA,
DELHI-110032
CIN: U40109DL2001PLC111525
WEBSITE: www.bsesdelhi.com

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VOLUME – I: INFORMATION TO BIDDER (ITB)

SECTION – I: REQUEST FOR QUOTATION

1.00 EVENT INFORMATION

- 1.01 BSES Yamuna Power Ltd (hereinafter referred to as “**BYPL**”) invites sealed tenders in 2 envelopes for establishing Rate Contract from reputed manufacturers valid for a period of one year.

| Sl. No. | Item Description | Estimated Cost (₹) | Cost of EMD (₹) | Delivery at |
|---------|--|--------------------|-----------------|--------------|
| 1 | RATE CONTRACT FOR SUPPLY OF 11KV XLPE/AB POWER CABLES OF VARIOUS SIZES | 14.44 Crore | 14.44 Lakh | Delhi Stores |

The bidder must qualify the requirements as specified in clause 2.0 stated below.

All envelopes shall be duly super scribed “**BID FOR RATE CONTRACT FOR SUPPLY OF 11KV XLPE/AB POWER CABLES OF VARIOUS SIZES**” “**NIT NO: CMC/BY/20-21/RB/SV/54 DUE ON 14.04.2021, 15:00 Hr.**”

Bid shall be submitted in two (02) parts. Details of part are as follow:

Part A – Techno Commercial Bid

Part B – Price Bid

- 1.1. The schedule of specifications with detail terms & conditions can be obtained from address given below against submission of non-refundable demand draft of ₹ 1,180/- drawn in favour of BSES Yamuna Power Ltd, payable at Delhi or Online transfer of requisite amount through NEFT/ RTGS. The tender documents & detail terms and conditions can also be downloaded from the website www.bsesdelhi.com --> **BSES YAMUNA POWER LTD --> Tender --> Open Tenders**
In case tender papers are downloaded from the above website, then the bidder has to enclose a demand draft covering the cost of bid documents.

- 1.2. Bids will be received up to **14.04.2021, 15:00 Hr.** at the address given below.
Part A of the Bid shall be opened on **15.04.2021, 17:00 Hr.**

Part B of the Bid will be opened in case of Techno-Commercially Qualified Bidders and the date of opening of same shall be intimated in due course. It is the sole responsibility of the bidder to ensure that the bid documents reach this office on or before the last date.

**Head of Department
Contracts & Materials Deptt.
BSES Yamuna Power Ltd
Reception, Ground Floor
Shaktikiran Building, Karkardooma
Delhi 110032**

- 1.3 BSES Yamuna Power Ltd reserves the right to accept/reject any or all tenders without assigning any reason thereof in the event of following:
- Tender fee of requisite value.
 - Earnest Money Deposit (EMD) of requisite value & validity is not deposited in shape of Bank Guarantee drawn in favor of BSES Yamuna Power Ltd, payable at Delhi or Online transfer of requisite amount through NEFT/RTGS

- c) The offer does not contain prices indicating break-up towards all taxes & duties in prescribed format.
- d) Complete Technical details are not enclosed as per the Technical Bid Submission Checklist
- e) Tender is received after due date and time.
- f) Technical offer contains any prices.
- g) Prices are not FIRM and subject to Price Variation.

2.00 QUALIFICATION CRITERIA

The prospective bidder must qualify all of the following requirements and shall be eligible to participate in the bidding who meets following requirements and management has a right to disqualify those bidders who do not meet these requirements.

2.01 Technical Criteria:

| SI No. | Criteria | Documents to be submitted by bidder |
|--------|---|---|
| 1 | The bidder should have own manufacturing facility for 11KV 3CX300 MM ² or higher size and voltage grade Power Cable from last 3 years. | Cable manufacturing and factory incorporation certificate |
| 2 | The bidder should have executed at least 100km of cable size 3CX300 MM ² and 11KV voltage or higher size and rating cable order(s) during last 3 years from the date of opening of technical bid | i. Summary list of executed Purchase orders ii. Purchase order copies iii. Material delivery clearance certificate copy or delivery completion certificates |
| 3 | The bidder should have plant installed capacity to supply of minimum 30-40 km per month | Installed Capacity Certificate |
| 4 | Performance certificate for minimum 2 year satisfactory performance from at least two utilities/SEB/PSUs of cable size 3CX300 MM ² and 11 KV voltage or higher size and voltage grade | Performance certificates |
| 5 | The bidder must possess valid ISO 9001:2015 certification or above. | Valid copy of Certification |

2.02 Commercial Criteria:

| SI No. | Criteria | Documents to be submitted by bidder |
|--------|--|---|
| 1 | The bidder must have adequate Financial Stability and status to meet the financial obligation pursuant to the scope of supply and shall have average annual turnover of minimum ₹ 150 Crore during last three (3) Financial Years (FY 2017-18, 2018-19 & 2019-20). | Duly certified CA certificate to be submitted |
| 2 | An undertaking (self-certificate) that the bidder has not been blacklisted/debarred by any central/state government institution including electricity boards and | Undertaking |

| SI No. | Criteria | Documents to be submitted by bidder |
|--------|---|---|
| | also confirm that there is no pending litigation with government on account of executing similar order | |
| 3 | The bidder should have registered under GST ACT and shall submit copy of GST Registration Number, PAN, PF, ESI in addition to other statutory compliances. The bidder must submit the copy of registrations and submit an undertaking that the bidder shall comply all the statutory compliances as per the applicable laws/rules etc | Relevant Statutory Documents Copy/ Undertaking |

Bidders already qualified against previous tender(s) for similar requirement need not submit the documents in support of qualification criteria. However, GTP, Drawings and other technical details with supporting documents shall be submitted.

Notwithstanding anything stated above, BYPL reserves the right to assess bidder's capability to perform the contract, assess the capability and installed capacity of the Bidder for carrying out the supplies, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard the decision of the purchaser is final.

3.00 BIDDING AND AWARD PROCESS

Bidders are requested to submit their offer strictly in line with this tender document. **NO DEVIATION IS ACCEPTABLE.** BYPL shall response to the clarifications raised by various bidders and the will be distributed to all participating bidders through through BYPL website/e-mail.

3.01 BID SUBMISSION

Please mention our NIT Number: - on the Tender and drop the same in our Tender Box placed at:

BSES Yamuna Power Ltd, Reception, Ground Floor, Shaktikiran Building, Karkardooma, Delhi 110032

The bids and the outer envelope shall be addressed to:

Head of Department

Contracts & Materials Deptt.

BSES Yamuna Power Ltd, Shaktikiran Building, Karkardooma, Delhi 110032

Kindly Note:

- Bidder will inform BYPL through mail within 02 hours from the submission or before the due date & time of submission to TPC & Buyer:
 1. Mr Santosh Singh, E-mail: Santosh.Kum.Singh@relianceada.com,
 2. Mr Sumit Verma, E-mail: sumit.ra.verma@@relianceada.com,
- Tender documents shall be submitted at main gate in tender box
- Authorized person of TPC will collect the documents from tender box at scheduled time of tender submission and verify the bid documents with mails received. A confirmation of receipt shall be sent to bidder through mail by TPC on the same day
- Bidder has to ensure that tender copy is dropped in correct box designated for tender submission only
- BYPL shall not be responsible for any wrong placement of tender document by bidder

PART A :: TECHNICAL **BID** comprising of following:

| | | |
|--|--------------|--------------------------|
| INFORMATION TO BIDDER (ITB) NIT NO: CMC/BY/20-21/RB/SV/54 | Page 4 of 15 | Bidders seal & Signature |
|--|--------------|--------------------------|

| Sr. No | Descriptions | Type of Documents |
|---------------------|---|---|
| Commercial : | | |
| 1 | Tender Fee - Demand Draft (Rs.1180/-) (Incl GST) | Non-refundable demand draft for Rs 1180/- in case the forms are downloaded from website |
| 2 | EMD | In prescribed stamp paper & format |
| 3 | Power-of-Attorney | In prescribed stamp paper & format |
| 4 | PQR Compliances | Documentary evidence in support of qualifying criteria like: 1. Details of constitution of the company (Proprietary/Limited/etc along with the details), Memorandum of Association of the company 2. Bidders shall submit the certified annual Balance sheets for the last completed three (3) financial years 3. Supportive document on Positive Net worth. Credit rating/solvency certificate from competent authority. 4. Copies of Orders, Execution /Performance Certificate & Other Documents to support qualification Criteria |
| 5 | Signed Tender document | Original Tender documents duly stamped & signed on each page as token of acceptance |
| 6 | Black listing undertaking | Bidder should submit a Self-undertaking signed by its Authorized Signatories that the Bidder or any of their sub-contractor has not been blacklisted/barred by any Govt. Organization or Regulatory Agencies in India or abroad. |
| 7 | Commercial Terms and Conditions | Acceptance on Commercial Terms and Conditions viz Delivery schedule/period, Payment terms, PBG etc. |
| 8 | Acceptance on Reverse Auction | Duly signed Acceptance Form For Participation In Reverse Auction Event as per attached format |
| 9 | Bid Form (Unpriced) Duly Signed | Duly Signed Bid Form as per attached format |
| 10 | Un price Bid Duly Signed | Duly Signed Un price Bid as per attached format |
| Technical: | | |
| 11 | Technical Details/ Filled in GTP/Drawings | Bidder shall submit duly filled GTP with all Technical documents and Drawings. |
| 12 | Type Test Reports | Bidders shall submit the copy of type test reports in their technical bids in support of technical specifications |
| 13 | Testing Facilities | Bidder shall submit the details of testing facilities available at their works/factory. |
| 14 | Organization Chart & Manpower Details. | Bidder shall submit the details of Organization & Manpower with qualification and experience. |

PART B :: FINANCIAL BID comprising of (01 original only)

| | | |
|--|----------------------------|--------------------------|
| INFORMATION TO BIDDER (ITB) NIT NO: CMC/BY/20-21/RB/SV/54 | Page 5 of 15 | Bidders seal & Signature |
|--|----------------------------|--------------------------|

- Price strictly in the Format enclosed indicating Break up of basic price, taxes & duties, transportation etc

3.02 TIME SCHEDULE

The bidders should complete the following within the dates specified as under:

| S.No. | Steps | Due date |
|-------|---|----------------------|
| 1 | Last Date of Sale of Bid Documents | 13.04.2021 |
| 2 | Last Date of receipt of pre-bid queries, if any (Queries to be submitted via e-mail) | 02.04.2021 |
| 3 | Last Date of Receipt of Bid Documents | 14.04.2021, 15:00HRS |
| 4 | Date & Time of Opening of PART A - Technical and Commercial Bid | 15.04.2021, 17:00HRS |

This is a two part bid process. Bidders are to submit the bids in 2(Two) parts
Both these parts should be furnished in separate sealed covers super scribing NIT no. DUE DATE OF SUBMISSION, with particulars as **PART-A TECHNICAL BID & COMMERCIAL TERMS & CONDITIONS** and **Part-B FINANCIAL BID** and these sealed envelopes should again be placed in another sealed cover which shall be submitted before the due date & time specified.

Part – A:: Technical Bid should not contain any cost information whatsoever and shall be submitted within the due date.

PART B:: This envelope will be opened internally after techno-commercial evaluation and only of the qualified bidders.

Bidder has to submit the item wise price bifurcation in bid. Un priced copy must be attached with the Part A (Technical Bid). Reverse Auction will be carried out on individual item wise rates.

REVERSE AUCTION CLAUSE :: Purchaser reserves the right to use reverse auction as optional tool through SAP – SRM as an integral part of the entire tendering process. All techno-commercially qualified bidders shall participate in reverse auction.

Notwithstanding anything stated above, the Purchaser reserves the right to assess bidder's capability to perform the contract, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard the decision of the purchaser is final. Bidder to submit their acceptance as per format attached ANNEXURE-C

BIDS RECEIVED AFTER DUE DATE AND TIME MAY BE LIABLE TO REJECTION

4.00 AWARD DECISION

- 4.01 Purchaser intends to award the business on a lowest bid basis, so suppliers are encouraged to submit the bid competitively. The decision to place purchase order/LOI solely depends on purchaser on the cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that Purchaser may deem relevant.

- 4.02 In the event of your bid being selected by purchaser (and / or its affiliates) and you subsequent DEFAULT on your bid; you will be required to pay purchaser (and / or its affiliates) an amount equal to the difference in your bid and the next lowest bid on the quantity declared in NIT/RFQ.
- 4.03 In case any supplier is found unsatisfactory during the delivery process, the award may be cancelled and BYPL reserves the right to award other suppliers who are found fit.
- 4.05 Rate Contract: The rate contract shall have a validity period of 12 months from the date of LOI/PO issued to the responsive, techno-commercially acceptable and evaluated to be the lowest bidder. Purchase Order (PO) shall be placed as per the requirement of BYPL. Rate shall remain FIRM till the validity of Rate Contract.
- 4.06 Quantity Variation: The purchaser reserves the rights to vary the quantity by (\pm) 50% of the tender quantity during the execution of the rate contract.
- 4.07 Quantity Splitting: The purchaser reserves the right to distribute the procurable quantity on one or more than one of the eligible tenders. If the quantity is to be split, quantity distribution shall be in the manner detailed below:
a) If the quantity is to be split among 2 bidders, it will be done in the ratio of 70:30 on L1 price.
b) If the quantity is to be split among 3 bidders, it will be done in the ratio of 50:30:20 on L1 price.
Note: In case quantity needs to be distributed and order splitting is required, distribution of quantity shall be maximum among three (3) bidders

5.00 MARKET INTEGRITY

We have a fair and competitive marketplace. The rules for bidders are outlined in the Terms & Conditions. Bidders must agree to these rules prior to participating. In addition to other remedies available, we reserve the right to exclude a bidder from participating in future markets due to the bidder's violation of any of the rules or obligations contained in the Terms & Condition. Bidders who violate the marketplace rules or engage in behavior that disrupts the fair execution of the marketplace restricts a bidder to length of time, depending upon the seriousness of the violation. Examples of violations include, but are not limited to:

- Failure to honor prices submitted to the marketplace.
- Breach of the terms of the published in Request for Quotation/NIT.

6.00 SUPPLIER CONFIDENTIALITY

All information contained in this RFQ is confidential and shall not be disclosed, published or advertised in any manner without written authorization from BYPL. This includes all bidding information submitted.

All RFQ documents remain the property of BYPL and all suppliers are required to return these documents to BYPL upon request.

Suppliers who do not honor these confidentiality provisions will be excluded from participating in future bidding events.

7.00 CONTACT INFORMATION

Technical clarification, if any, as regards this RFQ shall be sought in writing and sent by e-mail/post/courier to following addresses. The same shall not be communicated through phone

| Address | Name/ Designation | E-mail Address |
|--|--|-------------------------------------|
| Technical | | |
| CES Dept. 3 rd Floor, B-Block, BSES Yamuna Power Ltd Shaktikiran Building, Karkardooma, Delhi 110032 | Gaurav Sharma AVP (HOD-CES) | gaurav.a.sharma@relianceada.com |
| | Puneet Duggal DGM (CES) | puneet.duggal@relianceada.com |
| | Ankita Arora Manager (CES) | ankita.arora@relianceada.com |
| Commercial | | |
| C&M Dept. 3 rd Floor, A-Block, BSES Yamuna Power Ltd Shaktikiran Building, Karkardooma, Delhi 110032 | Rakesh Bansal VP (HOD-C&M) | rakesh.bansal@relianceada.com |
| | Rajesh Srivastava VP (Head-Procurement) | rajesh.r.srivastava@relianceada.com |
| | Sumit Verma DGM (C&M) | sumit.ra.verma@relianceada.com |

SECTION – II: INSTRUCTION TO BIDDERS

A. GENERAL

- 1.00 BSES Yamuna Power Ltd, hereinafter referred to as "The Purchaser" are desirous of implementing the various Systems Improvement/Repair & Maintenance works at their respective licensed area in Delhi The Purchaser has now floated this tender for procurement of material notified earlier in this bid document.

2.00 SCOPE OF WORK

The scope shall include Design, Manufacture, testing at works conforming to the Technical Specifications/IS along with Packing, Forwarding, Transportation and Unloading and proper stacking at Purchaser's stores/site.

3.0 DISCLAIMER

- 3.01 This Document includes statements, which reflect various assumptions, which may or may not be correct. Each Bidder/Bidding Consortium should conduct its own estimation and analysis and should check the accuracy, reliability and completeness of the information in this Document and obtain independent advice from appropriate sources in their own interest.
- 3.02 Neither Purchaser nor its employees will have any liability whatsoever to any Bidder or any other person under the law or contract, the principles of restitution or unjust enrichment or otherwise for any loss, expense or damage whatsoever which may arise from or be incurred or suffered in connection with anything contained in this Document, any matter deemed to form part of this Document, provision of Services and any other information supplied by or on behalf of Purchaser or its employees, or otherwise arising in any way from the selection process for the Supply.
- 3.03 Though adequate care has been taken while issuing the Bid document, the Bidder should satisfy

itself that Documents are complete in all respects. Intimation of any discrepancy shall be given to this office immediately.

- 3.04 This Document and the information contained herein are Strictly Confidential and are for the use of only the person(s) to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient's professional advisors).

4 COST OF BIDDING

The Bidder shall bear all cost associated with the preparation and submission of its Bid and Purchaser will in no case be responsible or liable for those costs.

B. BIDDING DOCUMENTS

- 5.01 The Scope of Work, Bidding Procedures and Contract Terms are described in the Bidding Documents. In addition to the covering letter accompanying Bidding Documents, the Bidding Documents include:

- (a) Request for Quotation (RFQ)
- (b) Instructions to Bidders
- (c) General Terms & Conditions of Contract (T&C)
- (d) Delivery schedule
- (e) Price Formats & Summary T&C
- (f) Bid Form
- (g) Acceptance Format – RA
- (h) EMD BG Format
- (i) Vendor code of conduct
- (j) Appendix
- (k) Technical Specifications (TS)

- 5.02 The Bidder is expected to examine the Bidding Documents, including all Instructions, Forms, Terms and Specifications. Failure to furnish all information required by the Bidding Documents or submission of a Bid not substantially responsive to the Bidding Documents in every respect will may result in the rejection of the Bid.

6.0 AMENDMENT OF BIDDING DOCUMENTS

- 6.01 At any time prior to the deadline for submission of Bids, the Purchaser may for any reasons, whether at its own initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by Amendment.
- 6.02 The Amendment shall be part of the Bidding Documents, pursuant to Clause 5.01, and it will be notified in web site www.bsesdelhi.com and the same will be binding on them.
- 6.03 In order to afford prospective Bidders reasonable time in which to take the Amendment into account in preparing their Bids, the Purchaser may, at its discretion, extend the deadline for the submission of Bids. The same shall be published as a corrigendum in website www.bsesdelhi.com
- 6.04 Purchaser shall reserve the rights to following:
- a) extend due date of submission,
 - b) modify tender document in part/whole,
 - c) cancel the entire tender

6.05 Bidders are requested to visit website regularly for any modification/clarification/corrigendum/addendum of the bid documents.

C. PREPARATION OF BIDS

7.0 LANGUAGE OF BID

The Bid prepared by the Bidder, and all correspondence and documents relating to the Bid exchanged by the Bidder and the Purchaser, shall be written in the English Language. Any printed literature furnished by the Bidder may be written in another Language, provided that this literature is accompanied by an English translation, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

8.0 DOCUMENTS COMPRISING THE BID

The Bid prepared and submitted by the Bidder shall comprise the following components:

- (a) Bid Form, Price & other Schedules (STRICTLY AS PER FORMAT) and Technical Data Sheets completed in accordance with Technical Specification.
- (b) All the Bids must be accompanied with the required EMD as mentioned in the Section-I against each tender.
- (c) Tender documents duly stamped and signed on each page by authorized signatory.

9.0 BID FORM

9.01 The Bidder shall submit one "Original" and one "Copy" of the Bid Form and the appropriate Price Schedules and Technical Data Sheets duly filled in as per attached specification enclosed with the Bidding Documents.

9.02 EMD

Pursuant to Clause 8.0(b) above, the bidder shall furnish, as part of its bid, a EMD amounting to as specified in the Section-I. The EMD is required to protect the Purchaser against the risk of Bidder's conduct which would warrant forfeiture.

The EMD shall be denominated in any of the following form:

- (a) Bank Guarantee drawn in favour of BSES Yamuna Power Ltd, payable at Delhi.
- (b) EMD shall be valid for One Hundred Twenty (120) days after due date of submission drawn in favour of BSES Yamuna Power Ltd

The EMD may be forfeited in case of:

- (a) the Bidder withdraws its bid during the period of specified bid validity

or

- (b) the case of a successful Bidder, if the Bidder does not

- (i) Accept the Purchase Order, or

- (ii) Furnish the required performance security BG.

10.0 BID PRICES

- 10.01 Bidders shall quote for the entire Scope of Supply with a break-up of prices for individual items. The total Bid Price shall also cover all the Supplier's obligations mentioned in or reasonably to be inferred from the Bidding Documents in respect of Design, Supply, Transportation to site, all in accordance with the requirement of Bidding Documents the Bidder shall complete the appropriate Price Schedules included herein, stating the Unit Price for each item & total Price.
- 10.02 The prices offered shall be inclusive of all costs as well as Duties, Taxes and Levies paid or payable during execution of the supply work, breakup of price constituents, should be there.

Prices quoted by the Bidder shall be **"Firm"** and not subject to any price adjustment during the performance of the Contract. **A Bid submitted with an adjustable price/ Price Variation Clause will be treated as non -responsive and rejected.**

11.0 BID CURRENCIES

- 11.01 Prices shall be quoted in Indian Rupees Only.

12.0 PERIOD OF VALIDITY OF BIDS

- 12.01 Bids shall remain valid for 120 days from the due date of submission of the Bid.
- 12.02 Notwithstanding Clause 12.01 above, the Purchaser may solicit the Bidder's consent to an extension of the Period of Bid Validity. The request and the responses thereto shall be made in writing and sent by post/courier

13.0 ALTERNATIVE BIDS

- 13.01 Bidders shall submit Bids, which comply with the Bidding Documents. Alternative Bids will not be considered. The attention of Bidders is drawn to the provisions regarding the rejection of Bids in the terms and conditions, which are not substantially responsive to the requirements of the Bidding Documents.

14.0 FORMAT AND SIGNING OF BID

- 14.01 The original Bid Form and accompanying documents (as specified in Clause 5.0), clearly marked "Original Bid" plus Duplicate Soft copy in USB flash drive must be received by the Purchaser at the date, time and place specified pursuant to Clauses 15.0 and 16.0. In the event of any discrepancy between the original and the copies, the original shall govern.
- 14.02 The original and copy of the Bid shall be typed or written in indelible ink and shall be signed by the Bidder or a person or persons duly authorized to sign on behalf of the Bidder. Such authorization shall be indicated by written Power-of-Attorney accompanying the Bid. The Bid submitted on behalf of companies registered with the Indian Companies Act, for the time being in force, shall be signed by persons duly authorized to submit the Bid on behalf of the Company and shall be accompanied by certified true copies of the resolutions, extracts of Articles of Association, special or general Power of Attorney etc. to show clearly the title, authority and designation of persons signing the Bid on behalf of the Company. Satisfactory evidence of authority of the person signing on behalf of the Bidder shall be furnished with the bid. A bid by a person who affixes to his signature the word 'President', 'Managing Director', 'Secretary', 'Agent' or other designation without disclosing his

The Bidder's name stated on the Proposal shall be the exact legal name of the firm.

- 14.03 The Bid shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the Bidder, in which case such corrections shall be initialed by the person or persons signing the Bid.

D. SUBMISSION OF BIDS

15.0 SEALING AND MARKING OF BIDS

- 15.01 Bid submission: One original (hard copies) & One Duplicate Soft copy in USB flash drive of all the Bid Documents shall be sealed and submitted to the Purchaser before the closing time for submission of the bid.
- 15.02 The Technical Documents and the EMD shall be enclosed in a sealed envelope and the said envelope shall be superscribed with — "Technical Bid & EMD". The price bid shall be inside another sealed envelope with superscribed "Financial Bid". Both these envelopes shall be sealed inside another big envelope. All the envelopes should bear the Name and Address of the Bidder and marking for the Original and Copy. The envelopes should be superscribed with — "Tender Notice No. & Due date of opening".
- 15.03 The Bidder has the option of sending the Bids in person. Bids submitted by Email/Telex/Telegram /Fax will be rejected. No request from any Bidder to the Purchaser to collect the proposals from Courier/Airlines/Cargo Agents etc shall be entertained by the Purchaser.

16.0 DEADLINE FOR SUBMISSION OF BIDS

- 16.01 The original Bid, together with the required copies, must be received by the Purchaser at the address on or before the due date & time of submission.
- 16.02 The Purchaser may, at its discretion, extend the deadline for the submission of Bids by amending the Bidding Documents in accordance with Clause 6.0, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended

17.0 ONE BID PER BIDDER

- 17.01 Each Bidder shall submit only one Bid by itself. No Joint venture is acceptable. A Bidder who submits or participates in more than one Bid will cause all those Bids to be rejected.

18.0 LATE BIDS

- 18.01 Any Bid received by the Purchaser after the deadline for submission of Bids prescribed by the Purchaser, pursuant to Clause 16.0, will be declared "Late" and may be rejected and returned unopened to the Bidder.

19.0 MODIFICATIONS AND WITHDRAWAL OF BIDS

- 19.01 The Bidder is not allowed to modify or withdraw its Bid after the Bid's submission subject to any corrigendum/addendum/modifications in the tender documents uploaded in website.

E. EVALUATION OF BID

20.0 PROCESS TO BE CONFIDENTIAL

Information relating to the examination, clarification, evaluation and comparison of Bids and recommendations for the award of a contract shall not be disclosed to Bidders or any other persons not officially concerned with such process. Any effort by a Bidder to influence the Purchaser's processing of Bids or award decisions may result in the rejection of the Bidder's Bid.

21.0 CLARIFICATION OF BIDS

To assist in the examination, evaluation and comparison of Bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its Bid. All responses to requests for clarification shall be in writing and no change in the price or substance of the Bid shall be sought, offered or permitted.

22.0 PRELIMINARY EXAMINATION OF BIDS / RESPONSIVENESS

22.01 Purchaser will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order. Purchaser may ask for submission of original documents in order to verify the documents submitted in support of qualification criteria.

22.02 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price per item that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price per item will be corrected. If there is a discrepancy between the Total Amount and the sum of the total price per item, the sum of the total price per item shall prevail and the Total Amount will be corrected.

22.03 Prior to the detailed evaluation, Purchaser will determine the substantial responsiveness of each Bid to the Bidding Documents including production capability and acceptable quality of the Goods offered. A substantially responsive Bid is one, which conforms to all the terms and conditions of the Bidding Documents without material deviation.

22.04 Bid determined as not substantially responsive will be rejected by the Purchaser and/or the Purchaser and may not subsequently be made responsive by the Bidder by correction of the non - conformity.

23.0 EVALUATION AND COMPARISON OF BIDS

23.01 The evaluation of Bids shall be done based on the delivered cost competitiveness basis.

23.02 The evaluation of the Bids shall be a stage-wise procedure. The following stages are identified for evaluation purposes: In the first stage, the Bids would be subjected to a responsiveness check. The Technical & qualifying Proposals and the Conditional ties of the Bidders would be evaluated.

Subsequently, the Financial Proposals along with Supplementary Financial Proposals, if any, of Bidders with Techno-commercially Acceptable Bids shall be considered for final evaluation.

23.03 The Purchaser's evaluation of a Bid will take into account, in addition to the Bid price, the following factors, in the manner and to the extent indicated in this Clause:

(a) Delivery Schedule

(b) Conformance to Qualifying Criteria

(c) Deviations from Bidding Documents

Bidders shall base their Bid price on the terms and conditions specified in the Bidding Documents.

The cost of all quantifiable deviations and omissions from the specification, terms and conditions specified in Bidding Documents shall be evaluated. **The Purchaser will make its own assessment of the cost of any deviation for the purpose of ensuring fair comparison of Bids.**

- 23.04 Any adjustments in price, which result from the above procedures, shall be added for the purposes of comparative evaluation only to arrive at an "Evaluated Bid Price". Bid Prices quoted by Bidders shall remain unaltered.

F. AWARD OF CONTRACT

24.0 CONTACTING THE PURCHASER

- 24.01 If any Bidder wishes to contact the Purchaser on any matter related to the Bid, from the time of Bid opening to the time of contract award, the same shall be done in writing only.

- 24.02 Any effort by a Bidder to influence the Purchaser and/or in the Purchaser's decisions in respect of Bid evaluation, Bid comparison or Contract Award, will result in the rejection of the Bidder's Bid.

25.0 THE PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

Submission of bids shall not automatically construe qualification for evaluation. The Purchaser reserves the right to accept or reject any Bid and to annul the Bidding process and reject all Bids at anytime prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Purchaser's action.

26.0 AWARD OF CONTRACT

The Purchaser will award the Contract to the successful Bidder whose Bid has been Determined to be the lowest-evaluated responsive Bid, provided further that the Bidder has been determined to be qualified to satisfactorily perform the Contract. Purchaser reserves the right to award order to other bidders in the tender, provided it is required for timely execution of project & provided he agrees to come to the lowest rate. Purchaser reserves the right to distribute the entire tender quantity at its own discretion without citing any reasons thereof.

27.0 THE PURCHASER'S RIGHT TO VARY QUANTITIES

The Purchaser reserves the right to vary the quantity i.e. increase or decrease the numbers/quantities without any change in terms and conditions during the execution of the Order.

28.0 LETTER OF INTENT/ NOTIFICATION OF AWARD

The letter of intent/ Notification of Award shall be issued to the successful Bidder whose bids have been considered responsive, techno-commercially acceptable and evaluated to be the lowest (L1).

The successful Bidder shall be required to furnish a letter of acceptance within 7 days of issue of the letter of intent /Notification of Award by Purchaser.

29.0 PERFORMANCE BANK GAURANTEE

To be submitted within fifteen (15) days from the date of issuance of the Letter of Award/PO, supplier shall establish a performance bond in favor of BYPL in an amount not less than One percent (1%) of the total price of the Rate Contract (the "Performance Bond"). Bidder shall initially submit the PBG for 1% of RC Value valid till RC validity period plus one month. Thereafter bidder shall submit PBG on Purchase Order (PO) basis for 9% of the PO value valid for a period of 24 months from the date of Commissioning or 30 months from the date of last receipts whichever is earlier plus 3 months claim period.

30.0 CORRUPT OR FRADULENT PRACTICES

30.01 The Purchaser requires that the Bidders observe the highest standard of ethics during the procurement and execution of the Project. In pursuance of this policy, the Purchaser:

(a) Defines, for the purposes of this provision, the terms set forth below as follows:

(i) "Corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; and

(ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non -competitive levels and to deprive the Purchaser of the benefits of free and open competition .

(b) Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;

(c) Will declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing, a contract.

30.02 Furthermore, Bidders shall be aware of the provision stated in the Terms and Conditions of Contract.

APPENDIX I

(FORMAT FOR EMD BANK GUARANTEE)

(To be issued in a Non Judicial Stamp Paper of Rs.50/-purchased in the name of the bank)

Whereas [name of the Bidder] (herein after called the "Bidder") has submitted its bid dated [date of submission of bid] for the supply of [name and/or description of the goods] (here after called the "Bid").

KNOW ALL PEOPLE by these presents that WE [name of bank] at [Branch Name and address], having our registered office at [address of the registered office of the bank] (herein after called the "Bank"), are bound unto BSES Yamuna Power Ltd., with its Corporate Office at Shaktikiran Building, Karkardooma, Delhi - 110032, (herein after called —the "Purchaser") in the sum of Rs..... (Rupees..... only) for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents.

Sealed with the Common Seal of the said Bank this_____ day of_____ 20_____.

The conditions of this obligation are:

- 1 If the Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Bid Form; or
2. If the Bidder, having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity:
 - (a) fails or refuses to execute the Contract Form, if required; or
 - (b) fails or refuses to furnish the performance security, In accordance with the Instructions to Bidders/ Terms and Conditions;

We undertake to pay to the Purchaser up to the above amount upon receipt of its first written demand, without the Purchaser having to substantiate its demand, provided that is its demand the purchaser will note that amount claimed by it is due to it, owing to the occurrence of one or both of the two condition(s), specifying the occurred condition or condition(s).

This guarantee will remain in force up to and including One Hundred Twenty (120) days after the due date of submission bid, and any demand in respect thereof should reach the Bank not later than the above date.

(Stamp & signature of the bank)

Signature of the witness

BID FORM

To

Head of Department
Contracts & Material Deptt.
BSES Yamuna Power Ltd
Shaktikiran Building, Karkardooma,
Delhi 110032

Sir,

1 We understand that BYPL is desirous of procuring..... for it's licensed distribution network area in Delhi

2 Having examined the Bidding Documents for the above named works, we the undersigned, offer to deliver the goods in full conformity with the Terms and Conditions and technical specifications for the sum indicated in Price Bid or such other sums as may be determined in accordance with the terms and conditions of the contract. The amounts are in accordance with the Price Schedules attached herewith and are made part of this bid.

3 If our Bid is accepted, we under take to deliver the entire goods as) as per delivery schedule mentioned in Section IV from the date of award of purchase order/letter of intent.

4 If our Bid is accepted, we will furnish a performance bank guarantee for an amount of 10% (Ten)percent of the total contract value for due performance of the Contract in accordance with the Terms and Conditions.

5 We agree to abide by this Bid for a period of 120 days from the due date of bid submission and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

6 We declare that we have studied the provision of Indian Laws for supply of equipments/materials and the prices have been quoted accordingly.

7 Unless and until Letter of Intent is issued, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.

8 We understand that you are not bound to accept the lowest, or any bid you may receive.

9 There is provision for Resolution of Disputes under this Contract, in accordance with the Laws and Jurisdiction of Contract.

Dated this..... day of..... 20XX

Signature..... In the capacity of

.....duly authorized to sign for and on behalf of

(IN BLOCK CAPITALS)

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed and stamped by the bidder)

BSES Yamuna Power Ltd (hereinafter referred to as "**BYPL**") intends to use the reverse auction through SAP-SRM tool as an integral part of the entire tendering process. All the bidders who are found as techno commercial qualified based on the tender requirements shall be eligible to participate in the reverse auction event.

The following terms and conditions are deemed as accepted by the bidder on participation in the bid event:

1. BYPL shall provide the user id and password to the authorized representative of the bidder. (Authorization letter in lieu of the same be submitted along with the signed and stamped acceptance form)
2. BYPL will make every effort to make the bid process transparent. However, the award decision by BYPL would be final and binding on the bidder.
3. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of BYPL, bid process, bid technology, bid documentation, bid details, and etc.
4. The bidder is advised to understand the auto bid process to safeguard themselves against any possibility of non-participation in the auction event.
5. In case of bidding through internet medium, bidders are further advised to ensure availability of the entire infrastructure as required at their end to participate in the auction event. Inability to bid due to telephone line glitch, internet response issues, software or hardware hangs; power failure or any other reason shall not be the responsibility of BYPL.
6. In case of intranet medium, BYPL shall provide the infrastructure to bidders, further, BYPL has sole discretion to extend or restart the auction event in case of any glitches in infrastructure observed which has restricted the bidders to submit the bids to ensure fair & transparent competitive bidding. In case of an auction event is restarted, the best bid as already available in the system shall become the start price for the new auction.
7. In case the bidder fails to participate in the auction event due any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid as submitted by the bidder as a part of the tender shall be considered as the bidder's final no regret offer. Any offline price bids received from a bidder in lieu of non-participation in the auction event shall be out rightly rejected by BYPL.
8. The bidder shall be prepared with competitive price quotes on the day of the reverse auction event.
9. The prices as quoted by the bidder during the auction event shall be inclusive of all the applicable taxes, duties and levies and shall be FOR Landed Cost basis at BYPL site.
10. The prices submitted by a bidder during the auction event shall be binding on the bidder.
11. No requests for time extension of the auction event shall be considered by BYPL.
12. The original price bids of the bidders shall be reduced on pro-rata basis against each line item based on the final all-inclusive prices offered during conclusion of the auction event for arriving at contract amount.

Signature & seal of the Bidder

ANNEXURE - SCHEDULE OF DEVIATIONS

Vendor shall refrain from taking any deviations on this TENDER. Still in case of any deviations, all such deviations from this tender shall be set out by the Bidder, Clause by Clause in this schedule and submit the same as a part of the Technical Bid.

Unless **specifically** mentioned in this schedule, the tender shall be deemed to confirm the BYPL's specifications:

| SL No. | Clause No. | Page No. | NIT Clause descriptions | Details of Clarification/deviation with justifications |
|--------|------------|----------|-------------------------|--|
| | | | | |

Technical Bid Submission Check List

| S. No. | Description | BYPL Requirement | Bidder's Compliance |
|----------|---|------------------|---------------------|
| 1 | Tender No. | Required | |
| 2 | Technical Specification reference number | Required | |
| 3 | Communication Details | | |
| 3.1 | Name of the Bidder | Required | |
| 3.2 | Name of Authorized contact person | Required | |
| 3.3 | Contact No. of Authorized contact person | Required | |
| 3.4 | E-mail id of Authorized contact person | Required | |
| 4 | Document Submission Format | | |
| 4.1 | Documents shall be submitted in Box file/spiral binding. Any other format is not acceptable | Required | |
| 4.2 | Index of documents with page numbers for each document | Required | |
| 4.3 | Separator with document description shall be provided before each document | Required | |
| 5 | Qualifying Requirement Compliance | | |
| 5.1 | Summary of compliance of qualifying criteria in tabular form along with summary of documentary proof provided | Required | |
| 5.2 | Detailed Documents supporting compliance of qualifying criteria | Required | |
| 6 | Drawings/ Documents as per Technical Specification. | | |
| 6.1 | Signed copy of technical specification | Required | |
| 6.2 | Type Test reports of offered model/ type/ rating | Required | |
| 6.3 | Guaranteed Technical particulars (GTP) | Required | |
| 6.4 | Deviation Sheet | Required | |
| 6.5 | Detailed Drawings | Required | |
| 6.6 | Manufacturer's quality assurance plan | Required | |
| 6.7 | Other drawing/ documents mentioned in technical specification | Required | |
| 7 | Soft copy of complete technical bid in pen drive | Required | |
| 8 | Samples as per technical specification. | Required | |

Note: Submission of Technical bid check list along with all items mentioned in the check list is mandatory. Order of documents shall be strictly as per the technical bid check list. Bids with incomplete/ wrong information are liable for rejection.

VENDOR CODE OF CONDUCT

Purchaser is committed to conducting its business in an ethical, legal and socially responsible manner. To encourage compliance with all legal requirements and ethical business practices, Purchaser has established this Vendor Code of Conduct (the "Code") for Purchaser's Vendors. For the purposes of this document, "Vendor" means any company, corporation or other entity that sells, or seeks to sell goods or services, to Purchaser, including the Vendor's employees, agents and other representatives.

Fundamental to adopting the Code is the understanding that a business, in all of its activities, must operate in full compliance with the laws, rules and regulations of the countries in which it operates. This Code encourages Vendors to go beyond legal compliance, drawing upon internationally recognized standards, in order to advance social and environmental responsibility.

I. Labour and Human Rights

Vendors must uphold the human rights of workers, and treat them with dignity and respect as understood by the international community.

- Fair Treatment - Vendors must be committed to a workplace free of harassment. Vendors shall not threaten workers with or subject them to harsh or inhumane treatment, including sexual harassment, sexual abuse, corporal punishment, mental coercion, physical coercion, verbal abuse or unreasonable restrictions on entering or exiting company provided facilities.

- Antidiscrimination - Vendors shall not discriminate against any worker based on race, colour, age, gender, sexual orientation, ethnicity, disability, religion, political affiliation, union membership, national origin, or marital status in hiring and employment practices such as applications for employment, promotions, rewards, access to training, job assignments, wages, benefits, discipline, and termination. Vendors shall not require a pregnancy test or discriminate against pregnant workers except where required by applicable laws or regulations or prudent for workplace safety. In addition, Vendors shall not require workers or potential workers to undergo medical tests that could be used in a discriminatory way except where required by applicable law or regulation or prudent for workplace safety.

- Freely Chosen Employment - Forced, bonded or indentured labour or involuntary prison labour is not to be used. All work will be voluntary, and workers should be free to leave upon reasonable notice. Workers shall not be required to hand over government-issued identification, passports or work permits as a condition of employment.

- Prevention of Under Age Labor - Child labor is strictly prohibited. Vendors shall not employ children. The minimum age for employment or work shall be 15 years of age, the minimum age for employment in that country, or the age for completing compulsory education in that country, whichever is higher. This Code does not prohibit participation in legitimate workplace apprenticeship programs that are consistent with Article 6 of ILO Minimum Age Convention No. 138 or light work consistent with Article 7 of ILO Minimum Age Convention No. 138.

- Juvenile Labor - Vendors may employ juveniles who are older than the applicable legal minimum age for employment but are younger than 18 years of age, provided they do not perform work likely to jeopardize their health, safety, or morals, consistent with ILO Minimum Age Convention No. 138.

- Minimum Wages - Compensation paid to workers shall comply with all applicable wage laws, including those relating to minimum wages, overtime hours and legally mandated benefits. Any Disciplinary wage deductions are to conform to local law. The basis on which workers are being paid is to be clearly conveyed to them in a timely manner.

- Working Hours - Studies of good manufacturing practices clearly link worker strain to reduced productivity, increased turnover and increased injury and illness. Work weeks are not to exceed maximum set by local law. Further, a work week should not be more than 60 hours per week, including overtime, except in emergency or unusual situations. Workers should be allowed at least one day off per seven-day week.

. Freedom of Association - Open communication and direct engagement between workers and management are the most effective ways to resolve workplace and compensation issues. Vendors are to respect the rights of workers to associate freely and to communicate openly with management regarding working conditions without fear of reprisal, intimidation or harassment. Workers' rights to join labour unions seek representation and or join worker's councils in accordance with local laws should be acknowledged.

II. Health and Safety

Vendors must recognize that in addition to minimizing the incidence of work-related injury and illness, a safe and healthy work environment enhances the quality of products and services, consistency of production and worker retention and morale. Vendors must also recognize that ongoing worker input and education is essential to identifying and solving health and safety issues in the workplace.

The health and safety standards are:

- . Occupational Injury and Illness - Procedures and systems are to be in place to prevent, manage, track and report occupational injury and illness, including provisions to: a) encourage worker reporting; b) classify and record injury and illness cases; c) provide necessary medical treatment; d) investigate cases and implement corrective actions to eliminate their causes; and e) facilitate return of workers to work.
- . Emergency Preparedness - Emergency situations and events are to be identified and assessed, and their impact minimized by implementing emergency plans and response procedures, including: emergency reporting, employee notification and evacuation procedures, worker training and drills, appropriate fire detection and suppression equipment, adequate exit facilities and recovery plans.
- . Occupational Safety - Worker exposure to potential safety hazards (e.g., electrical and other energy sources, fire, vehicles, and fall hazards) are to be controlled through proper design engineering and administrative controls, preventative maintenance and safe work procedures (including lockout/tagout), and ongoing safety training. Where hazards cannot be adequately controlled by these means, workers are to be provided with appropriate, well-maintained, personal protective equipment. Workers shall not be disciplined for raising safety concerns.
- . Machine Safeguarding - Production and other machinery is to be evaluated for safety hazards. Physical guards, interlocks and barriers are to be provided and properly maintained where machinery presents an injury hazard to workers.
- . Industrial Hygiene - Worker exposure to chemical, biological and physical agents is to be identified, evaluated, and controlled. Engineering or administrative controls must be used to control overexposures. When hazards cannot be adequately controlled by such means, worker health is to be protected by appropriate personal protective equipment programs.
- . Sanitation, Food, and Housing - Workers are to be provided with ready access to clean toilet, facilities potable water and sanitary food preparation, storage, and eating facilities. Worker dormitories provided by the Participant or a labour agent are to be maintained clean and safe, and provided by the Participant or a labour egress, hot water for bathing and showering, and adequate heat and ventilation and reasonable personal space along with reasonable entry and exit privileges.
- . Physically Demanding Work - Worker exposure to the hazards of physically demanding tasks, including manual material handling and heavy or repetitive lifting, prolonged standing and highly repetitive or forceful assembly tasks is to be identified, evaluated and controlled.

III. Environmental

Vendors should recognize that environmental responsibility is integral to producing world class products In manufacturing operations, adverse effects on the environment and natural resources are to be minimized while safeguarding the health and safety of the public.

The environmental standards are:

- . Product Content Restrictions - Vendors are to adhere to applicable laws and regulations regarding prohibition or restriction of specific substances including labeling laws and regulations for recycling and disposal. In addition, Vendors are to adhere to all environmental requirements specified by Purchaser.
- . Chemical and Hazardous Materials -Chemical and other materials posing a hazard if released to the environment are to be identified and managed to ensure their safe handling, movement storage, recycling or reuse and disposal.
- . Air Emissions - Air emissions of volatile organic chemicals, aerosols, corrosives, particulates, ozone depleting chemicals and combustion by-products generated from operations are to be characterized, monitored, controlled and treated as required prior to discharge.
- . Pollution Prevention and Resource Reduction -Waste of all types, including water and energy, are to be reduced or eliminated at the source or by practices such as modifying production, maintenance and facility processes, materials substitution, conservation, recycling and re-using materials.
- . Wastewater and Solid Waste - Wastewater and solid waste generated from operations industrial processes and sanitation facilities are to be monitored, controlled and treated as required prior to discharge or disposal.
- . Environmental Permits and Reporting - All required environmental permits (e.g. discharge monitoring) and registrations are to be obtained, maintained and kept current and their operational and reporting requirements are to be followed.

IV. Ethics

Vendors must be committed to the highest standards of ethical conduct when dealing with workers, Vendors, and customers.

- . Corruption, Extortion, or Embezzlement - Corruption, extortion, and embezzlement, in any form, are strictly prohibited. Vendors shall not engage in corruption, extortion or embezzlement in any form and violations of this prohibition may result in immediate termination as an Vendor and in legal action.
- . Disclosure of Information - Vendors must disclose information regarding its business activities, structure financial situation, and performance in accordance with applicable laws and regulations and prevailing industry practices.
- . No Improper Advantage - Vendors shall not offer or accept bribes or other means of obtaining undue or improper advantage.
- . Fair Business, Advertising, and Competition - Vendors must uphold fair business standards in advertising, sales, and competition.
- . Business Integrity - The highest standards of integrity are to be expected in all business interactions. Participants shall prohibit any and all forms of corruption, extortion and embezzlement. Monitoring and enforcement procedures shall be implemented to ensure conformance.
- . Community Engagement - Vendors are encouraged to engage the community to help foster social and economic development and to contribute to the sustainability of the communities in which they operate.
- . Protection of Intellectual Property - Vendors must respect intellectual property rights; safeguard customer information; and transfer of technology and know-how must be done in a manner that protects intellectual property rights.

V. Management System

Vendors shall adopt or establish a management system whose scope is related to the content of this Code. The management system shall be designed to ensure (a) compliance with applicable laws, regulations and customer requirements related to the Vendors' operations and products; (b) conformance with this Code; and (c) identification and mitigation of operational risks related to this Code. It should also facilitate continual improvement.

The management system should contain the following elements:

| | | |
|---|---------------------------|--------------------------|
| APPENDIX I NIT NO: CMC/BY/20-21/RB/SV/54 | Page 8 of 9 | Bidders seal & Signature |
|---|---------------------------|--------------------------|

- . Company Commitment - Corporate social and environmental responsibility statements affirming Vendor's commitment to compliance and continual improvement.
- . Management Accountability and Responsibility - Clearly identified company representative[s] responsible for ensuring implementation and periodic review of the status of the management systems.
- . Legal and Customer Requirements - Identification, monitoring and understanding of applicable laws, regulations and customer requirements.
- . Risk Assessment and Risk Management - Process to identify the environmental, health and safety and labour practice risks associated with Vendor's operations. Determination of the relative significance for each risk and implementation of appropriate procedural and physical controls to ensure regulatory compliance to control the identified risks.
- . Performance Objectives with Implementation Plan and Measures - Areas to be included in a risk assessment for health and safety are warehouse and storage facilities, plant/facilities support equipment, laboratories and test areas, sanitation facilities (bathrooms), kitchen/cafeteria and worker housing /dormitories. Written standards, performance objectives, and targets an implementation plans including a periodic assessment of Vendor's performance against those objectives.
- . Training - Programs for training managers and workers to implement Vendor's policies, procedures and improvement objectives.
- . Communication - Process for communicating clear and accurate information about Vendor's performance, practices and expectations to workers, Vendors and customers.
- . Worker Feedback and Participation - Ongoing processes to assess employees' understanding of and obtain feedback on practices and conditions covered by this Code and to foster continuous improvement.
- . Audits and Assessments - Periodic self-evaluations to ensure conformity to legal and regulatory requirements, the content of the Code and customer contractual requirements related to social and environmental responsibility.
- . Corrective Action Process - Process for timely correction of deficiencies identified by internal or external assessments, inspections, investigations and reviews.
- . Documentation and Records - Creation of documents and records to ensure regulatory compliance and conformity to company requirements along with appropriate confidentiality to protect privacy.

The Code is modeled on and contains language from the Recognized standards such as International Labour Organization Standards (ILO), Universal Declaration of Human Rights (UDHR), United Nations Convention against Corruption, and the Ethical Trading Initiative (ETI) were used as references in preparing this Code and may be useful sources of additional information

GENERAL CONDITIONS OF CONTRACT (GCC-SUPPLY)

GENERAL CONDITIONS OF CONTRACT (GCC)-SUPPLY

The General Condition of Contract shall form a part of specifications, contract document.

1.0 General Instructions

- 1.01** All the Bids shall be prepared and submitted in accordance with these instructions.
- 1.02** Bidder shall bear all costs associated with the preparation and delivery of its Bid, and the Purchaser will in no case shall be responsible or liable for these costs.
- 1.03** The Bid should be submitted by the Bidder in whose name the bid document has been issued and under no circumstances it shall be transferred/sold to the other party.
- 1.04** The Purchaser reserves the right to request for any additional information and also reserves the right to reject the proposal of any Bidder, if in the opinion of the Purchaser, the data in support of RFQ requirement is incomplete.
- 1.05** The Bidder is expected to examine all instructions, forms, terms & conditions and specifications in the Bid Documents. Failure to furnish all information required in the Bid Documents or submission of a Bid not substantially responsive to the Bid Documents in every respect may result in rejection of the Bid. However, the Purchaser's decision in regard to the responsiveness and rejection of bids shall be final and binding without any obligation, financial or otherwise, on the Purchaser.

2.0 Definition of Terms

- 2.01** "Purchaser" shall mean BSES Yamuna Power Limited, on whose behalf this bid enquiry is issued by its authorized representative / officers.
- 2.02** "Bidder" shall mean the firm who quotes against this bid enquiry issued by the Purchaser. "Supplier" or "Supplier" shall mean the successful Bidder and/or Bidders whose bid has been accepted by the Purchaser and on whom the "Letter of Acceptance" is placed by the Purchaser and shall include his heirs, legal representatives, successors and permitted assigns wherever the context so admits.
- 2.03** "Supply" shall mean the Scope of Contract as described.
- 2.04** "Specification" shall mean collectively all the terms and stipulations contained in those portions of this bid document known as RFQ, Commercial Terms & Condition, Instructions to Bidders, Technical Specifications and the Amendments, Revisions, Deletions or Additions, as may be made by the Purchaser from time to time.
- 2.05** "Letter of Acceptance" shall mean the official notice issued by the Purchaser notifying the Supplier that his proposal has been accepted and it shall include amendments thereto, if any, issued by the Purchaser. The "Letter of Acceptance" issued by the Purchaser shall be binding on the "Supplier" The date of Letter of Acceptance shall be taken as the effective date of the commencement of contract.
- 2.06** "Month" shall mean the calendar month and "Day" shall mean the calendar day.
- 2.07** "Codes and Standards" shall mean all the applicable codes and standards as indicated in the Specification.

2.08 "Offer Sheet" shall mean Bidder's firm offer submitted to BYPL in accordance with the specification.

2.09 "Contract" shall mean the "Letter of Acceptance/Purchase Order" issued by the Purchaser.

2.10 "Contract Price" shall mean the price referred to in the "Letter of Acceptance/Purchase Order".

2.11 "Contract Period" shall mean the period during which the "Contract" shall be executed as agreed between the Supplier and the Purchaser in the Contract inclusive of extended contract period for reason beyond the control of the Supplier and/or Purchaser due to force majeure.

2.12 "Acceptance" shall mean and deemed to include one or more of the following as will be stipulated in the specification:

- a) The written acceptance of material by the inspector at suppliers works to ship the materials.
- b) Acceptance of material at Purchaser site stores after its receipt and due inspection/ testing and release of material acceptance voucher.
- c) Where the scope of the contract includes supply, acceptance shall mean issue of necessary equipment / material takeover receipt after installation & commissioning and final acceptance.

3.0 Contract Documents & Priority

3.01 Contract Documents: The terms and conditions of the contract shall consist solely of these RFQ conditions and the offer sheet.

4.0 Scope of Supply -General

4.01 The "Scope of Supply" shall be on the basis of Bidder's responsibility, completely covering the obligations, responsibility and supplies provided in this Bid enquiry whether implicit or explicit.

4.02 Bidder shall have to quote for the Bill of quantities as listed in Section – IV of this RFQ.

4.03 Quantity variation and additional requirement if any shall be communicated to successful bidder during project execution.

4.04 All relevant drawings, data and instruction manuals.

5.0 Quality Assurance and Inspection

5.01 Immediately on award of contract, the bidder shall prepare detailed quality assurance plan / test procedure identifying the various stages of manufacture, quality checks performed at each stage, raw material inspection and the Customer hold points. The document shall also furnish details of method of checking, inspection and acceptance standards / values and get the approval of Purchaser before proceeding with manufacturing. However, Purchaser shall have right to review the inspection reports, quality checks and results of suppliers in house inspection department which are not Customer hold points and the supplier shall comply with the remarks made by purchaser or his representative on such reviews with regards to further testing, rectification or rejection, etc.

5.02 Witness and Hold points are critical steps in manufacturing, inspection and testing where the supplier is obliged to notify the Purchaser in advance so that it may be witnessed by the Purchaser. Final inspection is a mandatory hold point. The supplier to proceed with the work past a hold point only after clearance by purchaser or a witness waiver letter from BYPL.

- 5.03** The performance of waiver of QA activity by Purchaser at any stage of manufacturing does not relieve the supplier of any obligation to perform in accordance with and meet all the requirements of the procurement documents and also all the codes & reference documents mentioned in the procurement document nor shall it preclude subsequent rejection by the purchaser.
- 5.04** On completion of manufacturing the items can only be dispatched after receipt of dispatch Instructions issued by the Purchaser.
- 5.05** All in-house testing and inspection shall be done with out any extra cost. The in-house inspection shall be carried out in presence of BSES/BSES authorized third party inspection agency. Cost of Futile/abortive visit(s) shall be debited from the invoices.
- 5.06** Purchaser reserves the right to send any material being supplied to any recognized laboratory for testing, wherever necessary and the cost of testing shall be borne by the Bidder. In case the material is found not in order with the technical requirement / specification, the charges along with any other penalty which may be levied is to be borne by the bidder. To avoid any complaint the supplier is advised to send his representative to the stores to see that the material sent for testing is being sealed in the presence of bidder's representative.

6.0 Inspection & Test Charges

- 6.01** GOODS shall be inspected by BUYER and/or third party inspection agency nominated by BUYER. Inspection shall carry out stage wise/final inspection as per agreed QA /QC procedure. In addition, inspection of GOODS shall be carried out at our Site/stores. SELLER shall, however, repair/replace the damaged/rejected GOODS to the satisfaction of BUYER at no extra cost.
- 6.02** Inspection charges are included in total order value, however BUYER will bear third party inspection charges. In case of futile/abortive visit of BUYER's inspector at SELLER'S works, the cost towards the same shall be debited from the SELLER's invoices.
- 6.03** GOODS covered by this PURCHASE ORDER shall not be dispatched in whole or in part until SELLER has received a written Release for Shipment Notice from BUYER or their designated representative.
- 6.04** Inspection call shall be raised minimum 15(fifteen) days in advance from delivery schedule mentioned in PO and duly filled Format issued by BYPL

7.0 Handling and Storage

- 7.01** Material Safety Data Sheet (MSDS), detail handling & storage instruction sheet/manual, wherever applicable, to be furnished before commencement of supply and one copy is to be submitted in store/site with First Lot.

8.0 Packing, Packing List & Marking

- 8.01** **Packing:** Supplier shall pack or shall cause to be packed all Commodities in crates/boxes/drums/containers/cartons and otherwise in such a manner as shall be reasonably suitable for shipment by road or rail to BYPL, Delhi/New Delhi stores/site without undue risk of damage in transit.
- 8.02** **Packing List:** The contents of each package shall be itemized on a detailed list showing the exact weight, extreme outside dimensions (length, width & weight) of each container/box/drum/carton, Item SAP Code, PO No & date. One copy of the packing list shall be enclosed in each package delivered.

9.0 Prices/Rates/Taxes

9.01 Price basis for supply of materials

- a) Bidder to quote their prices on Landed Cost Basis and separate price for each item for supply to BYPL Delhi/New Delhi stores inclusive of packing, forwarding, loading at manufacturer's premises, payment of GST, Freight, any other local charges. **Octroi is presently not applicable in Delhi and however if applicable shall be reimbursed at actuals.**
- b) The above supply prices shall also include unloading at BYPL Delhi/New Delhi stores/site.
- c) Transit insurance will be arranged by Bidder

10.0 Taxes & Duties

- 10.01 Prices for Goods are on Ex- Works basis. For the Goods covered under the GST laws, all taxes that are applicable under CGST, SGST, UGST, IGST and GST Compensation Cess shall be payable extra.
- 10.02 For the Goods not covered in the GST laws, the applicable ED, VAT / CST shall be payable extra at applicable rates.
- 10.03 GSTIN of BSES YAMUNA POWER LTD - 07AABCC8569N1Z0
CST No of BSES YAMUNA POWER LTD - 07740254593
TIN NO of BSES YAMUNA POWER LTD - 07740254593
PAN NO of BSES YAMUNA POWER LTD - AABCC8569N
- 10.04 At the end of each month, the SELLER must submit their detail of invoices and amount thereof to the concerned officer in charge, within 07 days after the close of the respective month of which supply relates. Non submission of the said request would be treated as good as that the SELLER has no requirement of reconciliation.

11.0 Invoicing Instructions

- 11.01 Invoices in triplicate [1) Original for recipient, 2) Duplicate for Transporter, 3) Triplicate for supplier] shall be made out and delivered to the following address: BSES YAMUNA POWER LIMITED, SHAKTI KIRAN BUILDING, KARKARDOOMA, DELHI-110032.
MDCC will be released separately for Capex & Opex. Invoice will be submitted by supplier as per the MDCC.
- 11.02 Vendor shall obtain GST registration in the State from where the supply will be carried out. Vendors supplying Goods to the Purchaser shall have a valid GST registration number and shall submit GST Tax Invoice and other documents as per SGST Act, CGST Act, IGST Act, UTGST Act, GST Compensation Cess Act and Rules made there under. Failure to submit GST Tax Invoice shall be liable for withholding SGST, CGST, IGST, UTGST, GST Compensation Cess amount charged by the vendor while releasing the payment.
- 11.03 Invoice in the name of BSES YAMUNA Power Limited & address of the store/site mentioned in the MDCC. Invoice should contain all information as required under GST Invoice, Debit Note and Credit Rules. The government has notified rules of invoicing under GST along with a template of invoice(GST INV-01) covering the elements such as supplier's details, GSTIN No, HSN Codes, item details, GST tax rates, etc that need to be presented by the supplier.
- 11.04 Vendor to carefully examine and charge relevant CGST / SGST, UGST, IGST and GST compensation cess as applicable to the transactions.

11.05 Timely provision of invoices / Debit Notes / Credit Notes:

11.05.1 Vendor to timely provide invoice / Debit note / Credit note to enable Purchaser to claim tax benefit on or before stipulated time period. All necessary adjustment entries (Credit Note, Purchase Returns, Debit Notes) shall be made within the time lines prescribed under the GST Laws.

11.05.2 In case of receipt of advance, the Vendor undertakes to raise the tax invoice. Purchaser, upon payment of advance, shall issue payment voucher as per applicable GST laws and rules. Four copies of the invoices need to be provided by suppliers and wherever the law requires, an Electronic Reference Number for each invoice.

Documents and devices to be carried by a person-in-charge of a conveyance under.

12.0 Terms of payment and billing

12.01 For Supply of Equipment's:

100% payment shall be made within 45 days from the date of receipt & acceptance of material at store/site on against submission of following documents against dispatch of each consignment at our Vendor Support Cell (VSC):

- a) Signed copy of accepted Purchase Order (for first payment)
- b) LR / RR / BL as applicable
- c) Challan as applicable
- d) Two (02) copies of Supplier's detailed Recipient Invoice showing Commodity description, quantity, unit price, total price and basis of delivery, and being 100% of the value of the consignment claimed.
- e) Two (02) copies of Supplier's transporter invoice duly receipted by BYPL Stores & Original certificate issued by BYPL confirming receipt of the subject material at Stores/Site and acceptance of the same as per the provisions of the contract.
- f) Two (02) copies Packing List / Detailed Packing List
- g) Approved Test certificates / Quality certificates, if applicable
- h) Certificate of Origin, if applicable
- i) Material Dispatch Clearance Certificate (MDCC)
- j) Insurance Policy / Certificate, if applicable
- k) Warranty / Guarantee Certificate, if applicable
- l) Check list for bill submission.

12.02 Purchaser has the right to recover tax loss, interest and penalty suffered due to any non-compliance of tax laws by the Vendor. In the event, Purchaser is not able to avail any tax credit due to any short coming on the part of the Vendor (which otherwise should have been available to Purchaser in the normal course), then the Vendor at his own cost and effort will get the short coming rectified. If for any reason the same is not possible, then the Vendor will make 'good' the loss suffered by Purchaser due to the tax credit it lost . In such event, any amount paid to the Vendors shall be first attributable to the tax (GST) charged in the invoice and the balance shall be considered towards the 'value' of supply of goods/ services.

12.03 Purchaser shall deduct "Tax Deducted at Source" wherever applicable and at the rate prescribed under the GST Laws or any other Indian law and remit the same to the Government. Necessary TDS certificates as per law shall be issued by the purchase to the vendor.

12.04 Any liability arising out of dispute on the tax rate, classification under HSN, calculation and payment of tax to the Government will be to the Vendor's account.

- 12.05 Where the supply of Goods are liable to GST under reverse charge mechanism, then the supplier should clearly mention the category under which it has been registered and also that "the liability of payment of GST is on the Recipient of Supply".

13.0 Tax Indemnity Clause

- 13.01 Vendor (along with its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement) agrees that it will be solely responsible for performing all compliances and making payments of all taxes (direct tax or indirect tax including but not limited to income-tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess custom duty, excise duty, Research and Development Cess, etc.), cesses, interest, penalties or any other tax/ duty/ amount/ charge/ liability arising either out of laws/ regulations applicable in India and overseas or because of a demand/ recovery initiated by any revenue authority under laws/ regulations applicable in India or overseas.
- 13.02 In case any tax liability (including but not limited to income-tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess custom duty, excise duty, Research and Development Cess, etc.), cesses, interest, penalties or any other tax/ duty/ amount/ charge/ liability becomes payable by Purchaser due to failure of the Vendor, or any of its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement, to comply with the relevant laws/ regulations applicable in India or overseas, Vendor undertakes to indemnify Purchaser for an amount equal to amount payable by Purchaser.
- 13.03 Further, Vendor undertakes to keep Purchaser indemnified at all times against and from all other actions, proceedings, claims, loss, damage, costs and expenses which may be brought against Purchaser or suffered or incurred by Purchaser and which shall have arisen either directly or indirectly out of or in connection with failure of The Vendor, or any of its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement, to comply with relevant obligations/ compliance under any law/ regulations applicable in India and overseas.
- 13.04 The parties agree to follow the following process in case any communication of demand, arising out non-compliance by Vendor (along with its affiliates in India or overseas including any agent/ third party contractor or any other person appointed by such affiliates for the purpose of this agreement), is received by Purchaser:
- 13.04.1 On Purchaser receiving any communication from a competent authority demanding tax liability (including but not limited to income-tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess custom duty, excise duty, Research and Development Cess, etc.), cesses, interest, penalties or any other tax/ duty/ amount/ charge/ liability, Purchaser shall, within 5 common working days from the date of receipt of such communication (save where the period to respond to the relevant authority is less than five days, in which case, as soon as reasonably possible) inform Vendor in writing of such communication.
- 13.04.2 Pursuant to receiving communication from Purchaser, Vendor shall suggest to accept the communication and pay the demand amount to the competent authority. In such an event, Vendor shall reimburse such amount paid to Purchaser within 5 working days from the date of payment by Purchaser to the competent authority.
- 13.04.3 If Vendor advises in writing and Purchaser agrees to dispute the demand, then Purchaser shall dispute the matter with competent authority as per due process prescribed under the regulations

and Purchaser shall not pay the Tax Demand. In such scenario, cost of litigation including but not limited to Counsel cost, filing fees, other related charges, should be reimbursed by Vendor to Purchaser. Additionally, If any coercive steps of recovery are initiated by the department, then Purchaser would pay such amount (including by way of adjustment of refunds due to it) and the same would be reimbursed by Vendor within 5 working days from date of such recovery from Purchaser. Purchaser will take all necessary steps to avoid such recovery measures.

13.04.4 On determination of the demand through an Order issued by a Tribunal or any other similar Authority, by whatever name called, under any law applicable in India or overseas, if the demand or any part thereof becomes payable and is paid by Purchaser, then Vendor undertakes to reimburse such amount to Purchaser within 10 days from the date of payment. Alternatively, if on determination of the demand through an Order, no amount is payable by Purchaser then any refund arising to Purchaser due to such an Order shall be passed on to Vendor within 10 days from the date of receipt of refund.

14.0 The Micro, Small and Medium Enterprises (MSME)

14.01 If the SELLERS establishment is covered under the purview of The Micro, Small and Medium Enterprises Development Act, 2006 and its amendments, he shall declare so within the bid of its status failing which it will be presumed that it is a non-MSME unit. Also submit a copy of Udyog Aadhaar (UA) & Udyam Registration Number.

15.0 Price Validity

15.01 All bids submitted shall remain valid, firm and subject to unconditional acceptance by Delhi for 120 days from the due date of submission. For awarded suppliers, the prices shall remain valid and firm till contract completion.

16.0 Performance Guarantee

16.01 To be submitted within fifteen (15) days from the date of issuance of the Letter of Award/PO, supplier shall establish a performance bond in favor of BYPL in an amount not less than One percent (1%) of the total price of the Rate Contract (the "Performance Bond"). Bidder shall initially submit the PBG for 1% of RC Value valid till RC validity period plus one month. Thereafter bidder shall submit PBG on Purchase Order (PO) basis for 9% of the PO value valid for a period of 24 months from the date of Commissioning or 30 months from the date of last receipts whichever is earlier plus 3 months claim period.

16.02 Bank guarantee shall be drawn in favour of BSES Yamuna Power Ltd as applicable. The performance Bank guarantee shall be in the format as specified by BYPL.

17.0 Forfeiture

17.01 Each Performance Bond established under Clause 10.0 shall contain a statement that it shall be automatically and unconditionally forfeited without recourse and payable against the presentation by BYPL of this Performance Bond, to the relevant bank referred to above, together with a simple statement that supplier has failed to comply with any term or condition set forth in the Contract.

17.02 Each Performance BG established under will be automatically and unconditionally forfeited without recourse if BYPL in its sole discretion determines that supplier has failed to comply with any term or condition set forth in the contract.

18.0 Release

- 18.01 All Performance Bonds will be released without interest within seven (7) days from the last date up to which the Performance Bond has to be kept valid (as defined in Clause 10.0) except for the case set forth in Clause 21.0.

19.0 Defects Liability Period/Guarantee/Warranty

- 19.01 The bidder to Guarantee the materials / items supplied against any defect of failure, which arise due to faulty materials, workmanship or design for the entire defects liability period. The Defect liability period shall be 60 months from the date of commissioning or 66 months from the date of delivery whichever is earlier.
- 19.02 If during the Defects Liability Period any GOODS are found to be defective, they shall be promptly replaced or rectified by BIDDER at its own cost (including the cost of dismantling and (reinstallation) on the instructions of BUYER and if removed from SITE for such purpose, shall be removed and re-delivered to SITE by BIDDER at its own cost.

20.0 Return, Replacement or Substitution

- 20.01 BYPL shall give Supplier notice of any defective Commodity promptly after becoming aware thereof. BYPL may in its discretion elect to return defective Commodities to Supplier for replacement, free of charge to BYPL, or may reject such Commodities and purchase the same or similar Commodities from any third party. In the latter case BYPL shall furnish proof to Supplier of the cost of such substitute purchase. In either case, all costs of any replacement, substitution, shipping, labour and other related expenses incurred in connection with the return and replacement or for the substitute purchase of a Commodity hereunder should be for the account of Supplier. BYPL may set off such costs against any amounts payable by BYPL to Supplier. Supplier shall reimburse BYPL for the amount, if any, by which the price of a substitute Commodity exceeds the price for such Commodity as quoted in the Bid. BUYER at its sole discretion shall have the opinion to dispose the material or GOODS so rejected and not taken back within forty-five days from the date of intimation of rejection.

21.0 Effective Date of Commencement of Contract

- 21.01 The date of the issuance of the Letter of Acceptance/Purchase Order shall be treated as the effective date of the commencement of Contract.

22.0 Time – The Essence Of Contract

- 22.01 The time and the date of completion of the "Supply" as stipulated in the Letter Of Acceptance / Purchase order issued to the Supplier shall be deemed to be the essence of the "Contract". The Supply has to be completed not later than the aforesaid Schedule and date of completion of supply.

23.0 The Laws and Jurisdiction of Contract:

- 23.01 The laws applicable to this Contract shall be the Laws in force in India.

23.02 All disputes arising in connection with the present Contract shall be settled amicably by mutual consultation failing which shall be finally settled as per the rules of Arbitration and Conciliation Act, 1996 at the discretion of Purchaser. The venue of arbitration shall be at Delhi in India

24.0 Events of Default

24.01 Events of Default. Each of the following events or occurrences shall constitute an event of default ("Event of Default") under the Contract:

- (a) Supplier fails or refuses to pay any amounts due under the Contract;
- (b) Supplier fails or refuses to deliver Commodities conforming to this RFQ/ specifications, or fails to deliver Commodities within the period specified in P.O. or any extension thereof
- (c) Supplier becomes insolvent or unable to pay its debts when due, or commits any act of bankruptcy, such as filing any petition in any bankruptcy, winding-up or reorganization proceeding, or acknowledges in writing its insolvency or inability to pay its debts; or the Supplier's creditors file any petition relating to bankruptcy of Supplier;
- (d) Supplier otherwise fails or refuses to perform or observe any term or condition of the Contract and such failure is not remediable or, if remediable, continues for a period of 30 days after receipt by the Supplier of notice of such failure from BYPL.

25.0 Consequences of Default.

- (a) If an Event of Default shall occur and be continuing, BYPL may forthwith terminate the Contract by written notice.
- (b) In the event of an Event of Default, BYPL may, without prejudice to any other right granted to it by law, or the Contract, take any or all of the following actions;
 - (i) present for payment to the relevant bank the Performance Bond;
 - (ii) purchase the same or similar Commodities from any third party; and/or
 - (iii) recover any losses and/or additional expenses BYPL may incur as a result of Supplier's default.

26.0 Penalty for Delay

- 26.01 If supply of items / equipments is delayed beyond the supply schedule as stipulated in purchase order then the Supplier shall be liable to pay to the Purchaser as penalty for delay, a sum of 1% (one percent) of the basic (ex-works) price for every week delay of undelivered units or part thereof for individual mile stone deliveries.
- 26.02 The total amount of penalty for delay under the contract will be subject to a maximum of ten percent (10%) of the basic (ex-works) price of total undelivered units.
- 26.03 The Purchaser may, without prejudice to any method of recovery, deduct the amount for such damages from any amount due or which may become due to the Supplier or from the Performance Bond or file a claim against the supplier.

- 22.4 If Penalty is levied as per the Order terms & conditions; BYPL will raise Invoice of the penalty amount along with applicable GST rates. Accordingly, after set off of the penalty Invoice amount, net payment shall be made.

27.0 Variation in Taxes, Duties & Levies

- 27.1 The total order value shall be adjusted on account of any variations in Statutory Levies imposed by Competent Authorities by way of fresh notification(s) within the stipulated delivery period only. In case of reduction in taxes, duties and levies, the benefits of the same shall be passed on to BUYER.
- 27.2 No other Taxes, Duties & Levies other than those specified above will be payable by BUYER except in case of new Levies, Taxes & Duties imposed by the Competent Authorities by way of fresh notification(s) subsequent to the issue of PURCHASE ORDER but within the stipulated delivery period.
- 27.3 Notwithstanding what is stated above, changes in Taxes, Duties & Levies shall applied only to that portion of PURCHASE ORDER not executed on the date of notification by Competent Authority. Further, changes in Taxes, Duties & Levies after due date of Delivery shall not affect PURCHASE ORDER Terms and Value.
- 27.4 PURCHASE ORDER value shall not be subject to any variation on account of variation in Exchange rate(s).

28.0 Taxes & Duties on raw materials & bought out components

- 28.01 Taxes & Duties on raw materials & bought out components are included in Order Value and are not subject to any escalation or variation for any reason whatsoever.
- 28.02 Taxes & Duties on raw materials & bought out components procured indigenously are included in Order Value and are not subject to any escalation or variation for any reason whatsoever.

29.0 Force Majeure

29.01 General

An "Event of Force Majeure" shall mean any event or circumstance not within the reasonable control directly or indirectly, of the Party affected, but only if and to the extent that:

- (i) Such event or circumstance materially and adversely affects the ability of the affected Party to perform its obligations under this Contract, and the affected Party has taken all reasonable precautions, due care and reasonable alternative measures in order to prevent or avoid the effect of such event on the affected party's ability to perform its obligations under this Contract and to mitigate the consequences thereof.
- (ii) For the avoidance of doubt, if such event or circumstance would not have materially and adversely affected the performance of the affected party had such affected party followed good industry practice, such event or circumstance shall not constitute force majeure.
- (iii) Such event is not the direct or indirect result of the failure of such Party to perform any of its obligations under this Contract.
- (iv) Such Party has given the other Party prompt notice describing such events, the effect thereof and the actions being taken in order to comply with above clause.

- 29.02 Specific Events of Force Majeure subject to the provisions of above clause, Events of Force Majeure shall include only the following to the extent that they or their consequences satisfy the above requirements :
- (i) The following events and circumstances :
 - a) Effect of any natural element or other acts of God, including but not limited to storm, flood, earthquake, lightning, cyclone, landslides or other natural disasters.
 - b) Explosions or fires
 - (ii) War declared by the Government of India, provided that the ports at Mumbai are declared as a war zone.
 - (iii) Dangers of navigation, perils of the sea.
- 29.03 Notice of Events of Force Majeure If a force majeure event prevents a party from performing any obligations under the Contract in part or in full, that party shall:
- i) Immediately notify the other party in writing of the force majeure events within 7(seven) working days of the occurrence of the force majeure event
 - ii) Be entitled to suspend performance of the obligation under the Contract which is affected by force majeure event for the duration of the force majeure event.
 - iii) Use all reasonable efforts to resume full performance of the obligation as soon as practicable
 - iv) Keep the other party informed of all such efforts to resume full performance of the obligation on a regular basis.
 - v) Provide prompt notice of the resumption of full performance or obligation to the other party.
- 29.04 Mitigation of Events of Force Majeure Each Party shall:
- (i) Make all reasonable efforts to prevent and reduce to a minimum and mitigate the effect of any delay occasioned by an Event of Force Majeure including recourse to alternate methods of satisfying its obligations under the Contract;
 - (ii) Use its best efforts to ensure resumption of normal performance after the termination of any Event of Force Majeure and shall perform its obligations to the maximum extent practicable as agreed between the Parties; and
 - (iii) Keep the other Party informed at regular intervals of the circumstances concerning the event of Force Majeure, with best estimates as to its likely continuation and what measures or contingency planning it is taking to mitigate and or terminate the Event of Force Majeure.
- 29.05 Burden of Proof In the event that the Parties are unable in good faith to agree that a Force Majeure event has occurred to an affected party, the parties shall resolve their dispute in accordance with the provisions of this Agreement. The burden of proof as to whether or not a force majeure event has occurred shall be upon the party claiming that the force majeure event has occurred and that it is the affected party.
- 29.06 Termination for Certain Events of Force Majeure. If any obligation of any Party under the Contract is or is reasonably expected to be delayed or prevented by a Force Majeure event for a continuous period of more than 3 months, the Parties shall promptly discuss in good faith how to proceed with a view to reaching a solution on mutually agreed basis. If a solution on mutually agreed basis cannot be arrived at within a period of 30 days after the expiry of the period of three months, the Contract shall be terminated after the said period of 30 days and neither Party shall be liable to the other for any consequences arising on account of such termination.
- 29.07 Limitation of Force Majeure event. The Supplier shall not be relieved of any obligation under the Contract solely because cost of performance is increased, whether as a consequence of adverse economic consequences or otherwise.

29.08 Extension of Contract Period due to Force Majeure event The Contract period may be extended by mutual agreement of Parties by way of an adjustment on account of any period during which an obligation of either Party is suspended due to a Force Majeure event.

29.09 Effect of Events of Force Majeure. Except as otherwise provided herein or may further be agreed between the Parties, either Party shall be excused from performance and neither Party shall be construed to be in default in respect of any obligations hereunder, for so long as failure to perform such obligations shall be due to and event of Force Majeure."

30.0 Transfer and Sub-Letting

30.01 The Supplier shall not sublet, transfer, assign or otherwise part with the Contract or any part thereof, either directly or indirectly, without prior written permission of the Purchaser.

31.0 Recoveries

31.01 Whenever under this contract any money is recoverable from and payable by the bidder, the purchaser shall be entitled to recover such sum by appropriating in part or in whole by detecting any sum due to which any time thereafter may become due from the supplier in this or any other contract. Should the sum be not sufficient to cover the full amount recoverable the bidder shall pay to the purchaser on demand the remaining balance.

32.0 Waiver

32.01 Failure to enforce any condition herein contained shall not operate as a waiver of the condition itself or any subsequent breach thereof.

33.0 Indemnification

33.01 Notwithstanding contrary to anything contained in this RFQ, Supplier shall at his costs and risks make good any loss or damage to the property of the Purchaser and/or the other Supplier engaged by the Purchaser and/or the employees of the Purchaser and/or employees of the other Supplier engaged by the Purchaser whatsoever arising out of the negligence of the Supplier while performing the obligations under this contract.

34.00 Documentation

34.01 The Bidder shall procure all equipment from BYPL approved sources as per attached specifications. The Bidder's shall submit 5 copies of Material/Type Test Certificates, O&M Manuals, and Approved & As-built drawings, related to various equipment. The Bidder's shall ensure for the strict compliance to the specifications and Field Quality Procedures issued by BYPL Engineer in-charge.

35.0 Transit Insurance

35.01 Transit Insurance shall be arranged by the Bidder.

35.02 DAMAGE / LOSS OF CARGO IN TRANSIT: Vendor shall be solely responsible for coordinating with the concerned insurance company for procuring insurance for material and/or Goods, processing claim lodgment and settlement. Notwithstanding the insurance cover, in case of loss / damage to material and/or Goods, in any manner and for any cause whatsoever, Vendor shall cause the damaged cargo to be replaced and delivered to the Purchaser with new material and/or Goods within 30 days of such loss / damage. The Vendor shall be solely responsible for all expenses in relation to the replacement and delivery in such circumstances.

36.0 Limitation of Liability

36.01 Except as provided otherwise in the Contract and except for willful misconduct or gross negligence, neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or any other indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract. The total liability of the Supplier to the Purchaser under the Contract shall not exceed the Contract Value. Except that this Clause shall not limit the liability of the Supplier:

- (a) Under any other provisions of the Contract which expressly impose a greater liability,
- (b) In cases of fraud, willful misconduct or illegal or unlawful acts, or
- (c) In cases of acts or omissions of the Supplier which are contrary to the most elementary rules of diligence which a conscientious Supplier would have followed in similar circumstances.

37.0 Liability of Suppliers

37.1 Subject to the due discharge of its obligations under the Contract and except in case of gross negligence or willful misconduct on the part of the Supplier or on the part of any person acting on behalf of the Supplier, with respect to any loss or damage caused by the Supplier to the Purchaser's property or the Site, the Supplier shall not be liable to the Purchaser for the following:

- (a) For any indirect or consequential loss or damage; and
- (b) For any direct loss or damage that exceeds:
 - (i) The total payments made and expected to be made to the Supplier under the Contract including reimbursements, if any; or
 - (ii) The insurance claim proceeds which the Supplier may be entitled to receive from any insurance purchased by the Supplier to cover such a liability, whichever is higher.

37.2 This limitation of liability shall not affect the Supplier's liability, if any, for damage to any third party, caused by the Supplier or any Person or firm acting on behalf of the Supplier in executing the Works.

37.3 Notwithstanding anything contained in the Contract, the Supplier shall not be liable for any gross negligence or willful misconduct on the part of the Purchaser or any of its affiliates, any vendor, or any party, other than Supplier and/or, its directors, officers, agents or representatives or its affiliates, or SubSupplier, or the vendor or any third party engaged by it.

37.4 Notwithstanding anything contained in the Contract, including but not limited to approval by the Purchaser of any drawings, documents, vendor list, supply of information or data or the participation of the Purchaser in any meeting and/or discussion or otherwise, shall not absolve the Supplier from any of its liabilities or responsibilities arising in relation to or under the Contract.

38.0 Intellectual Property Rights and Royalties

38.1 The Supplier shall indemnify the Purchaser and the Purchaser's Representative from and against all claims and proceedings on account of infringement (or alleged infringement) of any patent rights, registered designs, copyright, design, trademark, trade name, know-how or other intellectual property rights (hereinafter collectively referred to as "**Intellectual Property Rights**") in respect of the Works, Supplier's Equipment, machines, Works method, Plant, Materials, or anything whatsoever required for the execution of the Works and from and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto. In the event of infringement of any Intellectual Property Rights of any third party as a result of the execution of the Works (or any part thereof) by the Supplier, the Supplier shall rectify, modify or replace, at its own cost, the Works, Plant or Materials or anything whatsoever required for the Works so that infringement ceases to exist or, in the alternative, the Supplier shall procure necessary rights/ licenses from the affected third party so that there is no infringement of Intellectual Property

Rights.

- 38.2 The Supplier shall be promptly notified of any claim made against the Purchaser. The Supplier shall, at its cost, conduct negotiations for the settlement of such claim, and any litigation or arbitration that may arise from it. The Purchaser or the Purchaser's Representative shall not make any admission which might be prejudicial to the Supplier, unless the Supplier has failed to take over the conduct of the negotiations, litigation or arbitration within a reasonable time after having been so requested. In the event of Supplier failing to act at the Purchaser's Representative's notice, the Purchaser shall be at full liberty to deduct any such amount of pending claim from any amount due to the Supplier under the Contract or any other contract and the balance portion of claim shall be treated as debt due from the Supplier.
- 38.3 All Intellectual Property Rights in respect of any Plant, Materials, Drawings and Designs, plans, documents, specifications, data, materials, know how, charts, information, etc., provided to the Supplier by the Purchaser pursuant to this Contract for the execution of the Works, belongs to and shall continue to belong to the Purchaser and the Supplier shall not have any rights in the same other than the limited right for its use for the purpose of execution of the Works.
- 38.4 Intellectual Property Rights in respect of any Plant, Materials, Drawings and Designs, plans, calculations, drawings, documents, know-how and information relating to the Works which are proprietary to the Supplier and/ or its third party licensors ("**Supplier's IPR**") shall continue to vest with the Supplier and/ or its third party licensors and the Supplier shall grant and/ or procure from its third party licensors, at its own cost, a worldwide, perpetual, royalty free, non-exclusive license (along with the right to sub-license) to use and reproduce such Supplier's IPR for the use, operation, maintenance and repair of the Works.
- 38.5 If any patent, trademark, trade name, registered design or software is developed by the Supplier or its SubSupplier specifically for the execution of the Works, then all Intellectual Property Rights in respect of such design, trademark, trade name or software shall be the absolute property of the Purchaser and shall not be utilized or retained by the Supplier (or its SubSuppliers) for any purpose other than with the prior written consent of the Purchaser.
- 38.6 If the Supplier uses proprietary software (whether customized or off the shelf) for the purpose of storing or utilizing records in relation to the Works, the Supplier shall obtain at its own expense, the grant of a worldwide, royalty-free, perpetual licence or sublicense (including the right to sublicense) to use such software, in favour of the Purchaser provided that the use of such software under the licence or the sublicense may be restricted to use any such software only for the design, construction, reconstruction, manufacture, installation, completion, reinstatement, extension, repair and operation of the Works or any part thereof.
- 38.7 If any software is used by the Supplier for the execution of the Works over which the Supplier or a third party holds pre-existing title or other rights, the Supplier shall obtain for the Purchaser, a worldwide, royalty free, perpetual license for the right to use and apply that software (together with any modifications, improvements and developments thereof).

39.0 Acceptance

- 39.01 Vendor confirms to have gone through the Policy of BYPL on legal and ethical code required to be followed by vendors encapsulated in the "Vendor Code of Conduct" displayed on the official website of BYPL (www.bsesdelhi.com) also, which shall be treated as a part of the contract/PO/WO. Vendor undertakes that he shall adhere to the Vendor code of Conduct and also agrees that any violation of the Vendor Code of Conduct shall be treated as breach of the contract/PO/WO. In event of any such breach, irrespective of whether it causes any loss/damage, Purchaser (BYPL) shall have the right to recover loss/damage from Vendor. The Contractor/Vendor hereby indemnifies and agrees to keep indemnified the Purchaser (BYPL) against any claim/litigation arising out of any violation of Vendor Code of Conduct by the Contractor/Vendor or its officers, agents & representatives etc.
- 39.02 Acceptance of the CONTRACT implies and includes acceptance of all terms and conditions enumerated in the CONTRACT in the technical specification and drawings made available to Contractor consisting of general conditions, detailed scope of work, detailed technical specification, detailed equipment drawing and complete scope of work.
- 39.03 Contractor and Company contractual obligation are strictly limited to the terms set out in the CONTRACT. No amendments to the concluded CONTRACT shall be binding unless agreed to in writing for such amendment by both the parties
- 39.04 We expect your services and supplies are aligned to our Vision, Mission and Values. Please refer to the following link to know about our Vision, Mission and Values; <https://www.bsesdelhi.com/web/bypl/about-bses>

QUANTITY AND DELIVERY REQUIREMENTS

| Sl. No. | BYPL SAP Code | Item Description | Specification | Total Qty. (Meter) | Tentative Delivery Schedule | Destination |
|---------|---------------|---|----------------|--------------------|-----------------------------|-------------|
| 1 | 2100004708 | Supply of 11KV Grade XLPE Insulated Aluminium Conductor Power Cable Of Size 3Cx150 MM ² | SP-HT-180-R0 | 3 KM | 1 km per month | |
| 2 | 2100004707 | Supply of 11KV Grade XLPE Insulated Aluminium Conductor Power Cable Of Size 3Cx300 MM ² | | 91 KM | 6 km per month | |
| 3 | 2100004725 | Supply of 11KV Grade XLPE Insulated Aluminium Conductor Power Cable Of Size 1Cx1000 MM ² | | 1 KM | 1 km per month | |
| 4 | 2100231114 | Supply of HT Aerially Bunched Cable of Size 1CX95+1CX95 MM ² | SP-HTAB-179-R0 | 53 KM | 5 km per month | |
| 5 | 2100231115 | Supply of HT Aerially Bunched Cable of Size 3CX150+1CX150 MM ² | | 4 KM | 1 km per month | |

The delivery schedule shown above is tentative. PO(s) will be released as per the actual requirement. However, supplier has to deliver the material within the delivery schedule provided. Schemes may be executed in the phased manner. Delivery shall be commencing within 1.5 Month from the PO and completion as per the schedule

APPENDIX II

FORMAT OF PERFORMANCE BANK GUARANTEE
(To be executed on a Non-Judicial Stamp Paper of appropriate value)

This Guarantee made at _____ this [____] day of [____] 20XX

1. WHEREAS M/s BSES Yamuna Power Limited, a Company incorporated under the provisions of Companies Act, 1956 having its Registered Office at Shaktikiran Building, Karkardooma, Delhi 110032, India hereinafter referred to as the " Owner ", (which expression shall unless repugnant to the context or meaning thereof include its successors, administrators, executors and assigns).
2. AND WHEREAS the Owner has entered into a contract for _____ (Please specify the nature of contract here) vide Contract No. _____ dated _____ (hereinafter referred to as the "Contract") with M/s. _____, (hereinafter referred to as "the Supplier", which expression shall unless repugnant to the context or meaning thereof be deemed to mean and include each of their respective successors and assigns) for providing services on the terms and conditions as more particularly detailed therein.
3. AND WHEREAS as per clause ____ of conditions of Contract, the Suppliers are obliged to provide to the Owners an unconditional bank guarantee for an amount equivalent to ten percent (10%) of the total Contract Value for the timely completion and faithful and successful execution of the Contract from [_____] *pl. specify the name of Bank*) having its head/registered office at [_____] through its branch in _____ (*pl. specify the name of Branch through which B.G is issued*) hereinafter referred to as "the Bank", (which expression shall unless it be repugnant to the context or meaning thereof be deemed to include its successors and permitted assigns).
4. NOW THEREFORE, in consideration inter alia of the Owner granting the Suppliers the Contract, the Bank hereby unconditionally and irrevocably guarantees and undertakes, on a written demand, to immediately pay to the Owner any amount so demanded (by way of one or more claims) not exceeding in the aggregate [Rs.].....(*in words*) without any demur, reservation, contest or protest and/or without reference to the Supplier and without the Owner needing to provide or show to the Bank ,grounds or reasons or give any justification for such demand for the sum/s demanded.

5. The decision of the Owner to invoke this Guarantee and as to whether the Supplier has not performed its obligations under the Contract shall be binding on the Bank. The Bank acknowledges that any such demand by the Owner of the amounts payable by the Bank to the Owner shall be final, binding and conclusive evidence in respect of the amounts payable by the Supplier to the Owner. Any such demand made by the Owner on the Bank shall be conclusive and binding, notwithstanding any difference between the Owner and the Supplier or any dispute raised, invoked, threatened or pending before any court, tribunal, arbitrator or any other authority.
6. The Bank also agrees that the Owner at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor without proceeding against the Suppliers notwithstanding any other security or other guarantee that the Owner may have in relation to the Supplier's liabilities.
7. The Bank hereby waives the necessity for the Owner first demanding the aforesaid amounts or any part thereof from the Suppliers before making payment to the Owner and further also waives any right the Bank may have of first requiring the Owner to use its legal remedies against the Suppliers, before presenting any written demand to the Bank for payment under this Guarantee.
8. The Bank's obligations under this Guarantee shall not be reduced by reason of any partial performance of the Contract. The Bank's obligations shall not be reduced by any failure by the Owner to timely pay or perform any of its obligations under the Contract.
9. The Bank further unconditionally and unequivocally agrees with the Owner that the Owner shall be at liberty, without the Bank's consent and without affecting in any manner its rights and the Bank's obligation under this Guarantee, from time to time, to:
- (i) vary and/or modify any of the terms and conditions of the Contract;
 - (ii) Forebear or enforce any of the rights exercisable by the Owner against the Suppliers under the terms and conditions of the Contract; or
 - (iii) Extend and/or postpone the time for performance of the obligations of the Suppliers under the Contract;

and the Bank shall not be relieved from its liability by reason of any such act or omission on the part of the Owner or any indulgence shown by the Owner to the Suppliers or any other reason whatsoever which under the law relating to sureties would, but for this provision, have the effect of relieving the Bank of its obligations under this Guarantee.

10. This Guarantee shall be a continuing bank guarantee and shall not be discharged by any change in the constitution or composition of the Suppliers, and this Guarantee shall not be affected or discharged by the liquidation, winding-up, bankruptcy, reorganisation, dissolution or insolvency of the Suppliers or any of them or any other circumstances whatsoever.
11. This Guarantee shall be in addition to and not in substitution or in derogation of any other security held by the Owner to secure the performance of the obligations of the Suppliers under the Contract.
12. NOTWITHSTANDING anything herein above contained, the liability of the BANK under this Guarantee shall be restricted to _____ *(insert an amount equal to ten percent (10%) of the Contract Value)* and this Guarantee shall be valid and enforceable and expire on _____ *(pl. specify date)* or unless a suit or action to enforce a claim under this Guarantee is filed against the Bank on or before the date of expiry.
13. On termination of this Guarantee, all rights under the said Guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities hereunder.
14. The Bank undertakes not to revoke this Guarantee during its validity except with the prior written consent of the Owner and agrees that any change in the constitution of the Bank or the Suppliers shall not discharge our liability hereunder.
15. Owner may assign this Guarantee to any Person or body whether natural, incorporated or otherwise under intimation to the Bank. The Bank shall be discharged of its obligations hereunder by performance in accordance with the terms hereof to such assignee without verifying the validity / legality / enforceability of the assignment.
16. This Guarantee shall be governed by the laws of India. Any suit, action, or other proceeding arising out of, connected with, or related to this Guarantee or the subject matter hereof shall be subject to the exclusive jurisdiction of the courts of **Delhi**, India.

Dated this day of 20XX at

(Signature)

.....
(Name)

.....
(Designation with Bank Stamp)

Attorney as per

Power of Attorney No.....

Date.....

| | | |
|--|-------------|--------------------------|
| APPENDIX II NIT NO: CMC/BY/20-21/RB/SV/54 | Page 3 of 6 | Bidders seal & Signature |
|--|-------------|--------------------------|

BYPL BANK DETAIL WITH IFSC CODE:

1. Name of the Bank: Axis Bank Limited
2. Branch Name & Full Address: C-58, Basement & Ground Floor, Preet Vihar, Main Vikas Marg,
New Delhi 110092
3. Branch Code: 055
4. Bank Account No: 911020005246583
5. IFSC Code: UTIB0000055



FORMAT OF WARRANTY/GUARANTEE CERTIFICATE

BSES YAMUNA POWER LIMITED Shaktikiran Building, Karkardooma, Delhi -110032.

Ref. Purchase Order No. :

Dear Sir,

We hereby confirm that the.....dispatched to BSES YAMUNA POWER LTD vide invoice no.....

DT.....is exactly of the same nature and description as per above mentioned Purchase Order.

We further confirm that we will replace/repair our.....free of cost If found any manufacturing defect during.....months from the date of dispatch of material or.....months from the data of commissioning whichever is earlier.

Vendors Name & Signature

UNDERTAKING GST

The Vendor shall give an undertaking in the following words on each invoice in the absence of which tax payment as on the Vendor's invoice may be withheld.

"The tax component as mentioned in the invoice shall be deposited with GST Department as per law by way of actual payment or by way of legal set off as per law. The turnover billed shall be duly declared in my GST returns a copy of which shall be filed with the Purchaser. Should the input tax credit to the Purchaser be denied by way of any lapse on the part of the Vendor, the same shall be paid on demand and in any case the Purchaser is authorized to deduct the tax equivalent amount from the amount payable to the Vendor"

SUMMARY OF COMMERCIAL TERMS AND CONDITIONS

| SI No | Item Description | AS PER BYPL | BIDDER'S CONFIRMATION |
|-------|----------------------------|--|-----------------------|
| 1 | Validity | 120 days from the date of submission of bid | |
| 2 | Price basis | a) "Firm" , FOR Delhi store basis. Prices shall be inclusive of all taxes & duties, freight upto Delhi stores. b) Unloading at stores shall be in vendor's scope. c) Transit insurance in Bidders scope. | |
| 3 | Payment terms | 100% payment shall be made within 45 days from the date of receipt & acceptance of material at store/site against submission documents. | |
| 4 | Delivery schedule | GTP/Drawings/QAP/etc to be submitted within 07 days to the concern official in BYPL for Transmittal approval. BYPL shall approve/ provide comments on the submitted drawings within 7 days of first submission. Delivery shall be completed within 08 Weeks from the LOI/PO date or completion as per the schedule. | |
| 5 | Defect Liability period | 60 months after commissioning or 66 months from the last date of receipt, whichever is earlier. | |
| 6 | Penalty for delay | 1% (One) of the basic value (ex-works value) of undelivered units per week of delay or part thereof, subject to maximum of 10% (Ten) of the total basic value (ex-works value) of undelivered units. | |
| 7 | Performance Bank Guarantee | To be submitted within fifteen (15) days from the date of issuance of the Letter of Award/PO, supplier shall establish a performance bond in favor of BYPL in an amount not less than One percent (1%) of the total price of the Rate Contract (the "Performance Bond"). Bidder shall initially submit the PBG for 1% of RC Value valid till RC validity period plus one month. Thereafter bidder shall submit PBG on PO basis for 9% of the PO value valid for a period of 24 months from the date of Commissioning or 30 months from the date of last receipt whichever is earlier plus 3 months claim period. | |

VOLUME – II

PRICE BID FORMAT

ALL PRICES IN INR (₹)

| S. No. | DESCRIPTION OF GOODS | HSN CODE (8 Digit Mandatory) | U o M | QTY (A) | UNIT BASIC PRICE INCL FREIGHT (₹) (B) | UNIT GST & CESS AS APPLICABLE (CGST & SGST/UTGST or IGST) (₹) (C) | | UNIT LANDED RATE (All Inclusive) (₹) (D = B+C) | TOTAL LANDED VALUE (₹) (E = DXA) |
|------------------------------|---|------------------------------|-------|---------|---------------------------------------|---|-----|--|----------------------------------|
| | | | | | | % | AMT | | |
| 1 | Supply of 11KV Grade XLPE Insulated Aluminium Conductor Power Cable Of Size 3Cx150 mm ² | | M | 3,000 | | | | | |
| 2 | Supply of 11KV Grade XLPE Insulated Aluminium Conductor Power Cable Of Size 3Cx300 mm ² | | M | 91,000 | | | | | |
| 3 | Supply of 11KV Grade XLPE Insulated Aluminium Conductor Power Cable Of Size 1Cx1000 mm ² | | M | 1,000 | | | | | |
| 4 | Supply of HT Aerially Bunched Cable of Size 1CX95+1CX95 MM ² | | M | 53,000 | | | | | |
| 5 | Supply of HT Aerially Bunched Cable of Size 3CX150+1CX150 MM ² | | M | 4,000 | | | | | |
| GRAND TOTAL LANDED VALUE (₹) | | | | | | | | | |
| In words | | | | | | | | | |

NOTE: Cost of all tests as per technical specification is to be included.

The Un-priced bid should be marked as **"Quoted"** and to be submitted with Part – A

We declare that the following are our quoted prices in INR for the entire packages.

Date:

Bidders Name:

Place:

Bidders Address:

Signature:

Designation:

Printed Name:

Common Seal:

VOLUME – III

TECHNICAL SPECIFICATIONS

TECHNICAL SPECIFICATION OF 11kV & 33kV CABLE

Specification No. : SP-HT-180-R0

| Rev 01 | Date 16 March 2021 | No. of Page 41 |
|-------------|--------------------|---|
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| Reviewed by | Puneet Duggal | <i>Puneet Duggal</i> 404db803-a91f-4234-85f0-0b2b5098ec32 |
| Approved by | Gaurav Sharma | <i>Gaurav Sharma</i> 23dc2de2-95de-4472-99a7-dea873f472b6 |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

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TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE**1.0 SCOPE OF SUPPLY**

The specification covers design, manufacture, testing, packing and delivery of 11000 & 33000 Volts grade, Aluminium conductor, and XLPE insulated single core & multi core power cables.

2.0 STANDARDS & CODES

The cables shall be designed, manufactured and tested in accordance with the following National Standards and IEC Standards.

National Standards

| | |
|-------------------|--|
| IS 7098 Part-2 | Cross linked polyethylene (XLPE) insulated PVC sheathed cables for working voltages from 3.3 kV up to and including 33 kV. |
| IS 5831 | PVC insulation & sheath of electric cables. |
| IS 10810 | Methods of test for cables. |
| IS 8130 | Conductors for insulated electric cables and flexible cords. |
| IS 3975 | Mild steel wires, formed wires and tapes for armouring of cables. |
| IS 10462 (Part 1) | Fictitious Calculation Method for determination of dimensions of protective covering of cables |

International Standards

| | |
|------------------------------|--|
| IEC 60183 | Guide to the selection of high voltage cables |
| IEC 60228 | Conductors of insulated cables. Guide to the dimensional limits of circular conductors. |
| IEC 60332 – 3 | Tests on electric cables under fire conditions. Part 3: Tests on bunched wires or cables. |
| IEC 60502 – 2 | Power cables for rated voltages from 6 kV ($U_m = 7.2$ kV) up to 30 kV ($U_m = 36$ kV) |
| IEC 60811 Pts 1 through 5 | Common test methods for insulating and sheathing materials of electric cables. |
| IEC 885 Pts 1 through 3 | Electric test methods for electric cables. |
| IEC 28 | International Standard of Resistance for Copper |
| IEC 332 | Test on Electric Cables under fire conditions |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

3.0 CABLE, CONSTRUCTION OF CABLE & TESTING

This Specification covers following types of XLPE insulated 11 kV & 33 kV Power Cables used in BYPL network in Delhi , mostly under-ground (buried, with chances of flooding by water) or for laying on racks, in ducts, trenches, conduits etc.

| Sr. No. | Description | Conductor Material | Cable Code |
|---------|------------------------|--------------------|------------|
| 1. | 11 kV, 3C x300 sqmm. | Al | A 2X W Y |
| 2. | 11 kV, 3C x 150 sqmm. | Al | A 2X W Y |
| 3. | 11 kV, 1C x 1000 sqmm. | Al | A 2X Wa Y |
| 4. | 33 kV, 3C x400 sqmm. | Al | A 2X W Y |
| 5. | 33 kV, 1C x1000 sqmm. | Al | A 2X Wa Y |

Description of each item mentioned in the Specification (the text, BOQ, GTP or any site specific requirement) shall be followed, along with IS: 7098 – Part 2.

| | | |
|-------|-----------------------------------|---|
| 3.1 | CONSTRUCTIONAL REQUIREMENT | |
| 3.1.1 | Conductor | <p>a) Electrolytic Grade Stranded Aluminium Conductor</p> <p>b) Grade: H2 as per IS: 8130 / 1984 (For Al)</p> <p>c) Stranded, compacted and circular in shape</p> <p>d) Class 2</p> <p>e) “Longitudinal Water-Blocking Arrangement” (or water-tight construction or water barrier protection) shall be provided within the Conductor.</p> <p>i) As per manufacturer’s procedures, 100 % water-tight conductor shall be achieved.</p> <p>iii) Make & Type of materials to be used (i.e. Water-swellable tapes / yarn) shall also be</p> |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

| | | |
|-------|--------------------------|--|
| | | <p>stated in the List of Sub-Vendors for pre-order approval.</p> <p>f) All detailed constructional features shall be shown in the cross-sectional drawing.</p> |
| 3.1.2 | Conductor Screen | <p>Extruded semi-conducting material. (Also refer Cl. 3.1.3.) (Tapes are not acceptable)</p> |
| 3.1.3 | Insulation | <p>a) Extruded XLPE (Cross-Linked Poly-Ethylene) Insulation, with water tree retardant property (WTR).</p> <p>b) The required compound used shall be from BSES-approved sub-vendors (refer Annexure – C).</p> <p>c) Uniform thickness of insulation shall be within the permissible values as per IEC Standards; eccentricity check shall be carried out to ensure this.</p> <p>d) Insulation Color : natural</p> |
| 3.1.4 | Insulation Screen | <p>a) Freely-strippable semi-conducting screen, which should not require application of heat for its removal.</p> <p>b) Text “Do not Heat - Freely Strippable” to be printed on insulation screen (at every 600 mm interval).</p> <p>c) Round shape over the outer semi-con shall be within the permissible limits as per IEC standards; Ovality (2% max) check shall be carried out to ensure this.</p> <p>d) Compound used shall be suitable for the operating temperature of the Cable and shall be</p> |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

| | | |
|---------|--|--|
| | | compatible with the insulation used. |
| 3.1.4.1 | Extrusion | Conductor Screen, Insulation and Insulation Screen shall be extruded simultaneously, in a Single One-Time Process (i.e. as a triple-head extrusion) to ensure homogeneity of layers over the conductor, and absence of voids. |
| 3.1.4.2 | Make of Compounds for Insulation and Semi-conducting | Any deviation from Approved Makes mentioned in Annexure-C shall not be acceptable, unless the deviation has been specifically approved by BYPL, prior to sourcing the compounds and taking up manufacturing of cable. |
| | | |
| 3.1.5 | Water-Swellable Tape | <ul style="list-style-type: none"> a) Semi-Conducting Water-Sellable Tape shall be provided, under the copper tape, on each core. b) Nominal thickness : 0.3 mm c) Weight: 118 gm / sq. m approx. d) Swell height: ≥ 12 mm in 1 min. e) Compatible to strippable / non-strippable semi-con, over which it is applied. |
| | | |
| 3.1.6 | Core Identification | <ul style="list-style-type: none"> a) For 3-core cables, cores shall be identified by coloured strips (Red, Yellow, Blue), applied helically / longitudinally below the copper tape. <p>The coloured strips shall carry the name of manufacturer permanently printed at close intervals; this is to provide additional identification of manufacturer of the cable.</p> |
| | | |
| 3.1.7 | Copper Tape | Copper Tape shall be applied helically over the layer formed after application of insulation screen, water-swellable tape and identification strip. |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

| | | |
|--------|---------------------|---|
| | | |
| 3.1.8 | Filler | <p>a) All interstices, including center interstices shall be filled by PP filler.</p> <p>b) PP Filler shall be non-hygroscopic, not having any effect on other compounds used, stable at cable temperatures, etc.</p> <p>c) PVC filler is not acceptable.</p> <p>d) Filler is not applicable for single-core cables.</p> |
| | | |
| 3.1.9 | Binder Tape | As per manufacturer's standard |
| | | |
| 3.1.10 | Inner Sheath | Extruded Inner Sheath of Black PVC type ST-2 (IS 5831) |
| | | |
| 3.1.11 | Armour | <p>a) For 3-core Cables : Galvanized Steel round wire armour</p> <p>b) For 1-core Cables : Aluminium round wire armour</p> <p>c) Minimum area of coverage of armouring shall be 90 % (min.). At any time, the gap between any two adjacent armour wires shall not be more than the diameter of wire.</p> <p>d) Zero negative tolerance is for : <ul style="list-style-type: none"> Diameter of armour wire </p> <p>e) Fault current carrying capacity of armour shall be as following: <p>i. For 11 kV Cable – Min 11 kA for 1 sec.</p> <p>ii. For 33 kV Cable – Min 15 kA for 1 sec.</p> </p> |
| | | |
| 3.1.12 | Binder Tape | Rubberised cotton tape |
| | | |
| 3.1.13 | Outer Sheath | a) Extruded outer sheath of PVC (ST-2 as per IS 5831) with termite-repellant and anti-rodent |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

| | | |
|--------|-----------------------------|--|
| | | properties. |
| | | <p>b) Shape of the cable over the outer sheath shall be circular, when manufactured / completed. Regular Ovality check shall be carried out at factory, to detect any abnormality. Manufacturing quality shall be such that cable will retain its circular shape, even after it is laid at site.</p> |
| | | <p>c) The Outer Sheath shall be embossed with following minimum text :</p> <ol style="list-style-type: none"> 1. The voltage designation 2. Type of construction / cable code (A2XWY) 3. Manufacturer's Name and Trade-mark 4. Number of cores and nominal cross-sectional area of conductor 5. Progressive (sequential) length of cable at every meter, starting from zero for every drum. Colour filled in for the progressive marking, shall be with proper contrast in colouring. 6. Name of buyer / purchaser, BYPL 7. Month & Year of manufacturing 8. IS reference, i.e. IS : 7098 (II) 9. Batch No. / Lot No. (For traceability purpose, in case of any, in case of any manufacturing defect or otherwise arising in the cable in future.) 10. Purchase Order Number & date 11. Drum number |
| | | |
| 3.1.14 | Pulling-eye Assembly | a) A cable pulling-eye assembly shall be provided |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

| | | |
|-----|---|--|
| | and Sealing-end Cap (for Cables) | <p>at the loose end (outer end) of the cable on each drum. Sealing material shall be filled in inside the spaces / gaps between the pulling-eye assembly and cable outer sheath. Further, a heat-shrinkable sleeve shall be provided over the pulling-eye assembly and outer sheath of cable.</p> <p>b) Other end (inner end) of the cable shall be sealed. One PVC cap with Polyurethane compound shall be provided as primary sealing and heat-shrink end-cap shall form a secondary sealing over the PVC cap.</p> |
| 3.2 | Inspection & Testing | Tests shall be carried out in accordance with IS 7098 (Part-2). |
| | a) Type Tests | <ol style="list-style-type: none"> 1. Cables must be of type tested from CPRI/ERDA. Type Test Reports shall be submitted for the type, size and rating of cable offered in the bid. Any cable without type test from CPRI/ERDA shall not be acceptable. 2. Bidder supplying cable to BSES for the first time shall have to conduct type test on sample randomly selected from lot in event of order from CPRI/ERDA. |
| | b) BSES QAP | In general, all tests mentioned in the BSES QAP (Characteristics – Typical) mentioned in Annexure-E shall be included in the Routine Tests, Type Tests and Acceptance Tests. |
| | c) Routine Tests | <ol style="list-style-type: none"> 1. Measurement of Electrical Resistance 2. HV Test with power frequency AC voltage 3. PD test 4. “Strippability Test” at both the ends of cable for each drum, to check the freely-strippable |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

| | | |
|--|---------------------|---|
| | | <p>property of the Insulation Screen (outer semi-con).</p> <p>Test results from the above tests must appear in the documents forwarded by the vendor for Inspection call.</p> |
| | d) Inspection | <ol style="list-style-type: none"> 1. The Buyer reserves the right to witness all tests specified on completed cables. 2. The Buyer reserves the right to inspect cables at Sellers works at any time prior to dispatch, to verify compliance with the specifications. 3. In-process (stage inspection) and final inspection call intimation shall be given sufficiently in advance to the purchaser. 4. Minimum lot size of Cables to be offered for inspection shall be mutually agreed between Purchaser and Vendor, before placing the order. Vendor shall raise inspection call only after a minimum lot size is ready and with due factory routine tests already carried out. |
| | e) Acceptance Tests | <p>Acceptance Tests shall be conducted as per IS 7098 (Part-2) and the approved Quality Assurance Plan (QAP) for each lot of cables.</p> <p>Following tests shall also be carried out during the Acceptance Tests :</p> <ol style="list-style-type: none"> a) "Wafer Boil Test" for checking integrity of semi-conducting layers. b) "Void-and-contamination Test" for the Insulation c) "Strippability Test" at both the ends of cable for each drum, to check freely-strippable property of the Insulation Screen (outer semi-con). d) Internal type test shall be carried out once against each every BYPL PO, on sample basis at manufacturer lab (if required, which shall be |

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| | | |
|-------|--|--|
| | | decided by BSES). |
| | | |
| 3.3 | Drum length & tolerance | Cable length per drum |
| 3.3.1 | a) 11kV, Three core b) 11kV, Single core c) 33kV, Three core d) 33kV, Single core | a) 300 mtr +/- 5 % b) 500 mtr +/- 5% c) 300 mtr +/- 5% d) 500 mtr +/- 5% |
| 3.3.2 | Overall tolerance | +/- 2 % for the total cable length for the entire order. |
| 3.3.3 | Short length of cables | <p>Manufacturer shall take prior approval from Purchaser for any supply of short length cables.</p> <p>For 33kV & 11kV, 3-core cable, minimum acceptable short length shall be 150 meter. Similarly, for 33 kV & 11kV single core cables, minimum acceptable short length cables can be 250 meter and only one short length drum shall be acceptable in last lot.</p> <p>In any case, manufacturer shall not put two cable pieces of different short lengths in same cable drum.</p> |
| | | |
| 3.4 | Packing, Shipping, Handling & Storage | |
| | a) Packing | <ol style="list-style-type: none"> Both the ends of the cables shall be properly sealed to prevent any deterioration of the cable, due to ingress of water, etc. Cable inner end (starting end) shall project, outside the completely wound cable, by sufficient length enabling verify cable details, including the initial length marking. Similarly, outer end of the cable shall be saddled / secured to the drum properly to prevent any external damage to the end at any time. |

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| | | |
|--|---|---|
| | | <p>4. Before putting on wooden planks, protective covers (thick plastic sheets, etc.) shall be secured over the wound cable, to avoid any abrasion by wooden planks, over the outer sheath of the cable. Alternatively PP sheets can be put as protective covers.</p> <p>5. After providing the protective covers, the cable drums shall be finally closed by wooden planks (with saddles), without leaving any gaps between the planks; i.e. 100 % covering shall be ensured.</p> |
| | <p>b) Drum Identification Markings:</p> | <p>Direct marking (i.e. text painting through stencils, etc.) shall be done on the drums, instead of attaching labels, which may be misplaced/lost over a period of time.</p> <ol style="list-style-type: none"> 1. Drum identification number 2. Cable voltage grade 3. Cable code (e.g. A2XFY, etc.) 4. Number of cores and cross sectional area 5. Cable quantity, i.e. cable length (meter) 6. Purchase order number & date 7. SAP item code 8. Total weight of cable and drum (kg) 9. Manufacturer's Name 10. Buyer's name 11. Month & Year of Manufacturing 12. Direction of rotation of drum 13. Cable length final end-markings (i.e., reading at the inner end and reading at the outer end, just before packing, shall be marked on the drum.) |
| | c) Shipping information | The seller shall give complete shipping information |

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| | | |
|-------|-------------------------------------|---|
| | | concerning the weight, size of each package |
| | d) Transit damage | The seller shall be responsible for any transit damage due to improper packing. |
| | e) Cable Drum handling | The drums shall be with M.S. spindle plate (with nut-bolts) of adequate size to suit the spindle rods, normally required for handling the drums, according to expected weight of the cable drums. |
| | | |
| 3.5 | Quality Assurance Plan (QAP) | |
| 3.5.1 | Quality Assurance Plan | As per Annexure attached for QAP. In event of order manufacturer has to submit the signed copy of QAP |
| 3.5.2 | Inspection Points | As per QAP. |
| | | |
| 3.6 | Deviation | Deviations from this Specification shall be stated in writing with the tender by reference to the specification clause/GTP/Drawing and a description of the alternative offer. In absence of such a statement, it will be assumed that the bidder complies fully with this specification. No deviation will be acceptable post order. |
| | | |

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ANNEXURE – A : DOCUMENT SUBMISSION MATRIX

Document/Drawing submission shall be as per the matrix given below:

- i. All documents/drawings shall be provided in soft copy only in returnable Pen drives
- ii. Language of the documents shall be English only.
- iii. Incomplete submission shall be liable for rejection.
- iv. Document check sheet compliance shall be the first sheet for each submission stage i.e. Technical bid, Drawing Approval, Pre Dispatch.
- v. No submission is acceptable without check list compliance.
- vi. Deficient/ improper document/ drawing submission shall be liable for rejection.
- vii. Order of documents shall be strictly as per the check list.
- viii. Any drawing not included in the below table but necessary for detailed engineering shall be deemed to be included in bidder's scope.

| S No. | Description | Bid | Approval | Pre Dispatch |
|-------|--|----------|----------|--------------|
| 1 | Guaranteed Technical Particulars (GTP) | Required | Required | |
| 2 | Deviation Sheet, if any | Required | Required | |
| 3 | Detailed cross sectional drawing of cable | Required | Required | |
| 4 | Dimensional drawing of Cable Drum | | Required | |
| 5 | Type test reports for the offered type and rating of cable | Required | | |
| 6 | Make of Raw Materials | Required | Required | |
| 7 | Cable de-rating factors | Required | Required | |
| 8 | Manufacturer's Quality Assurance Plan | | Required | |
| 9 | Program for production and testing/ Production and Testing Timeline | | Required | |
| 10 | Detailed installation & commissioning instructions | | Required | |
| 11 | Test certificates of all raw materials | | | Required |
| 12 | Inspection and routine test reports, carried out in manufacturer's works | | | Required |

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ANNEXURE – B : GUARANTEED TECHNICAL PARTICULARS (GTP)

Note:

- 1) For every type / size of cable, every data shall be mentioned.
- 2) Seller may submit separate GTP for every type / size of cable, as suitable.
- 3) GTP requirements are generally as per IS : 7098 (Part-II).
- 4) GTP shall be read in line with purchaser's Project Site Specific Requirement.

| Sr. No. | Description | Buyer's requirement | Unit | Seller's Data |
|---------|---|---|--------|---------------|
| 1.0 | Purchase Req. No. | - | | |
| 2.0 | Guarantee Period (Min.) | 60 Months (from date of commissioning) / 66 Months (from date of receipt at purchaser's store) whichever is earlier | | |
| 3.0 | Applicable IS / IEC Standard followed by vendor | IS 7098 Part-2 / IEC 60502-2 | | |
| 4.0 | Make | - | | |
| 5.0 | Type (as required by purchaser) | | | |
| | 11 kV, 3c x 300 sq. mm. | A2XWY | | |
| | 11 kV, 3c x 150 sq. mm. | A2XWY | | |
| | 11 kV, 1c x 1000 sq. mm. | A2XWaY | | |
| | 33 kV, 3c x 400 sq. mm. | A2XWY | | |
| | 33 kV, 1c x 1000 sq. mm. | A2XWaY | | |
| 6.0 | Voltage Grade | | | |
| | 11 kV, 3C or 1C | 6.35 / 11 | kV | |
| | 33 kV, 3C or 1C | 19/33 | kV | |
| 7.0 | Maximum Conductor temperature | | | |
| A | Continuous | 90 | deg. C | |
| B | Short time | 250 | deg. C | |
| 8.0 | Conductor | | | |
| A | Material and Grade | As per Cl. 3.1.1 | | |
| B | Size | As per clause 5.0 of GTP | | |
| C | Wires in each conductor | As per Table 2 of IS 8130 | Nos. | |
| D | Conductor Shape | As per Cl. 3.1.1 | | |

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| | | | | |
|------|--|---|---------------|--|
| E | Dia. of wires in each conductor before compaction | Manufacturer Standard | Mm | |
| F | Diameter over conductor | | Mm | |
| G | Maximum Conductor resistance at 20 ° C | | | |
| | 11 kV, 3c x 300 sq. mm. | 0.1000 | ohm/km | |
| | 11 kV, 3c x 150 sq. mm. | 0.2060 | ohm/km | |
| | 11 kV, 1c x 1000 sq. mm. | 0.0291 | ohm/km | |
| | 33 kV, 3c x 400 sq. mm. | 0.0778 | ohm/km | |
| | 33 kV, 1c x 1000 sq. mm. | 0.0291 | ohm/km | |
| H | Longitudinal Water Blocking Arrangement within conductor | Is it provided and shown in the cross-sectional drawing? (Yes / No) | | |
| I | Short circuit current-carrying capacity of conductor | | kA for 1 sec. | |
| 9.0 | Conductor Screen (inner semi-con) | | | |
| A | Material & type | As per Cl. 3.1.2 | | |
| B | Thickness (min) | 0.50 | mm | |
| C | Diameter over conductor screen | | mm | |
| D | Make and grade of semi-conducting compound | | | |
| 10.0 | Insulation | | | |
| A | Insulation Material | As per Cl. 3.1.3 | | |
| B | Nominal thickness | | | |
| | 11 kV, 3c or 1C | 3.6 | mm | |
| | 33kV, 3C or 1C | 8.8 | | |
| C | Minimum thickness (at a point) | | | |
| | 11 kV, 3c | 3.14 | mm | |
| | 33kV, 3C or 1C | 7.82 | | |
| D | Diameter over Insulation (Approx.) | | mm | |
| E | Make and grade of Insulation compound | | | |
| F | Eccentricity | As per IEC standards | % | |
| G | Water-tree retardant property | Required | | |
| 11A. | Insulation Screen (outer semi-con) | | | |
| a. | i) Thickness of freely strippable Semi conducting screen | 0.50 | mm | |

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| | | | | |
|------|--|---|---------------------------|--|
| | ii) Make and grade of semi-conducting compound | | | |
| | iii) Printing | As per Cl. No. 3.1.4 (Yes / No) | | |
| | iv) Ovality of the core | As per IEC Standards | % | |
| b. | Diameter over Insulation Screen (apprx.) | | mm | |
| 11B. | Water-Swellable Tape (if required by Purchaser) | | | |
| | a) Thickness b) Weight c) Swell height d) Compatible to strippable / non-strippable semi-con, over which it is applied. e) Make & Grade f) Pre-slitted packed tapes from sub-vendors approved by BSES | a) 0.3 mm b) 118 gm / sq. m c) ≥ 12 mm in 1 min. d) Yes / No e) Pl. state f) Yes / No | | |
| 11C. | Cable Core identification a) By coloured strips over cores applied helically / longitudinally b) Manufacturer's name shall be permanently printed on the strips, at close intervals. | | | |
| 11D. | Copper Tape | | | |
| | i) Dimensions | a) Thickness : 0.06 +/- 5 % b) Width : 50 mm C) Overlap: 10% | Mm | |
| | ii) Fault current-carrying capacity of copper tape | Manufacturer's Standard (Calculation sheet shall be attached) | ... kA for ... sec. | |
| 11E. | Diameter over laid up core (apprx.) | | mm | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

| | | | | |
|------|--|---|---------------------------------|--|
| 12.0 | Filler (Material and type) | As per Cl. 3.1.8 (Specify no. & size of filler at center & core interstices) | | |
| | 11 kV, 3c x 300 sq. mm. | | | |
| | 11 kV, 3c x 150 sq. mm. | | | |
| | 11 kV, 1c x 1000 sq. mm. | | | |
| | 33 kV, 3c x 400 sq. mm. | | | |
| | 33 kV, 1c x 1000 sq. mm. | | | |
| 13.0 | Binder Tape | over laid-up cores | | |
| 14.0 | Inner Sheath | | | |
| A | Material and type | As per Cl. 3.1.10 | | |
| B | Minimum thickness | | | |
| | 11 kV, 3c x 300 sq. mm. | 0.7 | mm | |
| | 11 kV, 3c x 150 sq. mm. | 0.6 | mm | |
| | 11 kV, 1c x 1000 sq. mm. | 0.7 | mm | |
| | 33 kV, 3c x 400 sq. mm. | 0.7 | mm | |
| | 33 kV, 1c x 1000 sq. mm. | 0.7 | mm | |
| C | Approx. dia. over inner sheath | | mm | |
| 15.0 | Armour | as per purchaser's site-specific requirements | | |
| A | Material | | | |
| | 11 kV, 3C | Round Wire | No. | |
| | 33 kV, 3C | Round Wire | No. | |
| | 11kV or 33kV, 1C | Non-magnetic wire armour (Aluminium wire) | No. | |
| B | Armour – Wires a) Diameter of wire b) Number of wires(min.) c) SC calculation submitted | To meet S.C capacity as per following: For 11kV cable – 11kA for 1sec (min) For 33kV cable - 15kA for 1sec (min) | mm Number. Yes/No | |
| C | Approx. Equivalent Area | | sq. mm. | |

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| | | | | |
|------|--|--|------------------------|--|
| D | Area covered by armour | Min. 90 % Calculation shall be attached. | % | |
| E | Dia. over armour - apprx. | | mm | |
| F | Fault current carrying capacity of armour | Calculation sheet shall be attached. | 10 kA For 1 sec. | |
| 16.0 | Outer Sheath | | | |
| A | Material and type | PVC Compound , ST-2, as per IS 5831:1984 | | |
| B | Thickness (min.) | 3 | | |
| | 11 kV, 3c x 300 sq. mm. | | mm | |
| | 11kV, 3C x 150 sqmm | | mm | |
| | 11kV, 1C x 1000 sqmm | | mm | |
| | 33kV, 3C x 400 sqmm | | Mm | |
| | 33kV, 1C x 1000 sqmm | | Mm | |
| C | Color | Blue | | |
| D | Embossing (details as per Cl. 3.1.13) | Yes / No | | |
| E | FRLS Properties | As per customer's requirement | | |
| 17.0 | Approx. overall diameter | | Mm | |
| 18.0 | Standard drum length with tolerance | | | |
| | 11 kV, 3C x 300 sqmm | As per Clause 3.3 | meters | |
| | 11kV, 3C x 150 sqmm | | | |
| | 11kV, 1C x 1000sqmm | | | |
| | 33kV, 3C x 400 sqmm | | | |
| | 33kV, 1C x 1000sqmm | | | |
| 18A | Overall order tolerance | + / - 2 % for the total cable length for the entire order. | | |
| 19.0 | Cable Drum | | | |
| a. | Type of drum | Steel/Wooden (Specify the relevant IS / IEC followed for drum design) | | |
| b. | Markings on the drum (as per Cl. 3.4) | On both faces | | |
| 20.0 | Cross-Sectional Drawing | Is drawing submitted, showing every | | |

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| | | feature of constructions? (Yes / No) | | |
|------|--|---|------------------|--|
| 21.0 | a. Pulling-eye Assembly (provided at one running end) | Is manufacturer's / Sub-vendor's drawing submitted? (Yes / No) | | |
| | b. Sealing-end Cap (provided at the other end) | Is manufacturer's / Sub-Vendor's drawing submitted? (Yes / No) | | |
| 22.0 | Weights | | | |
| | a) Net weight of cable (apprx.) | | kg / km | |
| | b) Weight of empty drum | | Kg | |
| | c) Weight of Cable with drum | | kg | |
| 23.0 | Continuous current rating for standard I. S. condition laid Direct | | | |
| | a) In ground 30° C | | Amp | |
| | b) In duct 30° C | | Amp | |
| | c) In air 40° C | | Amp | |
| 24.0 | Electrical Parameters at Maximum Operating temperature: | | | |
| A | AC Resistance | | ohm / km | |
| B | Reactance at 50 c/s | | ohm / km | |
| C | Impedance | | ohm / km | |
| D | Zero sequence impedance | | ohm / km | |
| E | Positive sequence impedance | | ohm / km | |
| F | Negative sequence impedance | | ohm / km | |
| G | Capacitance | | micro-farad / km | |
| 25.0 | Recommended minimum bending radius | --- x O. D. | mm | |
| 26.0 | De-rating factor for following Ambient Temperatures : | Ground / Air | | |
| | a) At 30° C | | | |
| | b) At 35° C | | | |

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| | | | | |
|------|--|--|-------------|--|
| | c) At 40° C | | | |
| | d) At 45° C | | | |
| | e) At 50° C | | | |
| | | | | |
| 27.0 | Group factor for following numbers of cables laid : | Touching Trefoil | | |
| | a) 3 Nos. | | | |
| | b) 4 Nos. | | | |
| | c) 5 Nos. | | | |
| | d) 6 Nos. | | | |
| | | | | |
| 28.0 | Recommended pressure for laying cable using power winch | 30 N / mm ² | N / sq. mm. | |
| | | | | |
| 29.0 | Process of Cross-linking of Polyethylene | Dry Cure | | |
| | | | | |
| 30.0 | Type test (TTR - Type Test Report) | Is copy of latest valid TTR for respective sizes enclosed? (Yes / No) | | |
| | | | | |
| 31.0 | Quality Assurance Plan (QAP) | Is QAP Format (Annexure-E), duly signed and enclosed? (Yes / No) | | |
| | | | | |
| 32.0 | List of Sub-Vendors for construction items (Annexure-C) | Is this list enclosed for BSES approval? (Yes / No) | | |

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ANNEXURE – C : LIST OF SUB-VENDORS

| Sl. No. | Raw Materials | | Name of the Suppliers |
|---------|--|---|---|
| 1. | XLPE Compound | 1 | Dow Chemicals , U.S.A. |
| | | 2 | Borealis , Sweden |
| | | 3 | Hanwha , South Korea |
| 2. | Semi-Conducting Compound | 1 | Dow Chemicals, U.S.A. |
| | | 2 | Borealis , Sweden |
| | | 3 | Hanwha , South Korea |
| 3. | Conductor Water-Blocking tapes / yarn / powder | 1 | Lantor |
| | | 2 | Geca |
| | | 3 | Miracle |
| | | 4 | Scapa |
| | | 5 | Sneham International |
| 4. | Water-Swellable Tapes (Pre-slitted) | 1 | Lantor |
| | | 2 | Geca |
| | | 3 | Miracle |
| | | 4 | Scapa |
| | | 5 | Sneham International |
| 5. | Aluminium Rod | 1 | Bharat Aluminium Co. Ltd. (BALCO) |
| | | 2 | Hindustan Aluminium Co. Ltd. (HINDALCO) |
| | | 3 | National Aluminium Co. Ltd. (NALCO) |
| | | 4 | Vedanta (Sesa Sterlite) |
| 6. | PE Compound | 1 | Borealis |
| | | 2 | Shakun |
| | | 3 | Kalpana |

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ANNEXURE - D : SERVICE CONDITIONS
(Atmospheric / Soil conditions at Site)

| S No. | Parameter | BYPL Requirement | Bidder's Reply |
|-------|------------------------------------|------------------|----------------|
| 3.1 | Max Ambient Temperature | 50 deg C | |
| 3.2 | Max Daily average ambient temp | 40 deg C | |
| 3.3 | Min Ambient Temp | 0 deg C | |
| 3.4 | Maximum Humidity | 95% | |
| 3.5 | Minimum Humidity | 10% | |
| 3.6 | Maximum annual rainfall | 750 mm | |
| 3.7 | Average no of rainy days per annum | 60 | |
| 3.8 | Rainy months | June to Oct | |
| 3.9 | Altitude above MSL | 300 M | |
| 3.10 | Seismic Zone | IV | |

ANNEXURE – E : QUALITY ASSURANCE PLAN (QAP)

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ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)

FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|----------------|---|--------------------------------|-------|------------|---------|-----------|---------------------|---------------------|--------|-----|------|--------|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| A RAW MATERIAL | | | | | | | | | | | | |
| 1 | Aluminium/ Copper Rod | a) Tensile strength | Major | Physical | Sample | Mps | MPS | Reg./Sheet | P | P/V | V | |
| | | b) Resistivity | Major | Electrical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | c) Diameter | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | d) Chemical composition | Major | Chemical | Sample | MPS | MPS | Test certificate | P | V | V | |
| | | e) Surface finish | Major | Visual | Sample | | | - | P | P | _ | |
| 2 | PVC Compound | a) Tensile Strength | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | b) Elongation at break | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | c) Thermal stability | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| 3 | TR-XLPE Compound (Borealis/Dow chemical/ Hanwa) | a) Packing | Minor | Visual | 100% | MPS | MPS | - | P | V | - | |
| | | b) Tensile Strength | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | c) Elongation at break | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | d) Hot set test | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | e) Volume Resistivity | Major | Electrical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | f) Cure Curve (Max. Torque) | Major | Physical | Sample | MPS | MPS | Reg./Sheet | - | P | V | |
| | | g) Density | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| 4 | Semi-conducting Compound (Borealis/Dow chemical/ Hanwa) | a) Packing | Minor | Visual | 100% | MPS | MPS | - | P | V | - | |
| | | b) Volume Resistivity | Major | Electrical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | c) Tensile Strength | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | d) Elongation at break | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | e) Cure Curve (Max. Torque) | Major | Physical | Sample | MPS | MPS | Reg./Sheet | - | P | V | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)

FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|---|-----------------------------------|-------|------------|---------|-----------|---------------------|------------------|--------|-----|------|--------|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | f) Density | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| 5 | Copper tape | a) Thickness & width | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | b) Tensile Strength | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | c) Elongation at break | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | d) Resistivity | Major | Electrical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| 6. | Armour wires/strips (Galvanised steel) | a) Dimensions | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | b) Surface condition/finish | Major | Visual | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | c) Tensile Strength | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | d) Elongation at break | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | e) Torsion test for round wire | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | f) Wrapping test | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | g) Mass of zinc coating | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | h) Uniformity of zinc coating | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | i) Adhesion test | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | j) Resistivity test | Major | Electrical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| 7 | Water Swellable tape | a) Dimensions | Minor | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | b) Swelling height | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| | | c) Resistivity | Major | Electrical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)

FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|----------------------------|--------------------------|--------------------------------|-------|----------|-------------------|--|---------------------|------------------|--------|-----|------|--------|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | d) Weight | Major | Physical | Sample | MPS | MPS | Reg./Sheet | P | P/V | V | |
| 8 | Steel Drum | a) Dimension | Major | Meas. | 1 sample per size | IS 10418 / Purchase order | | - | P | P | - | |
| | | b) Finish & workman ship | Minor | Visual | 1 sample per size | Compliance to standard Engineering norms & free from surface defects | | - | P | P | - | |
| 9 | Cable Pulling eye | a) Dimensions & Material | Major | Meas. | 1 sample per size | Purchase order | Purchase order | - | P | P | - | |
| | | b) Finish & workman ship | Minor | Visual | 1 sample per size | Compliance to standard Engineering norms & free from surface defects | | - | P | P | - | |
| | | c) Tension test on pulling eye | Major | Physical | 1 sample per size | Pulling eye subjected to load | | - | P | P | - | |
| 10 | Binder tape | a) Dimensions & material | Minor | Physical | Sample | MPS | MPS | - | P | P | - | |
| 11 | Polypropylene filler | a) Size | Minor | Physical | Sample | Purchase order | Purchase order | - | P | P | - | |
| 12 | Heat shrinkable end cap | a) Bore diameter | Major | Physical | 1 sample per size | -- | -- | - | - | P | - | |
| | | b) Length of end cap | Minor | Physical | 1 sample per size | -- | -- | - | - | P | - | |
| B PROCESS INSPECTION | | | | | | | | | | | | |
| 1 | Wire Drawing | a) Diameter | Major | Physical | Sample | | | Reg./Sheet | - | P | V | |
| | | b) Surface finish | Major | Visual | 100 % | Smooth & free | | -- | - | P | - | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)

FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|--|--|-------|----------|--|---|--|------------------|--------|-----|------|--|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | | | | | from defects | | | | | | |
| | | c) Tensile test (for Al) | Major | Physical | Sample | IS: 8130/84 | IS: 8130/84 | Reg./Shee t | - | P | V | |
| | | d) Elongation test (for Cu) | Major | Physical | Sample | IS: 8130/84 | IS: 8130/84 | Reg./Shee t | - | - | V | |
| | | e) Wrapping test (for Al) | Major | Physical | Sample | IS: 8130/84 | IS: 8130/84 | Reg./Shee t | - | P | V | |
| 2 | Stranding | a) No. of wires/strands | Major | Physical | At the time of m/c setting | | | Reg./Shee t | - | P | V | |
| | | b) Lay length & Lay direction | Major | Physical | -do- | | | - | - | P | V | |
| | | c) Dia of conductor | Major | Physical | During setting & once in each shift | | | Reg./Shee t | - | P | V | |
| | | d) Surface finish | Major | Visual | 100 % | No surface defects and free from sharp edges, scratches, grease, oil etc. | | - | - | P | - | |
| 3 | Core extrusion (Conductor screen, Insulation & insulation screen) | a) Compound Make/Grade | Major | Visual | During m/c setting | | | - | - | P | - | Insulatio n screen shall be freely strippabl e, without applicatio |
| | | b) Thickness of insulation & extruded S.C. layers | Major | Physical | During m/c setting after stabilisation | Tech. Data Sheet / IS 7098/II/2 011 | Tech. Data Sheet / IS 7098/II/2011 | Reg./Shee t | - | P | V | |
| | | c) Surface finish | Minor | Visual | 100 % | Smooth & free from defects | | - | - | P | - | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)

FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|--------------------------------|--|-------|----------|--------------|----------------------------------|---------------------|------------------|--------|-----|------|------------|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | d) Printing on outer semi-conducting layer | Major | Visual | 100 % | “DO NOT HEAT, FREELY STRIPPABLE” | | - | - | P | - | n of heat. |
| | | e) Tensile Strength | Major | Physical | Sample | IS 7098/II/2011 | IS 7098/II/2011 | Reg./Sheet | - | P | V | |
| | | f) Elongation at break | Major | Physical | Sample | IS 7098/II/2011 | IS 7098/II/2011 | Reg./Sheet | - | P | V | |
| | | g) Hot set test | Major | Physical | Sample | IS 7098/II/2011 | IS 7098/II/2011 | Reg./Sheet | - | P | V | |
| | | g1) Ovality of core | Minor | Physical | Sample | Tech. Data Sheet | Tech. Data Sheet | Reg./Sheet | - | P | V | |
| | | h) Eccentricity of insulation | Minor | Physical | Sample | Tech. Data Sheet | Tech. Data Sheet | Reg./Sheet | - | P | V | |
| | | i) Core diameter | Minor | Physical | Sample | Tech. Data Sheet | Tech. Data Sheet | Reg./Sheet | - | P | V | |
| | | j) Void & contamination test for insulation (Silicon Oil test) | Major | Physical | Sample | | | - | - | P | V | |
| | | k) Wafer boil test for extruded semi-conducting layers | Major | Physical | 1 sample/lot | BIS draft Specn | BIS draft Specn | Reg./Sheet | - | P | V | |
| 4 | Taping - water Swellable semi- | a) Dimensions | Minor | Physical | Sample | Tech. Data | Tech. Data Sheet | - | - | P | - | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE
ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)
FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|--------------------------|---|-------|----------|--------------------|---------------------------|---------------------------|------------------|--------|-----|------|--|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | conducting | | | | | Sheet | | | | | | |
| | | b) Tape Application (Overlap) | Minor | Visual | During m/c setting | Suitable overlap | Suitable overlap | - | - | P | - | |
| 5 | Taping - Copper tape | a) Width & Thickness of tape | Major | Physical | During m/c setting | Tech. Data Sheet | Tech. Data Sheet | Reg./Sheet | - | P | V | |
| | | b) Number of tapes | Major | Visual | During m/c setting | Tech. Data Sheet | Tech. Data Sheet | Reg./Sheet | - | P | V | |
| | | c) Tape application (Overlap) | Minor | Visual | During m/c setting | Tech. Data Sheet | Tech. Data Sheet | - | - | P | - | |
| 6 | Laying up | a) Identification of cores | Major | Visual | During m/c setting | Tech. Data Sheet | Tech. Data Sheet | - | - | P | - | Cores shall be laidup with PP fillers & suitable tape binder shall be provided over laid up assembly |
| | | b) Direction of lay, core Sequence & Lay length | Major | Visual | During m/c setting | IS 7098/II/2011, PIL-W-02 | IS 7098/II/2011, PIL-W-02 | - | - | P | - | |
| | | c) Application of binder tape | Minor | Visual | During m/c setting | Tech. Data Sheet | | - | - | P | - | |
| | | d) Shape of laid up assembly | Minor | Visual | 100% | Reasonably circular | Reasonably circular | - | - | P | - | |
| 7 | Inner sheath | a) Material & type | Major | Visual | During m/c setting | Tech. Data | Tech. Data Sheet | - | - | P | - | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)

FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|--------------------------|-------------------------------------|-------|----------|----------------------------------|---|-----------------------------------|------------------|--------|-----|------|--|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | | | | | Sheet | | | | | | |
| | | b) Thickness | Major | Physical | During m/c setting & drum change | Tech. Data Sheet & IS 7098/II/2011 | ech. Data Sheet & IS 7098/II/2011 | Reg./Sheet | - | P | V | |
| | | c) Surface finish | Minor | Visual | 100 % | Surface shall be smooth & free from defects | | - | - | P | - | |
| | | d) Colour of inner sheath | Major | Visual | 100 % | Tech. Data Sheet | Tech. Data Sheet | - | - | P | - | |
| 8 | Armouring | a) Dimension of armour wires/strips | Major | Physical | During m/c setting | Tech. Data Sheet | Tech. Data Sheet | Reg./Sheet | - | P | V | No negative tol. on strip thickness /wire diameter |
| | | b) No. of armour strip/wire | Major | Counting | During m/c setting | Tech. Data Sheet | Tech. Data Sheet | Reg./Sheet | - | P | V | |
| | | c) Armour coverage | Minor | Visual | During m/c setting | IS 7098/II/2011 | IS 7098/II/2011 | - | - | P | - | |
| | | d) Direction of lay | Major | Visual | During m/c setting | IS 7098/II/2011 | IS 7098/II/2011 | - | - | P | - | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)

FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|-----------------------|--------------------------|--------------------------------------|----------|------------|--------------------|--|---------------------|------------------|--------|-----|------|--------|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | e) Lay length/Gear setting | Minor | Visual | During m/c setting | | | - | - | P | - | |
| | | f) Surface finish | Major | Visual | 100 % | No cross over/over riding of wire/strip | | - | - | P | | |
| 9 | Outer sheath/Rewinding | a) Material & type | Major | Visual | During m/c setting | Tech. Data Sheet | Tech. Data Sheet | - | - | P | - | |
| | | b) Anti rodent & termite additives | Major | Visual | Each loading | | | Reg./Sheet | - | P | V | |
| | | b) Thickness | Major | Physical | Each length | Tech. Data Sheet | Tech. Data Sheet | Reg./Sheet | - | P | V | |
| | | c) Overall diameter | Major | Physical | Each length | Tech. Data Sheet | Tech. Data Sheet | Reg./Sheet | - | P | V | |
| | | d) Surface finish & colour of sheath | Major | Visual | 100 % | Surface smooth & free from defects. Colour as per Tech. Data Sheet | | - | - | P | - | |
| | | e) Cable length verification | Major | Visual | Each length | Manufacturing Plan | Manufacturing Plan | - | - | P | - | |
| | | f) Marking | Major | Visual | Each length | As per approved GTP/cross sectiona drawing | | Reg./Sheet | - | P | V | |
| C FINAL INSPECTION | | | | | | | | | | | | |
| 1 | Routine tests | a) High Voltage | Critical | Electrical | 100 % | IS 7098/II/2 | IS 7098/II/2011 | Test Report | - | P | V | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE
ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)
FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|--------------------------|---|----------|------------|--------------------|------------------|---------------------|------------------|--------|-----|------|---|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | b) Conductor Resistance | Critical | Electrical | 100 % | IS 8130/84 | IS 8130/84 | Test Report | - | P | V | |
| | | c) Partial Discharge | Critical | Electrical | 100 % | IS 7098/II/2011 | IS 7098/II/2011 | Test Report | - | P | V | |
| | | d) Impulse | Critical | Electrical | One sample per lot | | | Test Report | | P | V | |
| | | e) Armour Coverage | Critical | Physical | One sample per lot | | | Test Report | | P | V | |
| | | f) Physical Dimensions | Critical | Physical | One sample per lot | | | Test Report | | P | V | |
| | | g) Freely Strippable insulation screen (Strippability Test) | Major | Physical | One sample per lot | Factory Standard | Factory Standard | Test Report | - | P | V | |
| 2 | Stage Inspection | Wire Drawing | Major | Visual | 100 % | Tech. Data Sheet | IS/IEC | Test Report | - | P | W | Stage Inspection shall be conducted subject to BYPL requirement |
| | | Extrusion process | Major | Visual | 100 % | Tech. Data Sheet | IS/IEC | Test Report | - | P | W | |
| | | Raw material inspection at factory | Major | Physical | 100 % | Tech. Data Sheet | IS/IEC | Test Report | - | P | W | |
| | | Wrapping of Aluminium | Major | Physical | 100 % | Tech. Data Sheet | IS/IEC | Test Report | - | P | W | |
| | | Tensile test for Aluminium | Major | Physical | 100 % | Tech. Data | IS/IEC | Test Report | - | P | W | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE
ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)
FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|--------------------------|--|----------|------------|--|------------------------------------|------------------------------------|------------------|--------|-----|------|----------------------------------|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | | | | | Sheet | | | | | | |
| 3 | Acceptance tests | a) Annealing test for copper | Major | Physical | Appendix A to IS 7098/II/2011, each lot sample basis | IS 8130/84 | IS 8130/84 | - | - | P | V | Verification of process records. |
| | | b) Tensile test for aluminium | Major | Physical | | IS 8130/84 | IS 8130/84 | - | - | P | V | |
| | | c) Wrapping test for aluminium | Major | Physical | | IS 8130/84 | IS 8130/84 | - | - | P | V | Tests N/A on finished conductor. |
| | | d) Conductor resistance test | Major | Electrical | Appendix A to IS 7098/II/2011, each lot sample basis | IS 8130/84 | IS 8130/84 | Test Report | - | P | W | |
| | | e) Test for thickness of insulation & sheath | Major | Physical | | IS 7098/II/2011 & Tech. Data sheet | IS 7098/II/2011 & Tech. Data sheet | Test Report | - | P | W | |
| | | f) Hot set test for insulation | Major | Physical | | IS 7098/II/2011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | g) Tensile strength & Elongation at break of insulation & outer sheath | Major | Physical | | IS 7098/II/2011 & IS 5831/84 | IS 7098/II/2011 & IS 5831/84 | Test Report | - | P | W | |
| | | h) Partial discharge test | Critical | Electrical | | IS 7098/II/2011 | IS 7098/II/2011 | Test Report | - | P | W | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE
ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)
FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|--------------------------|---|----------|------------|--------------------------|---|---------------------|------------------|--------|-----|------|--------|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | | | | | 011 | | | | | | |
| | | i) High voltage test | Critical | Electrical | | IS 7098/II/2011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | j) Insulation resistance (Volume resistivity) test | Major | Electrical | | IS 7098/II/2011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | k) Tests for dimension of armour wires/strips | Major | Physical | Each Lot Sample Basis | IS 3975, IS 10810 Pt. 36 & Tech. Data sheet | | Test Report | - | P | W | |
| | | l) Test for anti termite & anti rodent property of outer sheath | Major | Physical | | Tech. Data Sheet | Tech. Data Sheet | Reg./Sheet | - | P | W | |
| | | m) Rewinding of cable on drum | Major | Visual | | To check cable appearance, drum appearance, cable winding, packing, embossing/printing/sequential marking | | Reg./Sheet | - | P | W | |
| | | n) Void & contamination test for insulation (Silicon Oil test) | Major | Physical | | | | Reg./Sheet | - | P | W | |
| | | o) Wafer boil test for extruded semi-conducting layers | Major | Physical | | | | Reg./Sheet | - | P | W | |
| | | p) Freely Strippable insulation screen | Major | Physical | | Factory Standard | Factory Standard | Test Report | - | P | W | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE
ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)
FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|--------------------------|---|-------|------------|---------|------------------------|------------------------|------------------|--------|-----|------|---|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | q) Water Penetration test (WPT) on core (i.e. Logitudinal Water Blocking Test) [One sample per RC] | Major | Physical | | IEC:60502 | IEC:60502 | Test Report | - | P | W | Test shall be conducted for leakage of water through conductor. |
| | | r) Armour coverage | Major | Physical | | As per data sheet & FS | As per data sheet & FS | Test Report | - | P | W | |
| | | s) Ovality | Major | Physical | | As per data sheet | As per data sheet | Test Report | - | P | W | |
| | | t) Eccentricity | Major | Physical | | As per data sheet | As per data sheet | Test Report | - | P | W | |
| | | u) Mass & uniformity & zinc coating on armour | Major | Physical | | As per data sheet & FS | As per data sheet & FS | Test Report | - | P | W | |
| | | v) Resistivity of Strip armour | Major | Electrical | | As per data sheet & FS | As per data sheet & FS | Test Report | - | P | W | |
| | | w) Swelling height of water swellable tape | Major | Physical | | As per data | As per data sheet & FS | Test Report | - | P | W | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)

FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|---------------------------------|---|----------|------------|------------------------------|---------------------------------|---------------------------------|------------------|--------|-----|------|-----------------------------------|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | | | | | sheet & FS | | | | | | |
| | | x) Cable pulling eye strength test on one sample [One sample per RC] | Major | Physical | | As per data sheet & FS | As per data sheet & FS | Test Report | - | P | W | |
| | | y) Flammability test | Major | Physical | | As per IS- 78098/II/ 2011 | As per IS- 78098/II/201 1 | Test Report | - | P | W | |
| | | z) Impulse withstand test [One sample per RC] | Critical | Electrical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | z1) Ageing & Water absorption test (Gravimetric) on Insulation & Outer sheath [One sample per RC] | Major | Physical | | IS 5831/84 | IS 5831/84 | Test Report | - | P | W | |
| | | z2) Heating Cycle with Potential [One sample per RC] | Critical | Electrical | sample basis, once per PO | | | Test Report | - | P | W | |
| | | z3) Raw Material Verification in all aspects | Major | Physical | Each Lot | | | | | P | W | |
| 4 | Type tests at vendor's works | a) Tests on conductor | | | | | | | | | | |
| | | i) Annealing test for copper | Major | Physical | One sample per order | IS 8130/84 | IS 8130/84 | - | - | P | V | Verificati on of process |
| | | ii) Tensile test for aluminium | Major | Physical | | IS 8130/84 | IS 8130/84 | - | - | P | V | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)

FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|--------------------------|--|-------|------------|---------|---|------------------------------------|------------------|--------|-----|------|---|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | iii) Wrapping test for aluminium | Major | Physical | | IS 8130/84 | IS 8130/84 | - | - | P | V | records. Tests N/A on finished conductor. |
| | | iv) Conductor resistance test | Major | Electrical | | IS 8130/84 | IS 8130/84 | Test Report | - | P | V | |
| | | b) Tests for armouring wires/strips | | | | | | | | | | |
| | | i) Dimensions of wire/strip | Major | Physical | | IS 3975, IS 10810 Pt. 36 & Tech. Data sheet | | Test Report | - | P | W | |
| | | ii) Tensile strength & Elongation at break | Major | Physical | | IS 3975 | IS 3975 | Test Report | - | P | W | Only for Steel wires/strips |
| | | iii) Torsion test for wire | Major | Physical | | IS 3975 | IS 3975 | Test Report | - | P | W | |
| | | iv) Winding test for strip | Major | Physical | | IS 3975 | IS 3975 | Test Report | - | P | W | |
| | | v) Uniformity of zinc coating | Major | Chemical | | IS 3975 | IS 3975 | Test Report | - | P | W | |
| | | vi) Mass of zinc coating | Major | Chemical | | IS 3975 | IS 3975 | Test Report | - | P | W | |
| | | vii) Resistivity of wire/strip | Major | Electrical | | IS 3975 | IS 3975 | Test Report | - | P | W | |
| | | c) Test for thickness of insulation & sheath | Major | Physical | | IS 7098/II/2011 & Tech. | IS 7098/II/2011 & Tech. Data sheet | Test Report | - | P | W | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE

ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)

FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|--------------------------|--|-------|----------|---------|------------------|---------------------|------------------|--------|-----|------|--------|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | | | | | Data sheet | | | | | | |
| | | d) Physical tests for insulation | | | | | | | | | W | |
| | | i) Tensile strength & Elongation test | Major | Physical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | ii) Ageing in air oven | Major | Physical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | iii) Hot set test | Major | Physical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | iv) Shrinkage test | Major | Physical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | v) Water absorption (gravimetric) | Major | Physical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | e) Physical tests for outer sheath | | | | | | | | | W | |
| | | i) Tensile strength & Elongation test at break | Major | Physical | | IS 5831/84 | IS 5831/84 | Test Report | - | P | W | |
| | | ii) Ageing in air oven | Major | Physical | | IS 5831/84 | IS 5831/84 | Test Report | - | P | W | |
| | | iii) Shrinkage test | Major | Physical | | IS 5831/84 | IS 5831/84 | Test Report | - | P | W | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE
ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)
FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|--------|--------------------------|---|----------|------------|---------|-----------------|---------------------|------------------|--------|-----|------|--------|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | iv) Hot deformation test | Major | Physical | | IS 5831/84 | IS 5831/84 | Test Report | - | P | W | |
| | | v) Loss of mass in air oven | Major | Physical | | IS 5831/84 | IS 5831/84 | Test Report | - | P | W | |
| | | v) Heat shock test | Major | Physical | | IS 5831/84 | IS 5831/84 | Test Report | - | P | W | |
| | | vi) Thermal stability test | Major | Physical | | IS 5831/84 | IS 5831/84 | Test Report | - | P | W | |
| | | f) Electrical tests in sequence | | | | | | | | | W | |
| | | i) Partial discharge test | Critical | Electrical | | IS 7098/II/2011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | ii) Bending test | Major | Physical | | IS 7098/II/2011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | iii) Partial discharge test | Critical | Electrical | | IS 7098/II/2011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | iv) Dielectric power factor as a function of voltage | Major | Electrical | | IS 7098/II/2011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | v) Dielectric power factor as a function of temperature | Major | Electrical | | IS 7098/II/2011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | vi) Heating cycle test | Major | Electrical | | IS 7098/II/2011 | IS 7098/II/2011 | Test Report | - | P | W | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE
ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)
FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|---------------------|--------------------------|---|----------|------------|---------|-------------------------------|-----------------------------|------------------|--------|-----|------|--|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | vii) Dielectric power factor as a function of voltage | Major | Electrical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | viii) Partial discharge test | Critical | Electrical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | ix) Impulse withstand test | Critical | Electrical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | x) High voltage test | Critical | Electrical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | g) Insulation resistance (Volume resistivity test) | Major | Electrical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| | | h) Flammability test | Major | Physical | | IS 7098/II/2 011 | IS 7098/II/2011 | Test Report | - | P | W | |
| D PACKING & MARKING | | | | | | | | | | | | |
| 1 | Packing & Marking | a) Cable end sealing | Major | Visual | 100 % | IS 7098/II/2 011/ Agreement t | IS 7098/II/2011 / Agreement | - | - | P | W/V | BSES representative may verify these characteristics on randomly |
| | | b) Pulling eye at leading end | Major | Visual | 100 % | As per agreement t | As per agreement | - | - | P | W/V | |

TECHNICAL SPECIFICATION OF 11 KV & 33 KV CABLE
ANNEXURE – E QUALITY ASSURANCE PLAN (QAP)
FOR 11KV & 33KV HT CABLE

| S N | Component & Operation | Characteristic | Class | Check | | Reference | Acceptance Norms | Record Format | Agency | | | Remark |
|-------------|--------------------------|--|-------|--------|---------|--------------------------------|--------------------------------|------------------|--------|-----|------|-----------------|
| | | | | Type | Quantum | | | | SV | MFR | BYPL | |
| | | b) Stencilling/Marking on drum | Minor | Visual | 100 % | IS 7098(Part 2):2011/Agreement | IS 7098(Part 2):2011/Agreement | - | - | P | V | selected drums. |
| Note | | <p>1. Checks specified above for Raw Material, In-Process and Final Inspection shall be as relevant to the specific cable construction.</p> <p>2. Number of samples shall be selected as per Factory Standard/Agreement wherever 'sample' is indicated for extent of check.</p> <p>3. Plant standards shall be followed in case Technical Data Sheet does not include requirements for characteristics to be checked.</p> <p>4. BYPL may witness Raw material and in process inspection in addition to Routine/Acceptance tests at any time/stage of manufacturing.</p> <p>5. BYPL's Inspector may randomly select a cable drum for type testing at vendor's works.</p> <p>6. For each of the offered lot for inspection, BYPL may randomly select one cable drum for testing of end cap "Destructive testing" to verify adhesion of sealing cap to cable outer sheath. Similarly, pulling eye shall be tested with 30N/mm² pressure.</p> <p>7. All factory Type Tests shall be Witnessed by BYPL</p> <p>Legend: SV – Sub-vendor of cable manufacturer, MFR – Cable manufacturer, BYPL – BSES Yamuna Power Limited, PS – Purchaser specification of cable vendor, P – Perform, V – Verify, W – Witness, RC – Rate Contract</p> | | | | | | | | | | |

**TECHNICAL SPECIFICATION
FOR
11kV HTAB Cable**

Specification No. : SP-HTAB-179-R0

| Rev 0 | Date 03 March 2021 | No. of Page 15 |
|-------------|--------------------|---|
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TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

1.0 SCOPE

| | | |
|-----|----------------------|--|
| 1.1 | Scope | Design, manufacturing, testing at manufacturer's works, packing, transportation and delivery at site and submission of complete documentation for 11KV grade AB Cable as per following configurations. |
| | a. Three core cable | 3CX150 sq mm (phase) + 150 sq mm (messenger) |
| | b. Single core cable | 1CX95 sq mm (phase) + 95 sq mm (messenger) |

2.0 CODES & STANDARDS

Materials and methods used in the manufacture of 11kv AB cable shall conform to the latest edition of all applicable parts of following codes & standards including amendments

Indian Standards:-

| | |
|------------------------|---|
| | Indian electricity act & Indian Electricity Rules |
| IS:8130 -1984 | Conductors for Insulated electric Cables and flexible chords. |
| IS-398 (Part-IV) -1994 | Aluminum Alloy Conductors |
| IS-14255-1995 | Aerial Bunched Cables for working voltages up to and including 1100 Volts- specification |
| IS 5831-1984 | PVC insulation and sheath of electric cable |
| IS 7098-2-1985 | Cross linked Polyethylene insulated PVC sheathed cables |
| IS 10810-1984 | Method of test for cable |
| IS-10418-1982 | Specification for Drums for Electric Cables |
| IS-3975-1999 | Mild steel wires strips and tapes for armoring cables. |
| IS-10462 Part1 | Fictitious calculation for determination of dimensions of protective coverings of cables. |

International Standards: -

| | |
|-------------------------|---|
| IEC 60228 | Conductor for insulation cable. |
| IEC 60811 | Common test method for insulating and sheathing materials of electric cable and optical cable |
| IEC 60502-2 | Extruded solid electrical insulated power cables for rated voltages from 1 KV to 30 KV |
| IEC 60811 , Part 1 to 5 | Common test methods for insulating and sheathing materials of electric cable. |
| IEC 855, Part 1 to 3 | Electric test method for electric cable. |
| NFC: 33-209 | Bundle assemble cores for overhead system |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

3.0 SERVICE CONDITIONS

| S No. | Parameter | BYPL Requirement | Bidder's Reply |
|-------|------------------------------------|------------------|----------------|
| 3.1 | Max Ambient Temperature | 50 deg C | |
| 3.2 | Max Daily average ambient temp | 40 deg C | |
| 3.3 | Min Ambient Temp | 0 deg C | |
| 3.4 | Maximum Humidity | 95% | |
| 3.5 | Minimum Humidity | 10% | |
| 3.6 | Maximum annual rainfall | 750 mm | |
| 3.7 | Average no of rainy days per annum | 60 | |
| 3.8 | Rainy months | June to Oct | |
| 3.9 | Altitude above MSL | 300 M | |
| 3.10 | Seismic Zone | IV | |

4.0 CABLE DESIGN FEATURES

| S No. | Particular | Requirement |
|---------|--------------------------------|---|
| 4.1 | Conductor | |
| 4.1.1 | Type | Electrolytic grade stranded aluminum conductor. |
| 4.1.2 | Grade | H4 as per IS:8130 / 1984 |
| 4.1.3 | Flexibility class | Class -2 |
| 4.1.4 | Shape of conductor | Compacted circular |
| 4.2 | Conductor screen | |
| 4.2.1 | Type of material | Extruded semi conducting material suitable for continuous operating conductor temperature of 90 deg.C |
| 4.2.2 | Minimum thickness | Refer to Annexure – A. |
| 4.2.3 | Make of compound | Dow / Borelais / Hanwha |
| 4.3 | Insulation | |
| 4.3.1 | Type | a. Extruded XLPE (Cross-Linked Poly-Ethylene) insulation b. Uniform thickness of insulation shall be within the permissible values as per IEC standards; eccentricity check shall be carried out to ensure this. |
| 4.3.2 | Nominal and minimum thickness | Refer to Annexure – A |
| 4.3.3 | Make of compound | Dow / Borelais / Hanwha |
| 4.4 | Insulation Screen | |
| 4.4.1 | Non Metallic Insulation screen | |
| 4.4.1.1 | Type | a. Extruded freely strippable semi conducting material which should not require application of heat for it's removal |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

| S No. | Particular | Requirement |
|---------|------------------------------|--|
| | | b. Text “Do not Heat - Freely Strippable” to be printed on insulation screen (at every 600 mm interval). |
| 4.4.1.2 | Minimum thickness | Refer to Annexure – A |
| 4.4.1.3 | Make of compound | Dow / Borelais / Hanwha |
| 4.4.2 | Bedding Tape | Semi conducting bedding tape shall be applied over nonmetallic insulation screen. |
| 4.4.2.1 | Minimum thickness | Refer to Annexure –A |
| 4.4.3 | Metallic insulation screen | |
| 4.4.3.1 | Type | Aluminum wire with minimum 90% coverage, helically applied over bedding tape. |
| 4.4.3.2 | Minimum thickness | <p>Metallic screen of individual core should be suitable to carry the following minimum amount of fault current:</p> <p>a. For single phase HTAB – 8 kA for 1 sec</p> <p>b. For three phase HTAB – 10 kA for 1 sec</p> <p>Diameter of armour wire: For 1Cx95 sq mm & 3Cx150 sq mm cable – 2.3 +/- 0.1 mm</p> <p>Calculation fulfilling short circuit requirement shall be submitted by bidder.</p> |
| 4.4.3.3 | Rubberized Cotton Tape | Rubberized cotton tape with min. thickness of 0.15 mm shall be provided over metallic screen. |
| 4.5 | Outer sheath | |
| 4.5.1 | Type | Extruded outer sheath of polyethylene (PE), Grade – ST-7 to IEC: 60502-2 |
| 4.5.2 | Colour of sheath | Black |
| 4.5.3 | Thickness | As per Annexure-A |
| 4.5.4 | Immunity against UV exposure | Outer sheath shall be suitable for overhead application and shall be immune to UV exposure. |
| 4.5.5 | Carbon black content | 2.5% +/-0.5% |
| 4.5.6 | Embossing on outer sheath | <p>Outer sheath shall have following embossing.</p> <p>a. The voltage designation</p> |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

| S No. | Particular | Requirement |
|-------|------------------------------------|--|
| | | b. Type of construction, number and size of phase, and messenger conductor c. Type of insulation and outer sheath, i.e XLPE / PE ST 7 d. Manufacturer name / Trade name e. Name of buyer f. Month and year of manufacture g. Lot no and batch no. h. Purchase Order Number and Date i. Individual Drum number shall either be embossed or indelibly printed on outer sheath of HTAB cable |
| 4.6 | Messenger conductor | |
| 4.6.1 | Type | a. Aluminum alloy (Al + Mg + Si) stranded conductor confirming to IS: 398, Part-IV. Wires shall be heat treated to get desired mechanical & electrical properties. b. Extruded outer sheath of PE Grade – ST 7 with carbon black content 2.5% +/- 0.5 % c. Colour of outer sheath on messenger shall be Black with thickness as per Annexure-A. |
| 4.6.2 | Shape | Smooth round surface to avoid damage of outer sheath. |
| 4.6.3 | Capacity | Messenger conductor should carry the weight of aerial bunched cables under specific site condition. |
| 4.6.4 | Minimum breaking load of messenger | Refer to Annexure – A. |
| 4.7.0 | Sealing of cable end | Both end of each phase core shall be sealed by means of non-hygroscopic sealing materials so as to protect the cable from outside moisture during transit, storage and laying. |
| 4.8 | Cable manufacturing process | |
| 4.8.1 | Curing process of XLPE | Dry cure only |
| 4.8.2 | Extrusion | Conductor screen, insulation and insulation screen shall be extruded simultaneously, in a single one time |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

| S No. | Particular | Requirement |
|--------|------------------------------------|--|
| | | process (i.e. as a triple-head extrusion) to ensure homogeneity of layers over the conductor, and absence of voids. |
| 4.8.3 | Laying up | Phase cores twisted around the messenger |
| 4.8.4 | Assembly lay length | Maximum 40 times of sheath phase core diameter. |
| 4.8.5 | Core identification | By Red, Yellow Blue colored strips co-extruded in outer sheath as a single layer. Width of colored strip – 3 to 5 mm Depth of colored strip – 0.2 mm (max) |
| 4.9.0 | Standard drum length and tolerance | |
| 4.9.1 | 3CX150 sqmm (Ph.) + 150sqmm (M) | 500 meters +/- 5% |
| 4.9.2 | 1X95 sqmm (Ph) + 95 sqmm (M) | 1000 meters +/- 5% |
| 4.10.0 | Short length of cable | a. Manufacturer shall be required to take prior approval from CES BYPL for processing of any short length. b. For 150 sqmm and 95 sqmm cable minimum acceptable short length shall be 300 meters & 500 respectively. Only one short length per lot is acceptable. |

5.0 PACKING, SHIPPING, HANDLING AND STORAGE

| S No. | Particular | Requirement |
|-------|-----------------------------|---|
| 5.1 | Drum Identification labels. | a. Drum identification number b. cable voltage grade c. cable construction d. Number of core and cross sectional area. e. Cable quantity f. Purchase order number with date and SAP item code g. Total weight of cable and drum h. Manufacturer's and buyer's name i. Month and year of manufacturing j. Direction of rotation of drum |
| 5.2 | Shipping information | The seller shall give complete shipping information concerning the weight, size of each packing. |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

| S No. | Particular | Requirement |
|-------|--|--|
| 5.3 | Transit damage | The seller shall be responsible for any transit damage due to improper packing. |
| 5.4 | Type of drum | a. Steel / wooden drums (wooden drums shall have M.S spindle plate with nut-bolts as per relevant IEC/IS, b. The drum shall be of such construction as to assure delivery of cable at site free from displacement and damage and should be able to withstand all stresses during handling in transit and laying. The cable drum shall be suitable for wheel mounting. |
| 5.4.1 | For wooden drum | a. All wood component of drum shall be properly seasoned, sound and free from any defect. Wood preservative treatment shall be applied. b. Bolts screws, nails etc if used in the construction of drums shall be counter sunk, so that heads are below the surface or the flange. |
| 5.4.2 | For steel drum / ferrous part of wooden drum | Ferrous metal shall be treated with suitable rust preventive finish or coating to minimize rusting during storage. |

6.0 QUALITY ASSURANCE PLAN, INSPECTION AND TESTING

| S No. | Particular | Requirements |
|-------|------------------------|--|
| 6.1 | Quality Assurance Plan | QAP Shall be submitted by vendor for approval. Inspection and testing of the material shall be carried out accordingly. |
| 6.2 | Type test | a. Cables must be of type tested as per relevant IS/IEC/ASTM. Type test conducted from CPRI or ERDA will be treated as valid. b. Type test reports shall be submitted for the type, size & rating of cable offered along with bid. c. UV resistance test to be carried out on one sample per PO from NABL accredited laboratory as per ASTM standard. Minimum retention in properties of tensile strength and elongation shall be 80% after exposure of 21 day. d. For UV exposure test; If the manufacturer's lab is accredited by govt. /authorized body then it shall be acceptable for testing. |
| 6.3 | Routine test | Each drum length of cable shall be subjected to the tests as mentioned in IS 7098 part -2 |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

| S No. | Particular | Requirements |
|-------|------------------|--|
| 6.4 | Acceptance Tests | The sampling & acceptance tests shall be conducted, as per IS 7098 Part-2 and approved QA plan, for each lot of cable during the inspection of lot at manufacturer's works. |
| 6.5 | Additional Tests | Following additional tests shall also to be carried out during acceptance testing on one sample from each offered lot: <ol style="list-style-type: none"> Wafer boil test for checking integrity of semi-conducting layer. Void and contamination test for insulation. Percentage of carbon black contents at outer sheath. |

7.0 DEVIATIONS

| | | |
|-------|-------------------------------|--|
| 7.1.0 | Deviations from specification | Deviations from this Specification shall be stated in writing with the tender by reference to the Specification clause / GTP and a description of the alternative offer. In absence of such a statement, it will be assumed by the buyer that the seller complies fully with this specification. |
|-------|-------------------------------|--|

8.0 DOCUMENT SUBMISSION

Document/Drawing submission shall be as per the matrix given below:

- All documents/drawings shall be provided in soft copy only in returnable Pen drives
- Language of the documents shall be English only.
- Incomplete submission shall be liable for rejection.
- Document check sheet compliance shall be the first sheet for each submission stage i.e. Technical bid, Drawing Approval, Pre Dispatch.
- No submission is acceptable without check list compliance.
- Deficient/ improper document/ drawing submission shall be liable for rejection.
- Order of documents shall be strictly as per the check list.
- Any drawing not included in the below table but necessary for detailed engineering shall be deemed to be included in bidder's scope.

| S No. | Description | Bid | Approval | Pre Dispatch |
|-------|---|----------|----------|--------------|
| 8.1 | Guaranteed Technical Particulars (GTP) | Required | Required | |
| 8.2 | Deviation Sheet, if any | Required | Required | |
| 8.3 | Detailed cross sectional drawing of cable | Required | Required | |
| 8.4 | Dimensional drawing of Cable Drum | | Required | |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

| S No. | Description | Bid | Approval | Pre Dispatch |
|-------|--|----------|----------|--------------|
| 8.5 | Type test reports for the offered type and rating of cable | Required | | |
| 8.6 | Make of Raw Materials | Required | Required | |
| 8.7 | Cable de-rating factors | Required | Required | |
| 8.8 | Manufacturer's Quality Assurance Plan | | Required | |
| 8.9 | Program for production and testing/ Production and Testing Timeline | | Required | |
| 8.10 | Detailed installation & commissioning instructions | | Required | |
| 8.11 | Test certificates of all raw materials | | | Required |
| 8.12 | Inspection and routine test reports, carried out in manufacturer's works | | | Required |

9.0 ANNEXURE A - TECHNICAL PARTICULARS

| SL. No. | Descriptions | 3CX 150 sqmm (Ph) + 150 sqmm (M) AB Cable | 1CX95 sqmm (Ph.) + 95 sqmm (M) AB Cable |
|---------|---|--|--|
| 9.1 | Conductor | | |
| 9.2 | Shape | Compacted Circular | Compacted Circular |
| 9.3 | Maximum DC resistance at 20° C (Ω/km) | 0.206 | 0.320 |
| 9.4 | Minimum thickness of conductor screen | 0.5 mm | 0.5 mm |
| 9.5 | Insulation on Phase conductor | | |
| 9.5.1 | Minimum thickness | 3.14 mm | 3.14 mm |
| 9.5.2 | Nominal thickness | 3.60 mm | 3.60 mm |
| 9.6 | Insulation screen on Phase conductor | | |
| 9.6.1 | Minimum thickness of non-metallic screen | 0.5 mm | 0.5 mm |
| 9.6.2 | Minimum thickness of semi conducting Bedding Tape | 0.2 mm | 0.2 mm |
| 9.7 | Metallic Screen | Al Wire of dia 2.3 +/- 0.1 mm | Al Wire of dia 2.3 +/- 0.1 mm |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

| | | | |
|--------|--|-------------------------------|-------------------------------|
| 9.8 | Minimum thickness of rubberized cotton tape Tape | 0.15mm | 0.15mm |
| 9.9 | Outer sheath on Phase Conductor | PE ST-7 | |
| 9.9.1 | Minimum thickness | 1.4 mm | 1.4 mm |
| 9.9.2 | Nominal thickness | 2.0 mm | 2.0 mm |
| 9.10 | Messenger | | |
| 9.10.1 | Number of strands | 19 | 7 |
| 9.10.2 | Minimum diameter of strands | 3.15 | 4.26 |
| 9.11 | Minimum breaking load | 43.50 KN | 26.3 KN |
| 9.12 | Nominal conductor diameter | 15.75 mm | 12.78 mm |
| 9.13 | Maximum DC resistance at 20° C | 0.229 Ω/km | 0.357 Ω/km |
| 9.14 | Minimum elongation | 4% on a gauge length of 200mm | 4% on a gauge length of 200mm |
| 9.15 | Outer sheath over Messenger | PE ST-7 | |
| 9.15.1 | Nominal thickness | 1.8 mm | 1.8 mm |

10.0 GUARANTEED TECHNICAL PARTICULARS (DATA BY SUPPLIER)

| Sr. No. | Description | Buyer's requirements | Vendor's data |
|---------|---|--|---------------|
| 10.1 | Name of manufacturer | | |
| 10.2 | Guarantee Period | | |
| 10.3 | Type of cable | | |
| 10.4 | Application standards | IS: 7098, P-2 ; IS: 398, P-4 & IEC 60502 | |
| 10.5 | Voltage grade | 6.35 / 11 KV | |
| 10.6 | Number of phase | 3 or 1 | |
| 10.7 | Conductor | | |
| 10.7.1 | Type of conductor | EC grade aluminum, grade –H4 | |
| 10.7.2 | Flexibility class | Class -2 | |
| 10.7.3 | Shape of conductor | Stranded, compacted and circular | |
| 10.7.4 | Minimum number of strands | ----- nos (min.) | |
| 10.7.5 | Nominal diameter of strands before compaction | ----- mm (nom) | |
| 10.7.6 | Minimum diameter of strands before compaction | ----- (Min.) | |
| 10.7.7 | Nominal cross sectional area of conductor | As per annexure – A | |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

| Sr. No. | Description | Buyer's requirements | Vendor's data |
|-----------|---|--|---------------|
| 10.7.8 | Diameter over bare conductor | ---- mm | |
| 10.7.9 | Maximum DC resistance at 20 Deg.C | As per annexure – A | |
| 10.7.10 | Lay ratio and direction of lay of wires | | |
| 10.7.10.1 | Outside layer | | |
| 10.7.10.2 | Layer immediately beneath outside layer | | |
| 10.7.10.3 | Inner most layer of conductor with three aluminum wires layer | | |
| 10.8 | Conductor screening | | |
| 10.8.1 | Type of material | Extruded semi conducting XLPE compound | |
| 10.8.2 | Minimum thickness | As per annexure – A | |
| 10.8.3 | Make of compound | | |
| 10.8.4 | Grade of compound | | |
| 10.9 | Insulation on Phase conductor | | |
| 10.9.1 | Type of insulation | As per Cl. 4.3.1 | |
| 10.9.2 | Thickness | | |
| a. | Nominal | As per annexure – A | |
| b. | Minimum | As per annexure – A | |
| 10.9.3 | Diameter over insulation | ---- mm (approx.) | |
| 10.9.4 | Make of compound | | |
| 10.9.5 | Grade of compound | | |
| 10.10 | Insulating screen on phase conductor | | |
| 10.10.1 | Non-metallic screen | | |
| 10.10.1.1 | Type of material | Freely strippable type Extruded semi conducting compound | |
| 10.10.1.2 | Minimum thickness of screen | As per annexure – A | |
| 10.10.1.3 | Make of compound | | |
| 10.10.1.4 | Grade of compound | | |
| 10.10.2 | Bedding Tape | Semiconducting bedding tape | |
| 10.10.2.1 | Minimum thickness | 0.2mm | |
| 10.10.3 | Metallic screen | | |
| 10.10.3.1 | Type | Aluminum wire | |
| 10.10.3.2 | Diameter | As per annexure – A | |
| 10.10.4 | Rubberized Cotton Tape | 0.15mm | |
| 10.10.4.1 | Percentage overlapping | | |
| 10.11 | Outer sheath on Phase conductor | | |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

| Sr. No. | Description | Buyer's requirements | Vendor's data |
|------------|---|---|---------------|
| 10.11.1 | Type of material | PE type ST -7 to IEC 60502 | |
| 10.11.2 | Color of outer sheath | Black | |
| 10.11.3 | Thickness | | |
| a. | Minimum | As per annexure – A | |
| b. | Nominal | As per annexure – A | |
| 10.11.4 | Diameter over core | ----- mm (approx.) | |
| 10.11.5 | Carbon black content | 2.5 % +/-0.5% | |
| 10.11.6 | Core Identification | By Red, Yellow Blue colored strips extruded in outer sheath as a single sheath. a. Width of strip b. Depth of strip | |
| 10.12 | Bare messenger conductor | | |
| 10.12.1 | Material and IS standard | Aluminum alloy to IS:398, Part-4 | |
| 10.12.2 | Conductor shape | Stranded, compacted & circular | |
| 10.12.3 | Nominal cross sectional area | As per annexure – A | |
| 10.12.4 | Minimum number of strands | As per annexure – A | |
| 10.12.5 | Nominal diameter of strands before compaction | -----mm | |
| 10.12.6 | Minimum diameter of strands before compaction | ----- mm | |
| 10.12.7 | Diameter of conductor | ----- mm | |
| 10.12.8 | Lay ratio and direction of lay | | |
| 10.12.8.1 | Outside layer | | |
| 10.12.8.2 | Layer immediately beneath outside layer | | |
| 10.12.9 | Maximum elongation | 4 % | |
| 10.12.10 | Minimum Breaking load of conductor | As per annexure – A | |
| 10.12.11 | Maximum DC resistance at 20 deg.C | As per annexure – A | |
| 10.12.12 | Modulus of elasticity | ----- kh /sqcm | |
| 10.12.13 | Co-efficient of linear expansion | ----- / deg.C | |
| 10.12.14 | Chemical composition | As per manufacturer standard. | |
| 10.12.14.1 | Aluminum | ----- % | |
| 10.12.14.2 | Magnesium | ----- % | |
| 10.12.14.3 | Silicon | ----- % | |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

| Sr. No. | Description | Buyer's requirements | Vendor's data |
|------------|---|---------------------------------|---------------|
| 10.12.15 | Outer sheath over messenger conductor | | |
| 10.12.15.1 | Type of material | PE type ST -7 to IEC 60502 | |
| 10.12.15.2 | Color of outer sheath on messenger | Black | |
| 10.12.15.3 | Thickness | | |
| a. | i. Minimum | As per annexure – A | |
| b. | ii. Nominal | As per annexure – A | |
| 10.13.1 | Assembly lay length | ----- mm | |
| 10.13.2 | Lay direction | RH / LH | |
| 10.13.3 | Recommended minimum bending radius | ----- mm | |
| 10.13.4 | Approx. overall diameter of cable | ----- mm | |
| 10.14.0 | Drums | | |
| 10.14.1 | Type of drum | Steel / wooden (non returnable) | |
| 10.14.2 | Anti termite treatment on wooden drums | Provided | |
| 10.14.3 | Standard drum length with tolerance | | |
| 10.14.4 | Short length | | |
| 10.15.0 | Weight | | |
| 10.15.1 | Approx. weight of cable | ----- kg / km | |
| 10.15.2 | Weight of empty drum | ----- kg. | |
| 10.15.3 | Weight of cable with drum | ----- kg. | |
| 10.16.0 | Current rating | | |
| 10.16.1 | Continuous current rating capacity in air at 40 deg.C | ----- amps | |
| 10.16.2 | Derating factor for following ambient temperature- | | |
| a. | At 30 deg.C | | |
| b. | At 35 deg.C | | |
| c. | At 40 deg.C | | |
| d. | At 45 deg.C | | |
| e. | At 50 deg.C | | |
| 10.17.0 | Maximum conductor temperature | | |
| 10.17.1 | Continuous operation. | ----- Deg.C | |
| 10.17.2 | short circuit | ----- Deg.C | |
| 10.18.0 | Short circuit capacity for one seconds | | |

TECHNICAL SPECIFICATION FOR 11 kV HTAB CABLE

| Sr. No. | Description | Buyer's requirements | Vendor's data |
|---------|---|---|---------------|
| 10.19.0 | Electrical parameter at maximum operating temperature | | |
| 10.19.1 | AC resistance | ----- Ω/km | |
| 10.19.2 | Reactance at 50 Hz. | ----- Ω/km | |
| 10.19.3 | Positive sequence Impedance | ----- Ω/km | |
| 10.19.4 | Negative sequence Impedance | ----- Ω/km | |
| 10.19.5 | Zero sequence impedance | ----- Ω/km | |
| 10.19.6 | Capacitance | ----- $\mu\text{f} / \text{km}$ | |
| 10.20.0 | Identification of phase core | | |
| 10.21.1 | Embossing on outer sheath | | |
| 10.21.2 | Font size of letters | ----- mm | |
| 10.21.3 | Individual Drum number provided on outer sheath by | Embossing/ Indelible Printing | |
| 10.22.0 | Process of cross linking of poly ethylene | Dry | |
| 10.23.0 | Type test report submitted | Yes / no (if yes- specify report number) | |
| 10.24.0 | Sectional drawing of cable – submitted? | Yes / no. (drg. No.) | |
| 10.25.0 | Drawing of drum – submitted? | Yes / no (drg. No. | |

Note: Bidder shall furnish the GTP format along with acceptance to all clauses mentioned in the specification. Bidder shall not change the format of GTP or clause description. Bidder to submit duly filled GTP and acceptance to every clause of the specification.