BSES RAJDHANI POWER LIMITED

Tender Notification for

Supply of XLPE Insulated different type of conductors

NIT No. CMC/BR/26-27/FK/PR/FH/1319, DT 10.01.2026

Due Date for Bid Submission: 30.01.2026 1500HRS

BSES RAJDHANI POWER LTD (BRPL)
Corporate Identification Number: **U74899DL2001PLC111527**
Telephone Number: +91 11 4910 7235
Website: **www.bsesdelhi.com**

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BSES RAJDHANI POWER LIMITED

SECTION – I

REQUEST FOR QUOTATION

1.00 **Event Information**

BRPL invites sealed tenders in 2 envelopes for **SUPPLY OF XLPE INSULATED DIFFERENT TYPES OF CONDUCTOR** from reputed manufacturers. The bidder must qualify the technical requirements as specified in clause 2.0 stated below. All envelopes shall be duly super scribed as — "**SUPPLY OF XLPE INSULATED DIFFERENT TYPES OF CONDUCTOR** "NIT NO CMC/BR/26-27/FK/PR/FH/1319, DT 10.01.2026

Package-A

Sl.	Items	Technical Specification	Estimated Cost (Cr)	Qty(Km)	Delivery
1	Supply of XLPE Insulated Dog conductor	BSES-TS-05-ACSR-R0	0.55	36	New Delhi Stores
2	Supply of XLPE Insulated Squirrel conductor			4	
3	Supply of XLPE Insulated Rabbit conductor			4	

Package-B

Sl.	Items	Technical Specification	Estimated Cost (Cr)	UoM	Qty	Delivery
1	CNDCTR,ACSR DOG;XLPE COVERED	BSES-TS-04-11CCA-R0	1.04	KM	40	New Delhi Stores
2	CLMP,ELEC,TENSION CLMP			Nos	150	
3	APD,FAB SRC,MID SPAN CMPRSN JNT FOR AAAC			Nos	50	
5	CNCTR,PI			Nos	70	
6	CNCTR,MECH,PIERCING;1IN;BARE TO CC			Nos	100	
7	TIE,POLYMERIC;12X160MM;NYLON			Nos	450	
8	CNCTR,CBLE/CNDUIT,PIERCING;16/95 SQMM			Nos	40	

Note: Individual Drum Quantity may vary ±5%. There will be no positive tolerance on the overall total order quantity. However (-) 2% will be allowed on overall order quantity.

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

All envelopes shall be duly super scribed "**SUPPLY OF XLPE INSULATED DIFFERENT TYPES OF CONDUCTOR NIT NO CMC/BR/26-27/FK/PR/FH/1319."**

1.01 The schedule of specifications with detail terms & conditions can be obtained from address given below against submission of non-refundable demand draft of **Rs.1180/-** drawn in favour of BSES Rajdhani Power Ltd, payable at Delhi. The tender documents & detail terms and conditions can also be downloaded from the website **"www.bsesdelhi.com --> Tenders --> BSES Rajdhani Power Ltd --> 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.

1.02 Bids will be received up to 30/01/2026 1500 HRS at the address given at 3.01 below. Part A of the Bid shall be opened on 30/01/2026 1600 HRS.

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.

1.03 BSES Rajdhani Power Ltd reserves the right to **accept/reject** any or all Tenders without assigning any reason thereof and alter the quantity of materials mentioned in the Tender documents by **(±) 30%** at the time of placing purchase orders.

1.04 Tender will be summarily rejected if:

(i) ·**Earnest Money Deposit (EMD)** value of INR 1, 10,000/- **(Package-A)** & INR 2, 08,000/- **(Package-B)** is not deposited in shape of Bank Fixed deposit (lien marked in favor of BSES RAJDHANI POWER LTD.)/ Bank Guarantee valid for One Hundred Fifty (150) days after due date of submission or amended due date of submission drawn in favor of BSES Rajdhani Power Ltd, 1ST FLOOR, C - BLOCK,BSES BHAWAN,NEHRU PLACE, NEW DELHI – 110019 by any Indian bank/ foreign bank having service branch in India.

(ii) The offer does not contain prices indicating break-up towards all taxes & duties in prescribed format

(iii) Complete Technical details are not enclosed.

(iv) Tender is received after due date and time**.**

(v) Technical offer contains any prices

2.0 **Qualification Criteria:-**

The prospective bidder must qualify all of the following requirements to be eligible to participate in the bidding. Bidders who meet following requirements will be considered as Successful bidder and BRPL has a right to disqualify those bidders who do not meet these requirements.

Package-A

Qualification Requirement	Documents to be submitted by bidder
The bidder must be a manufacturer of ACSR Conductor	Cable manufacturing and factory incorporation certificate / Undertaking The details of manufacturing units, locations and works from where supply against this tender shall be proposed to be furnished.
The bidder should have manufacturing capacity of minimum 40kms per month	Installed Capacity Certificate
Bidder should have Average Annual Sales Turnover of Rs 200 Crores or more in last three (3) Financial Years i.e in FY2022-23, 2023-24 & 2024-25	Balance Sheet and Duly certified CA certificate to be submitted
The bidder should have supplied at least 500 Kms of similar size and higher ACSR Conductor in last 5 years to any utilities/SEB's/PSU's/reputed company (wherein the end user shall be Utility/SEB's/PSU's)	i. Summary list of executed Purchase orders ii. Purchase order copies iii. Material delivery clearance certificate copy or delivery completion certificates or Invoice Copies

Performance certificate for minimum 2 year satisfactory performance of similar size and higher ACSR Conductor supplied in last 7 years from at least two utilities/ SEB/ PSUs / reputed company (where in the end user shall be Utility/SEB's/PSU's) In case of bidder has a previous association with BRPL/BYPL for similar product and service, the performance feedback for that bidder by BRPL/BYPL shall only be considered irrespective of performance certificate issued by any third organization.	Performance certificates
The Bidder must possess valid ISO 9001:2015 certification and BIS License.	copy of Certifications
The Bidder shall submit an undertaking that "No Litigation" is pending with the BRPL or its Group/Associates Companies.	Undertaking
An undertaking (self-certificate) that the bidder has not been blacklisted/debarred by any central/state government institution/Electricity utilities	Undertaking
The bidder must have valid PAN No., GST Registration Number, 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 statuary compliances as per the laws/rules etc. before the start of the supply/work.	Relevant Statutory Documents Copy/ Undertaking

Package-B

Qualification Requirement	Documents to be submitted by bidder
Bidder can be an manufacturer or authorized channel partner of manufacturer. Authorized channel partner shall submit the letter of authorization from manufacturer	
The bidder (Manufacturer or their authorized Partner) should have an average annual turnover of Rs 50 Crore in last three financial years i.e in FY2022-23, 2023-24 & 2024-25	Balance Sheet and Duly certified CA certificate to be submitted

The bidder (Manufacturer or their authorized Partner) should have at least 3 years of experience of supply the cover conductor.	Manufacturing and factory incorporation certificate / Undertaking The details of manufacturing units, locations and works from where supply against this tender shall be proposed to be furnished.
The bidder (Manufacturer or their authorized Partner) should have supplied at least 100km of covered conductor in last 5 years to any utilities/SEB's/PSU's/reputed company (where in the end user shall be Utility/SEB's/PSU's)	i. Summary list of executed Purchase orders ii. Purchase order copies iii. Material delivery clearance certificate copy or delivery completion certificates or Invoice Copies
Performance certificate for minimum 2 year satisfactory performance for covered conductor supplied in last **7** years from at least two utilities/ SEB/ PSUs / reputed company (where in the end user shall be Utility/SEB's/PSU's) In case of bidder has a previous association with BRPL/BYPL for similar product and service, the performance feedback for that bidder by BRPL/BYPL shall only be considered irrespective of performance certificate issued by any third organization.	Performance Certificate
The bidder (Manufacturer or their authorized Partner) must have permanent office set up in India for troubleshooting and technical support. (Letter of undertaking in this regard is to be submitted)	Undertaking
The bidder (Manufacturer or their authorized Partner) must submit an undertaking (self-certificate) that the bidder (Manufacturer or their authorized Partner)has not been blacklisted/debarred by any central/state government institution/Electricity utilities	Undertaking
The Bidder (Manufacturer or their authorized Partner) shall submit an undertaking that "No Litigation" is pending with the BRPL or its Group/Associates Companies.	Undertaking
The Bidder (Manufacturer or their authorized Partner) must possess valid ISO 9001:2015 certification	copy of certification

The bidder (Manufacturer or their authorized Partner) must have valid PAN No., GST Registration Number, 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 statuary compliances as per the laws/rules etc. before the start of the supply/work.	Relevant Statutory Documents Copy/ Undertaking

Note: In case of bidder has a previous association with BRPL/BYPL for similar product and service, the performance feedback for that bidder by BRPL/ BYPL shall only be considered irrespective of performance certificate issued by any third organization.

3.00 **Bidding and Award Process**

Bidders are requested to submit their offer strictly in line with this tender document. **No deviation is acceptable**. BRPL shall response to the clarifications raised by various bidders and the will be distributed to all participating bidders through website.

3.01 **BID SUBMISSION**

The bidders are required to submit the bids in 2(two) parts to the following address

Head of Department
Contracts & Material Department
BSES Rajdhani Power Ltd
1st Floor, C Block
BSES Bhawan, Nehru Place
New Delhi 110019

PART A: TECHNICAL **BID** comprising of following (1 original + 1 copy)

- EMD in prescribed format
- Non-refundable demand draft for Rs 1180/- in case the forms are downloaded from website
- Documentary evidence in support of qualifying criteria
- Technical Details / Filled in GTP/Type test report etc
- Qualified Manpower available & Organization Chart
- Testing Facilities
- Copies of Orders, Execution /Performance Certificate & Other Documents to support the QC as per clause 2.0
- Original Tender documents duly stamped & signed on each page as token of acceptance
- Acceptance to Commercial Terms and Conditions viz Delivery schedule/period, Payment terms, PBG etc
- Power of Attorney for signing the bid

PART B: FINANCIAL **BID** comprising of (1 original only)

- 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	Date
1	Date of sale of bid documents	10.01.2026
2	Last date of Queries, if any	18.01.2026
3	Last date of receipt of bid documents	30.01.2026 1500 HRS
4	Date & time of opening of tender – Part A	30.01.2026 1515 HRS

Note: In case last date of submission of bids & date of opening of bids is declared as holiday in BRPL office, the last date of submission will be following working day at the same time.

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 after techno-commercial evaluation and only of the qualified bidders.

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

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.

In case RA is not concluded/conducted for any reasons, a "final no regret" financial bid in a sealed envelope will be called for from all qualified bidders

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

4.00 **Award Decision**

- 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.

- The purchaser reserves all the rights to award the contract to one or more bidders so as to meet the delivery requirement or nullify the award decision without any reason.

- In case any supplier is found unsatisfactory during the delivery process, the award will be cancelled and BRPL reserves the right to award other suppliers who are found fit.

- **Qty Variation:** The purchaser reserves the rights to vary the quantity by **(+/-) 30%** of the tender quantity.

- **Repeat Order**: BRPL reserves the right to place repeat order at the same rates & terms and conditions as per this tender against additional requirement subject to mutual agreement between BRPL & supplier

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 reserves 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. A bidder who violates the marketplace rules or engages in behavior that disrupts the fair execution of the marketplace shall be restricted from bidding for a 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 Confidentiality

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

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

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

7.00 Contact Information

Technical or Commercial clarifications, if any, as regards this RFQ shall be sought in writing and sent by mail to following address. The same shall not be communicated through phone.

	Technical	**Commercial**
Contact Person	Mr. Anupam Kumar	Mr. Pankaj Goyal
Address	BSES Rajdhani Power Ltd , 1st Floor, BSES Bhawan, Nehru Place, New Delhi 110019	BSES Rajdhani Power Ltd , 1st Floor, D Block, BSES Bhawan, Nehru Place, New Delhi 110019
Email	Anupam.o.kumar@reliancegroupindia.com pronab.bairagi@reliancegroupindia.com rohit.a.patil@reliancegroupindia.com	pankaj.goyal@reliancegroupindia.com faiyaz.hussain@reliancegroupindia.com

SECTION – II

INSTRUCTION TO BIDDERS

1.00 GENERAL

BSES Rajdhani Power Ltd hereinafter referred to as "The Purchaser" is 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 as 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.

3.00 DISCLAIMER

This Document includes statements, which reflect various assumptions, which may or may not be correct .Each Bidder shall 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.

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 a rising in any way from the selection process for the Supply.

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.

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).

4.00 COST OF BIDDING

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

5.00 BIDDING DOCUMENTS

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:

Request for Quotation (RFQ) - Section - I
Instructions to Bidders (ITB) - Section - II
General Terms and Condition Supply (GCC-Supply) - Section –III
Quantity & Delivery Requirement - Section –IV
Price Format Supply- Section V
Vendor Code of Conduct - Section VI
Technical Specifications - Annexure I

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.

6.00 **AMENDMENT OF BIDDING DOCUMENTS**

At any time prior to the deadline for submission of Bids, the Company 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.

The Amendment shall be part of the Bidding Documents, pursuant to Clause 5.00, and it will be notified in web site **www.bsesdelhi.com**, and will be binding on them.

In order to afford prospective Bidders reasonable time in which to take the Amendment into account in preparing their Bids, the Company 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.**

Purchaser shall reserve the rights to following

- extend due date of submission
- modify tender document in part/whole
- cancel the entire tender

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

PREPARATION OF BIDS

7.00 **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 English translation, in which case, for purposes of interpretation of the Bid, the English translation shall govern.

8.00 **DOCUMENTS COMPRISING THE BID**

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

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

9.00 **BID FORM**

9.01 The Bidder shall submit one ”Original” and one ”Copy” of the Un-priced Bid Form, Price Schedules & Technical Data Sheets duly filled in as per attached specification/BOM etc enclosed.

10.00 **EMD**

The bidder shall furnish, as part of its bid, an EMD amounting as specified in the RFQ. 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**:**

Bank Fixed deposit (lien marked in favor of BSES RAJDHANI POWER LTD.)/ Bank Guarantee valid for One Hundred Fifty (150) days after due date of submission or amended due date of submission drawn in favor of BSES Rajdhani Power Ltd, 1ST FLOOR, C - BLOCK,BSES BHAWAN,NEHRU PLACE, NEW DELHI – 110019 by any Indian bank/ foreign bank having service branch in India..

EMD issued by any scheduled bank strictly as per the format enclosed and shall be valid for a period of thirty (30) days beyond the validity of the bid. The EMD may be forfeited in case of:

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

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

(i) Accept the Purchase Order or

(ii) Furnish the required performance security BG.

Please note that bank details as below have been provided only for the purpose of making BG for EMD.

Beneficiary Name: BSES Rajdhani Power Limited
Bank Name : State Bank of India, New Delhi
A/c No.: 40214783615
IFSC Code : SBIN0009601

11.00 **BID PRICES**

11.01 Bidders shall quote for the entire Scope of Supply with a break-up of prices for individual items and Taxes & Duties. 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 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 with taxes, duties & freight up to destination.

11.02 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.

11.03 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. Price Variation Formula:-

12.00 **BID CURRENCIES**

Prices shall be quoted in Indian Rupees Only**.**

13.00 **PERIOD OF VALIDITY OF BIDS**

13.01 Bids shall remain valid for 120 days from the due date of submission of the Bid & subsequent corrigendum/amendment/extension of due date of submission.

13.02 Notwithstanding Clause 13.01 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.

14.00 **ALTERNATIVE BIDS**

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.

15.00 **FORMAT AND SIGNING OF BID**

15.01 The original Bid Form and accompanying documents, clearly marked "Original Bid" and "copy" 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 copy, the original shall govern.

15.02 The original and copies 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.**

15.03 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.

SUBMISSION OF BIDS

16.00 **SEALING AND MARKING OF BIDS**

16.01 Bid submission: One original & one Copy (hard copies) of all the Bid Documents shall be sealed and submitted to the Purchaser before the closing time for submission of the bid.

16.02 The Technical Documents and the EMD shall be enclosed in a sealed envelope and the said envelope shall be super scribed with —"**Technical & EMD**". The price bid shall be inside another sealed envelope with super scribed "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 super scribed with —"Tender Notice No. & Due date of opening".

16.03 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.

17.00 **DEADLINE FOR SUBMISSION OF BIDS**

17.01 The original Bid, together with the required copies, must be received by the Purchaser at the address specified earlier no **later than the due date specified earlier.**

17.02 The Purchaser may, at its discretion, extend the deadline for the submission of Bids by amending the Bidding Documents, 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.

18.00 **ONE BID PER BIDDER**

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.

19.00 **LATE BIDS**

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 shall be rejected and returned unopened to the Bidder.

20.00 **MODIFICATIONS AND WITHDRAWAL OF BIDS**

The Bidder is not allowed to modify or withdraw its Bid after the Bid's submission.

EVALUATION OF BID

21.00 **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.

22.00 **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.

23.00 **PRELIMINARY EXAMINATION OF BIDS / RESPONSIVENESS**

23.01 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.

23.02 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.

23.03 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.

23.04 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.

24.00 **EVALUATION AND COMPARISON OF BIDS**

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

24.01 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 Proposals and the Conditional ties of the Bidders would be evaluated.

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

24.03 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:

- Delivery Schedule
- Conformance to Qualifying Criteria
- 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.

24.04 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.

25.00 **CONTACTING THE PURCHASER**

25.01 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.

25.02 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.

26.00 **THE PURCHASER ’S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR A LL 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 any time 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.

27.00 **AWARD OF CONTRACT**

27.01 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.

Splitting of tendered quantity among two or more bidders:

BSES reserves the right to split the tender quantity among techno- commercially qualified bidders on account of delivery requirement in tender quantity under procurement.

For arranging timely procurement of material and to have uniform practice of distribution of quantity amongst eligible bidders, following procedure shall be applicable:

The tender quantity shall be split in following ratio:

- If the quantity is to be split among 2 bidders, it will be done in the ratio of 70:30 on L1 price.
- If the quantity is to be split among 3 bidders, it will be done in the ratio of 60:25:15 on L1 price.
- If the quantity is to be split among 4 bidders, it will be done in the ratio of 50:25:15:10 on L1 price.

Any deviation in regards to above will have deviation approval from management

28.00 **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.

29.00 **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. The date of LOI/PO shall be treated as Start date of work.

30.00 **PERFORMANCE BANK GAURANTEE**

The successful Bidder shall furnish the Performance Bank Guarantee for an amount of 10% (Ten percent) of the Contract Price. The Performance Bond shall be valid for a period of 24 months from the date of Commissioning or 30 months from the date of last dispatch whichever is earlier plus 3 months claim period. Upon submission of the performance security, the EMD shall be released.

31.00 **CORRUPT OR FRADULENT PRACTICES**

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

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

"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

"Fraudulent practice" means a misrepresentation of facts in order to influence a award process or the execution of a contract to the detriment of the Company, 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 Company 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.

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

32.00 **COMPLETION PERIOD**

Within 60 Days Months from the date of PO

SECTION III

GENERAL TERMS AND CONDITIONS - SUPPLY

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 Rajdhani 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 BRPL 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 supplying, acceptance shall mean issue of necessary equipment / material takeover receipt after installation & commissioning and final acceptance.

3.0 Contract Documents & Priority

Contract Documents: The terms and conditions of the contract shall consist solely of these RFQ conditions and the offer sheet. The several documents forming the Contract are to be taken as mutually explanatory of one another, but in case of ambiguities or discrepancies, the same shall be explained and adjusted by the Purchaser, who shall thereupon issue to the Bidder, instructions thereon. In such event, unless otherwise provided in the Contract, the priority of the documents forming the Contract shall be as follows:

1. Any amendments to Contract
2. Commercial Terms & Conditions of the Contract
3. Clarifications/addendum/corrigendum to Tender
4. Terms & Conditions of the Tender

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 elsewhere.
4.03 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. In case of standard items, BRPL shall forward the standard QAP which is to be followed by vendor during manufacturing.

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 can proceed with the work past a hold point only after clearance by purchaser or a witness waiver letter from BRPL.

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 without any extra cost. The in-house inspection shall be carried out in presence of BRPL/BRPL 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 Packing, Packing List & Marking

6.01 **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 BRPL, Delhi/New Delhi stores/site without undue risk of damage in transit.

6.02 **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.

7.0 Price basis for supply of materials

Bidder to quote their prices on Landed Cost Basis and separate price for each item. FIRM prices for supply to BRPL site/ stores inclusive of packing, forwarding, loading at manufacturer's premises, Freight & GST.

The above supply prices shall also include unloading at BRPL Delhi/ New Delhi stores/ site.

Transit insurance will be arranged by Purchaser; however bidder to furnish required details in advance for arranging the same by Purchaser.

8.0 Terms of payment and billing

100% payment shall be made within 45 days from the date of receipt of material at store/ site Bidder to submit the following documents against dispatch of each consignment:

i. Consignee copy of LR
ii. Detailed invoice showing commodity description, qty, unit & total price and basis of delivery.

iii. Original certificate issued by BRPL confirming receipt of material at site & acceptance
iv. Dispatch clearance & inspection report issued by the inspection authority
v. Packing List, Test Reports
vi. Guarantee Certificate.

9.0 Price Validity

All bids submitted shall remain valid, firm and subject to unconditional acceptance by BRPL Delhi for 120 days from the due date of submission & subsequent corrigendum/amendment/extension of due date of submission. For awarded suppliers/Bidders, the prices shall remain valid till contract completion.

10.0 Performance Guarantee

10.01 Bank guarantee shall be drawn in favour of "BSES Rajdhani Power Ltd" as applicable. The performance Bank guarantee shall be in the format as specified by BRPL.

10.02 Bidder shall submit the performance bank guarantee equivalent to the 10% of the contract value with the validity of the bank guarantee for a period of 24 months from the date of Commissioning or 30 months from the date of last dispatch whichever is earlier plus 3 months claim period.

Notwithstanding anything stated in this agreement, It is agreed by the Seller that in case of default by the seller in furnishing the Performance Bank Guarantee, the purchaser/BRPL, without prejudice to the rights available with the purchaser, shall be entitled to retain a total sum not exceeding 120% of the amount of required performance bank guarantee for the tenure and upon the terms as specified in this agreement. It is agreed that the purchaser shall not be paying any interest for the said sum retained by the purchaser in lieu of default by the seller in furnishing the performance bank guarantee and no claim of any nature shall be maintainable from the side of seller, disputing the above said retention. Whereas, in case, after the deduction of above sum by the purchaser, if the seller at any point of time, submits the PBG of the required value and tenure and requests for the refund of the amount retained on this ground, the purchaser shall be releasing the money retained in lieu of PBG without any interest/cost

11.0 Forfeiture

11.01 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 BRPL 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.

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

12.0 Release

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.

13.0 Guarantee of Performance

The bidder shall stand guarantee that the equipment and material supplied/service or work rendered under the contract is free from design, manufacturing, material, construction, erection & installation and workmanship & quality

defects and is capable of its due, rated and intended quality performance, as an integrated product delivered under the contract for a specific period termed as Guarantee Period. The bidder should also guarantee that the equipment/material is new and unused except for the usage required for the tests and checks required as part of quality assurance.

14.0 Guarantee Period/Defects Liability Period

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.

If during the defects liability period any materials / items are found to be defective, these shall be replaced or rectified by the bidder at his own cost within 30 days from the date of receipt of intimation.

Cost of repairs on failure in Guarantee Period:
The cost of repairs/rectification /replacement, apart from the actual cost of repairs/rectification/replacement is also inclusive of all bidder costs of required transportation, site inspection /mobilization/dismantling and re-installation costs as applicable, to be borne by the bidder. The bidder has to ensure that the interruption in the usage of intended purpose of the equipment is minimized to the maximum extent in lieu of the time taken for repairs/rectification/replacement.

15.0 Return, Replacement or Substitution

BRPL shall give Supplier notice of any defective Commodity promptly after becoming aware thereof. BRPL may at its discretion elect to return defective Commodities to Supplier for replacement, free of charge to BRPL, or may reject such Commodities and purchase the same or similar Commodities from any third party. In the latter case BRPL 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. BRPL may set off such costs against any amounts payable by BRPL to Supplier. Supplier shall reimburse BRPL for the amount, if any, by which the price of a substitute Commodity exceeds the price for such Commodity as quoted in the Bid.

16.0 Effective Date of Commencement of Contract:

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

17.0 Time – The Essence of Contract

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 no later than the aforesaid Schedule and date of completion of supply.

18.0 The Laws and Jurisdiction of Contract:

Any dispute or difference arising out of this Purchase Order shall be discussed by the Purchaser and Supplier. Both shall endeavor to reach an amicable settlement within a period of fifteen (15) days. If an agreement could not be reached within this period then the dispute shall be referred to arbitration under the Indian Arbitration and Conciliation Act-1996, as may be amended from time to time. The venue of arbitration shall be Delhi.

The award shall be a reasoned award and shall be final and binding on both the parties and shall not be subjected to appeal. Subject to arbitration the Courts at Delhi shall have exclusive jurisdiction over all matters arising under this Purchase Order. During pendency of arbitration the parties shall continue to perform respective obligations under this Purchase Order.

19.0 Events of Default

21.01 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 BRPL.

20.0 Consequences of Default

(a) If an Event of Default shall occur and be continuing, BRPL may forthwith terminate the Contract by written notice.

(b) In the event of an Event of Default, BRPL 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 to Bank for forfeiture 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 BRPL may incur as a result of Supplier's default.

In the event COMPANY terminates the Supply order, in whole or in part, on the occurrence of any event of default, COMPANY reserves the right to engage any other Contractor or agency to complete the Supply or any part thereof, and in addition to any other right COMPANY may have under this Supply order or in law including without limitation the right to penalize for delay of this Supply order, the Supplier shall be liable to COMPANY for any additional costs that may be incurred by COMPANY for the execution of the Work.

21.0 Liquidated Damages

23.01 If supply of items / equipment is delayed beyond the supply schedule as stipulated in LOI/PO, then the Supplier shall be liable to pay the Purchaser for delay a sum of 1% (one percent) of the total price for every week of delay or part thereof for undelivered units.

23.02 The total amount for delay under the contract will be subject to a maximum of ten percent (10%) of the total contract value.

23.03 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. The levy payment or deduction of such damages shall not relieve the Bidder from his obligation to complete the Supply on time or from any other part of his obligation and liabilities under the Contract. Once the maximum is reached, the Company reserves the right for termination of contract without any liabilities to the Company.

In the event of an extension of time being granted, in writing for the Completion of the works, this clause shall be applicable after the expiry of such an extended period.

22.0 Statutory variation in Taxes and Duties

Statutory Taxes, duties and Levies imposed by Competent Authorities by way of fresh notification(s) within the stipulated delivery period shall be borne by BRPL on submission of necessary documents claiming such variation. However, in case of reduction in taxes, duties and levies, the benefits of the same shall be passed on to BUYER. The variation will be applicable only on such value wherever price breakup of same is submitted by vendor/available in PO/WO

23.0 Force Majeure

23.01 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.

23.02 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.

23.03 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.

23.04 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.

23.05 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.

23.06 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.

23.07 The Purchaser may terminate the contract after giving 7(seven) days notice if any of following occurs:

a) Bidder fails to complete execution of works within the approved schedule of works, terms and conditions
b) In case the Bidder commits any Act of Insolvency, or adjudged insolvent
c) Has abandoned the contract
d) Has failed to commence work or has suspended the progress of works
e) Has failed to proceed the works with due diligence and failed to make such due progress

23.08 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.

23.09 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.

23.10 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 an event of Force Majeure."

24.0 Transfer and Sub-Letting

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.

25.0 Recoveries

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.

26.0 Waiver

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

27.0 Indemnification

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.

28.0 Termination

The Supplier hereby undertakes to fully comply and conform to the terms and conditions of this Order. In the event of failure to do so, Purchaser shall have the right to terminate the assignment and claim damages. The upper limit for the damages will be the value of equivalent material / services, which are available from Third parties.

Should unforeseen conditions arise and the Purchaser deems it necessary, to suspend indefinitely or abandon the supplies, the purchase order may be terminated by Purchaser after having given 10 days notice in writing. In the event of such termination, the Supplier shall be entitled to be paid the amount due for the supplies rendered and/or expenses incurred up to the date of such termination. Any such compensation being claimed shall be substantiated by the Supplier. The upper limit for the compensation being claimed shall be the value of the Purchase order.

29.0 Termination by Employer for convenience

The Employer shall, in addition to any other right enabling it to terminate the Contract, have the right to terminate the Contract at any time by giving a written notice to the Contractor. The Contract shall stand terminated on receipt of such notice but such termination shall be without prejudice to the rights of the
Parties accrued on and before the date of termination.

30.0 Limitation on Liability

Notwithstanding anything to the contrary in the Purchase Order but subject to clause 31.0 Consequential Damages, the aggregate liability of either Party to the other Party in respect of all claims for Liabilities arising under the Purchase Order shall not exceed the aggregate value of the Purchase Order(s) under which the Liabilities arose except that such limitation shall not apply to the Bidder's indemnification obligations in accordance with clause 27.0 Indemnification herein.

31.0 Consequential Damages

Notwithstanding anything to the contrary in the Purchase Order, except for breach of obligations under Non-disclosure and except as expressly provided in a Purchase Order, in no event, as a result of breach of contract or breach of warranty or otherwise, shall either Party hereto or either Party's Affiliates or sub Bidders, be liable under the Purchase Order to the other Party for any consequential, special, indirect, exemplary or incidental damages, and/or for any lost profits, goodwill or revenues of such Party, howsoever arising, before or after Acceptance of the Goods and whether or not such damages are foreseeable.

32.0 Risk & Cost

If the Bidder of fails to supply the items as per specification within the scheduled period and even after the extended period, the contract shall got cancel and company reserves the right to get the material supplied from any other source at the Risk & Cost of the Bidder. The Extra Expenditure so incurred shall be debited to the Bidder.

33.0 Non-Disclosure Agreement

All information including, without limitation, all oral and written information, disclosed by either party (Disclosing Party) to the other party, (Receiving Party) is deemed to be confidential, restricted and proprietary to the Disclosing Party.

Non-Disclosure: The Receiving Party shall maintain the Confidential Information received from the Disclosing Party in strict confidence and shall not disclose it to any third party without the prior written consent of the Disclosing Party.

Limited Use: The Receiving Party shall use the Confidential Information solely for the Purpose outlined in this Agreement and shall not use it for any other purpose without the prior written consent of the Disclosing Party.

Protection Measures: The Receiving Party shall exercise reasonable care to protect the Confidential Information from unauthorized access, use, or disclosure. This includes implementing appropriate security measures and restricting access to the Confidential Information to only those individuals who have a need to know for the Purpose.

Exceptions: The obligations of confidentiality shall not apply to any portion of the Confidential Information that: a. Is or becomes publicly available through no fault of the Receiving Party;
b. Was already lawfully in the possession of the Receiving Party prior to its disclosure by the Disclosing Party;
c. Is rightfully received by the Receiving Party from a third party without any obligation of confidentiality; or
d. Is required to be disclosed by law, regulation, or court order. However, the Receiving Party shall promptly notify the Disclosing Party of any such requirement and cooperate with the Disclosing Party to seek a protective order or other appropriate remedy.

Upon the written request of the Disclosing Party or upon termination of this Agreement, whichever occurs first, the Receiving Party shall promptly return or destroy all Confidential Information received from the Disclosing Party, including any copies, notes, or extracts thereof, and provide written certification of such return or destruction upon request.

The obligations of confidentiality shall survive the termination or expiration of this Agreement and shall continue for a period of five years from the date of termination or expiration.

SECTION – IV

QUANTITY AND DELIVERY REQUIREMENT

S. No	Item Description	Specification	Requirement		Location
			Total Qty. (KM)	Delivery Schedule	
BSES RAJDHANI POWER LIMITED					
1	Supply of XLPE Insulated Dog conductor	BSES-TS-05-ACSR-R0	36	with 60 days from the date of PO	New Delhi Stores
2	Supply of XLPE Insulated Squirrel conductor		4		
3	Supply of XLPE Insulated Rabbit conductor		4		

S. No	Item Description	Specification	Requirement			Location
			UoM	Total Qty.	Delivery Schedule	
BSES RAJDHANI POWER LIMITED						
1	CNDCTR,ACSR DOG;XLPE COVERED	BSES-TS-04-11CCA-R0	Km	40	with 60 days from the date of PO	New Delhi Stores
2	CLMP,ELEC,TENSION CLMP		Nos	150		
3	APD,FAB SRC,MID SPAN CMPRSN JNT FOR AAAC		Nos	50		
4	CNCTR,PI		Nos	70		
5	CNCTR,MECH,PIERCING;1IN;BARE TO CC		Nos	100		
6	TIE,POLYMERIC;12X160MM;NYLON		Nos	450		
7	CNCTR,CBLE/CNDUIT,PIERCING;16/95 SQMM		Nos	40		

SECTION V

PRICE FORMAT – SUPPLY

Package-A

ITEM DESCRIPTION	QTY	UoM	EX-WORKS RATE PER KM	UNIT FREIGHT	GST	UNIT LANDED	TOTAL LANDED COST
Supply of XLPE Insulated Dog conductor	36	KM					
Supply of XLPE Insulated Squirrel conductor	4	KM					
Supply of XLPE Insulated Rabbit conductor	4	KM					

Package-B

ITEM DESCRIPTION	QTY	UoM	EX-WORKS RATE	UNIT FREIGHT	GST	UNIT LANDED	TOTAL LANDED COST
CNDCTR,ACSR DOG;XLPE COVERED	40	KM					
CLMP,ELEC,TENSION CLMP	150	Nos					
APD,FAB SRC,MID SPAN CMPRSN JNT FOR AAAC	50	Nos					
CNCTR,PI	70	Nos					
CNCTR,MECH,PIERCING;1IN;BARE TO CC	100	Nos					
TIE,POLYMERIC;12X160MM;NYLON	450	Nos					
CNCTR,CBLE/CNDUIT,PIERCING;16/95 SQMM	40	Nos					

APPENDIX- I

COMMERCIAL TERMS AND CONDITIONS - SUPPLY

S. No	Item Description	AS PER BRPL	BIDDER'S CONFIRMATION
1	Validity	120 days from the due date of submission or amended due date of submission	
2	Price basis	a) Firm, FOR Delhi store basis. Prices shall be inclusive of all taxes & duties, freight up to Delhi stores. b)Unloading at stores shall be in vendor's scope	
3	Payment terms	100% payment within 45 days after receipt of material at stores	
4	Completion time	Within 60 Days from the date of PO	
5	Defect Liability period	60 months after commissioning or 66 months from the last date of dispatch, whichever is earlier	
6	Liquidated damages	1% per week of delay of undelivered units or part thereof subject to maximum of 10% of total PO value of undelivered units	
7	Performance Bank Guarantee	To be submitted within 15 days from PO. 10% of total PO value valid for 24 months after commissioning or 30 months from the last date of dispatch, whichever is earlier plus 3 months towards claim period	

APPENDIX II

BID FORM

To

Head of Department
Contracts & Material Deptt.
BSES Rajdhani Power Ltd
New Delhi 110019

Sir,

1. We understand that BRPL is desirous of execution of .....(Name of work)
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 above amounts are in accordance with the Price Schedules attached herewith and are made part of this bid.
3. If our Bid is accepted, we undertake to deliver the entire goods 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 & subsequent corrigendum/amendment/extension of due date of submission. 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..... 2026

Signature..... In the capacity of

.....duly authorized to sign for

and on behalf of

(IN BLOCK CAPITALS).....

Appendix III

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed & stamped by the bidder along-with bid)

BSES Rajdhani Power Ltd (BRPL) intends to use reverse auction through SAP-SRM tool as an integral part of entire tendering process. All techno-commercially qualified bidders shall participate in the reverse auction.

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

1. In case of bidding through Internet medium, bidders are advised to ensure availability of all associated infrastructure as required for participating in the reverse auction event. Inability to bid due to telephone glitch, internet response issues, software & hardware hangs/failures, power failures or any other reason shall not be the responsibility of BRPL.

2. In case bidder fails to participate in the reverse auction event due to any reason whatsoever, it shall be presumed that the bidder has no further discounts to offer and the initial bid submitted by them as a part of tender shall be considered as bidder's Final No Regret offer. Any off-line price bids received from a bidder in lieu of non-participation in the reverse auction event shall be rejected by BRPL.

3. The bidder is advised to understand the bid process to safeguard them against any possibility of non-participation in the reverse auction event.

4. The bidder shall be prepared with competitive price quotes during the day of reverse auction event.

5. The prices quoted by bidder in reverse auction event shall be on FOR Landed cost BRPL Store/site basis inclusive of all relevant taxes, duties, levies, transportation charges etc.

6. The prices submitted by the bidder during reverse auction event shall be binding on the Bidder.

7. The bidder agrees to non-disclosure of trade information regarding bid details e.g. purchase, Identity, bid process/technology, bid documentation etc.

8. BRPL will make every effort to make the bid process transparent. However award decision of BRPL will be final and binding on the bidder.

9. The prices submitted during reverse auction event shall be binding on the bidder.

10. No request for Time extension of the reverse auction event shall be considered by BRPL.

11. BRPL shall provide the user id and password to the authorized representative of the bidder. Authorization letter in lieu of the same shall be submitted along with the signed and stamped acceptance form.

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 reverse auction event for arriving at contract amount

APPENDIX IV

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 Rajdhani Power Ltd., with it's Corporate Office at BSES Bhawan Nehru Place, New Delhi -110019 ,(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

1. If the Bidder, having been notified of the acceptance of its Bid by the Purchaser during the period of bid validity:
   I. Fails or refuses to execute the Contract Form, if required; or
   II. 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 (150) 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

APPENDIX - V

FINANCIAL DATA

(Duly Certified by Chartered Accountant)

	FY 2022-23	FY 2023-24	FY 2024-25
Total assets			
Current assets			
Total Liability			
Current Liability			
Profit before taxes			
Profit after taxes			
Sales Turnover			

APPENDIX - VI

FORMAT FOR BACKUP OF SUPPLY & PERFORMANCE QUANTITY

S.No	PO No	PO Date	PO Qty	Supplied		Customer	F.Y
				Qty.	Date		

APPENDIX - VII

NO DEVIATION SHEET

SL NO	SL NO OF TECHNICALSPECIFICATION	DEVIATIONS,IF ANY

SIGNATURE & SEAL OF BIDDER

NAME OF BIDDER

APPENDIX VIII

CHECK LIST

Sl No	Description	Compliance
1	INDEX	YES/NO
2	COVERING LETTER	YES/NO
3	BID FORM (UNPRICED) DULY SIGNED	YES/NO
4	BILL OF MATERIAL (UNPRICED)	YES/NO
5	DOCUMENTS IN SUPPORT OF QUALIFICATION CRITERIA	YES/NO
6	TECHNICAL BID	YES/NO
7	ACCEPTANCE TO COMMERCIAL TERMS AND CONDITIONS	YES/NO
8	FINANCIAL BID (IN SEALED ENVELOPE)	YES/NO
9	EMD IN PRESCRIBED FORMAT	YES/NO
10	DEMAND DRAFT OF RS 1000/- DRAWN IN FAVOUR OF BSES RAJDHANI POWER LTD	YES/NO
11	POWER OF ATTORNEY/AUTHORISATION LETTER FOR SIGNING THE BID	YES/NO
12	FINANCIAL DATA IN TABULAR FORMAT	YES/NO
13	LIST OF SUPPLY & PERFORMANCE QUANTITY	YES/NO
14	BANK SOLVENCY CERTIFICATE	YES/NO
15	NO LITIGATION CERTIFICATE	YES/NO

APPENDIX-IX

FORMAT FOR PERFORMANCE BANK GUARANTEE

(TO BE ISSUED ON RS 1OO/- STAMP PAPER)

Bank Guarantee No.

Place:

Date:

To
BSES Rajdhani Power Limited

Whereas BSES RAJDHANI POWER LTD (hereinafter referred to as the "Purchaser", which expression shall unless repugnant to the context or meaning thereof include its successors, administrators and assigns) has awarded to M/s. with its Registered/ Head Office at

(Hereinafter referred to as the "Supplier" which expression shall unless repugnant to the context or meaning thereof, include its successors administrators, executors and assigns), a contract no. Dated (the Contract);

And whereas the value of the Contract is Rs. (The Contract Value).

And whereas it is a condition of the Contract that the Supplier shall provide a Performance Bank Guarantee for the due and faithful performance of the entire Contract for a sum equivalent to - % of the Contract Value to the Purchaser on or before

And whereas the Bank under instructions from the Supplier has agreed to guarantee due performance of the Contract.
Now it is agreed as follows:

1. We (Name of the Bank) having its Head Office at (hereinafter referred to as the Bank, which expression shall unless repugnant to the context or meaning thereof, include its successors, administrators, executors and assigns) shall indemnify and keep indemnified the Purchaser for, and guarantee and undertake to pay to the Purchaser immediately on written demand, a sum equivalent to % of the Contract Value as aforesaid at any time up to (day/month/year) without any demur, reservation, contest, recourse or protest and/or without any reference to the Supplier, against all losses, damages, costs and expenses that may be caused to or suffered by the Purchaser by reason of any default on the part of the Supplier in performing and observing any and all the terms and conditions of the Contract or breach on the part if the Supplier of terms or conditions of the Contract.

2. The demand shall consist only of an original letter issued by Purchaser stating that the Supplier has failed to fulfill its obligations under the Contract. Such demand made by the Purchaser on the Bank shall be conclusive and binding notwithstanding any difference or dispute between the Purchaser and the Supplier or any difference or dispute pending before any Court, Tribunal, Arbitrator or any other authority.

3. The Bank undertakes not to revoke this guarantee during its currency without previous written consent of the Purchaser and further agrees that the guarantee herein contained shall continue to be enforceable during the

period that would be taken for satisfactory performance and fulfillment in all respects of the Contract or in the event of any dispute between the Purchaser and Supplier until the dispute is settled (provided that due claim demand under this guarantee is lodged /referred during the currency of this guarantee) or till the Purchaser discharges this guarantee whichever is earlier.

4. The Purchaser shall have the fullest liberty without affecting in any way the liability of the Bank under this guarantee from time to time to extend the time for performance of the Contract by the Supplier. The Purchaser shall have the fullest liberty, without affecting the liability of the Bank under this guarantee, to postpone from time to time the exercise of any powers vested in them or of any right which they might have against the Supplier, and to exercise the same at any time in any manner, and either to enforce or to forbear to enforce any covenants, contained or implied, in the Contract or any other course or remedy or security available to the Purchaser. The Bank shall not be released of its obligations under these presents by any exercise by the Purchaser of its liberty with reference: to the matters aforesaid or any of them or by reason of any other act or forbearance or other acts of omission or commission on the part of the Purchaser or any other indulgence shown by the Purchaser of by any other matter or thing whatsoever which under law would, but for this provision, have the effect of relieving the Bank.

5. The Bank agrees that the Purchaser and its option shall be entitled to enforce this guarantee against the Bank as a principal debtor, in the first instance without proceeding against the Supplier and notwithstanding any security or other guarantee that the Purchaser may have in relation to the Supplier's liabilities.

6. Notwithstanding anything contained hereinabove the liability of the Bank under this guarantee is restricted to a sum equivalent to % of the Contract Value i.e. Rs.(Rupees) and it shall remain in force up to and including .Unless a demand to enforce a claim under this guarantee is made against the Bank within 3 months from the above date of expiry i.e. up to all the rights of the Purchaser under the said guarantee shall be forfeited and the Bank shall be released and discharged from all liabilities thereafter.

7. This Performance Bank Guarantee shall be governed by the laws of India.

Dated this Witness

day of 20……. at

1. For Bank

2. Signature
Name Power of Attorney No:

Banker's Seal

SECTION VI
VENDOR CODE OF CONDUCT

Bidder shall agree to comply with Vendor code of Conduct as mentioned in BRPL Website. 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 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 Labour - Child labour 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 Labour - 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 the 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.

III. 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 with appropriate emergency 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.

IV. 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.

V. 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 a 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.

VI. 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:

- 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, targets and 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.

ANNEXURE-I

TECHNICAL SPECIFICATIONS

BSES

Technical Specification

For

11kV Covered Conductor & Accessories

Specification no – BSES-TS-04-11CCA-R0

Rev		0
Date		01 April 2022
Prepared by	Abhishek Vashistha	
	Gautam Deka	01/04/2022
	Pronab Bairagi	01/04/2022
Reviewed by	Puneet Duggal	
	Amit Tomar	01/04/2022
Approved by	Gaurav Sharma	
	K Sheshadri	

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1.0 SCOPE

This specification provides design, manufacturing, testing, inspection, packing and dispatch to BSES New Delhi store/ site of XLPE insulated AAAC AL59 water tight DOG & GOAT covered conductor along with accessories (Cl.4.13), specified herein for their satisfactory operation in various lines and substations of BSES Rajdhani Power Ltd, New Delhi.

These covered conductors are to be used as overhead distribution conductors on single circuit and / or double circuit for BSES distribution lines and / or sub-stations.

2.0 STANDARDS

The covered conductor shall conform to the following International/Indian Standards, which shall mean latest revisions, with amendments/changes adopted and published, unless specifically stated otherwise in the Specification.

S. No.	International/ Indian Standard	Title
1	SS 4240814	Aluminium alloy stranded Conductors for overhead lines Al59 specifications
2	SS 4240813	Aluminium alloy wire for stranded Conductors for overhead lines- Al 59 wires
3	SS EN 50397-1	Covered conductors for overhead lines and the related accessories- Covered Conductors
4	SS EN50397-2	Covered conductors for overhead lines and the related accessories- Accessories for covered conductors- tests and acceptance criteria

3.0 CLIMATIC CONDITIONS

a)	Average grade atmospheric condition	Heavily polluted, dry
b)	Maximum altitude above sea level	1000 M

c)	Air temperature Ambient	i) Highest : 50˚C ii) Average : 30˚C iii) Minimum : 0˚C
e)	Relative Humidity	100 % max
f)	Thermal Resistivity of Soil	150˚C. cm / W (max.)
g)	Seismic Zone	4
h)	Rainfall	750 mm concentrated in four months

4.0 GENERAL TECHNICAL REQUIREMENT

CONDUCTOR CONSTRUCTION FEATURES

The specification generally covers the technical parameters of AAAC circular, water tight AL-59 DOG and GOAT conductor wounded with conductor screen, Inner layer of TR-XLPE insulation and black coloured outer insulation of XLPE with UV resistant, non tracking and erosion resistant properties as per SS EN 50397-1. Conductor must be water tight with yarn/tape.

The conductor shall therefore be suitable for satisfactory operation under the climatic conditions listed in clause 3.0.

Conductor Code as per EN 50397-1: 2006

Type Code	CC	
Covering Material	S X T	-for semi-conductive screen -for cross-linked Polyethylene -for thermoplastic polyethylene
Conductor material and cross section	According to EN 50182	AL59
Conductor design	W K	-for water tight -for compacted
Rated Voltage *U* in kV	kV	

Covered Conductor Code to be used by BSES-

Sr. No.	Description	Conductor Material	Cable Code
1.	XLPE insulated DOG conductor	Al	CCSX ▲-AL59 WK Ë KV
2.	XLPE insulated GOAT conductor	Al	CCSX ▲-AL59 WK Ë KV

For which -
▲= Nominal Conductor Cross Section in mm^2;
Ë= Rated Voltage (in kV)

4.1CONDUCTOR

The AAAC AL59 conductor should be as per SS 424 08 14 and its latest amendments. All the physical properties, design and dimension, strength of material, testing of material etc. shall be as per SS 424 08 14 and EN 50397-1.

The AL59 conductor shall have accurate chemical composition of Alloy so as to offer excellent corrosion resistance, better strength to weight ratio and improved conductivity. The solution treatment shall be done in a very sophisticated and advanced technology furnace with automatic quenching system.

The AL59 conductor wire shall meet the mechanical strength and resistance of the wire properties as mentioned in the GTP (Annexure-A)/ SS 42408 14.

The bidder should specify the source of raw materials along with the proof of last purchases made. BSES may reject the tender of the Bidders whose raw material manufacturers are found to be supplying any poor quality or Non-standard materials to BSES.

4.2 FILLING

The stranded conductor longitudinally watertight by means of adequate measures as e.g. filling with an adequate mass. The filling mass or other materials for obtaining the longitudinal water-tightness, shall be compatible with the conductor material and the material of the covering

4.3 FREEDOM FROM DEFECTS

The wires shall be smooth and free from all imperfections such as spills, splits, slag inclusion, die marks, scratches, fittings, blow-holes, projections, looseness, overlapping of strands, chipping of Aluminium

layers etc., and all such other defects which may hamper the mechanical & electrical properties of the conductor as also the installation of the conductor at the site etc. Special care shall be taken to keep away dirt, grit etc. during stranding.

4.4 WIRE SIZES

The Aluminium wires for the stranded conductor covered by this standard shall have diameters specified in the guaranteed technical particulars (Annexure-A) shall be as such to comply with the rated DC resistance while maintaining cross section as per the specification and shall be within the tolerances indicated therein.

4.5 JOINTS IN WIRES

4.5.1	Joints not allowed.

4.6 STRANDING

4.6.1	The wires used in the construction of AL59 conductor before stranding and after stranding shall satisfy all the relevant requirements as per the standards indicated in the specification or any other relevant standards with due justification.
4.6.2	In all constructions, the successive layers shall have opposite directions of lay, the outermost layer being right-handed. The wires in each layer shall be evenly and closely stranded.
4.6.3	In conductors having multiple layers of Aluminium wires, the lay ratio of any Aluminium layer shall not be greater than the lay ratio of the Aluminium layer immediately beneath it.

4.7 STANDARD LENGTH

4.7.1	The standard length of the conductor shall be 1000 meter per drum. A tolerance of ± 5% on the standard length shall be permitted. Only one short length with drum length not less than 500 mtr. shall be accepted in last lot. All lengths outside this limit of tolerance shall be treated as rejected drum. Also, two short lengths shall not be allowed in one drum.

4.7.2	Bidder shall also indicate the maximum single length, above the standard length, he can manufacture in the guaranteed technical particulars. This is required for special stretches like river crossing, society crossing etc. BSES reserves the right to place orders for the above length as per the requirement.

4.8 CONDUCTOR SCREEN

Extruded semi conducting material as per BSES approved make (Annexure-B).

Thickness shall be as per Guaranteed Technical Particulars of the specification (Annexure-A). (Tapes are not acceptable)

4.9INNER INSULATION

4.9.1	Extruded TR-XLPE (Tree retardant Cross Linked Poly-Ethylene) insulation with water tree retardant property.
4.9.2	The required compound used shall be from BSES approved sub-vendors only (Annexure-B).
4.9.3	Uniform thickness of insulation shall be within the permissible values as per specification (Annexure-A). Eccentricity check shall be carried out to ensure this.
4.9.4	Insulation colour: Natural

4.10INSULATION OUTER LAYER

4.10.1	Extruded XLPE (Cross Linked Poly-Ethylene) insulation, UV resistant, Non Tracking & Erosion Resistant Black coloured XLPE (SS EN 50397-1).
4.10.2	Make of compound shall as per BSES approved sub-vendors only (Annexure-B).
4.10.3	Uniform thickness of insulation shall be within the permissible values as per specification (Annexure-A). Eccentricity check shall be carried out to ensure this.

4.10.4	Shape of the conductor over the outer layer shall be circular, when manufactured / completed. 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.
4.10.5	Outer layer colour: Black
4.10.6	Covered conductors shall be provided with an identification of origin consisting of a continuous marking of the manufacturer's name or trademark on the surface of the covering. This marking shall be made by embossing. Embossing on outer insulation of conductor shall be as: 1. Type of conductor (conductor name) • CCSX ▲-AL59 WK 11 kV (for DOG conductor) • CCSX ▲-AL59 WK 33 kV (for GOAT conductor) **(for which ▲= Nominal Cross section of conductor in mm^2)** 2. Manufacturer's Name and Trade-mark 3. Name of buyer / purchaser, BSES 4. Month and year of manufacturing 5. Batch No. / Lot No. 6. Purchase order No. and date * Progressive (sequential) length of cable at every meter, starting from zero for every drum shall be printed with laser print.
4.10.7	UV protection on outer layer shall be provided. The Carbon black content shall be as per EN 50397-1
4.10.8	Sample will be sealed during Acceptance test of each and every lot for testing of Chemical composition test of Aluminium and UV test of outer layer which shall be conducted from BIS and NABL (both) accredited third party lab.

4.11 XLPE PROCESS

- Dry Cure process only
- Triple head extrusion only

4.12END SEALING CAP

Both the ends of the conductor shall be sealed with heat shrinkable PVC end cap before dispatching the final drum to BSES.

Drums without end sealing cap will not be accepted by BSES.

4.13 ACCESSORIES

- The Accessories shall abide SS EN 50483, SS EN 50397-1 and SS EN 50397-2 standards.
- All the accessories shall be type tested and the acceptance test shall be carried out as per standard SS EN 50397-2.
- BSES reserves the right to reject the bid if the type test report of accessories is not valid.
- The fittings shall be able to withstand the specific minimum failure load and shall not damage the covering (no damage shall occur which could affect the correct function of the covering) and shall be designed to prevent the ingress of moisture during service.

4.13.1	Anchoring (Dead end) Clamps	• As per NFC 33 041 September 2013/ EN 50483 as per latest amendments • Min. Breaking load = ~30kN • For anchoring or tensioning covered conductor
4.13.2	Plastic insulator ties	For gripping/holding of covered conductors with pin or spool type insulators
4.13.3	Suspension clamps	• Body made of insulating material with climatic resistance which provides an additional insulation between the pole and the cable • A stainless clip insert to avoid any abrasion due to vibrations • Locking and clamping of the bundle by a thermoplastic bolt with fusible wing nut. Shall have provision for removal and further installation. • The suspension clamps shall be so designed that the effect of vibration, both on the covered

		conductor and on the clamps themselves are minimized. The clamps shall be designed to avoid localized pressure or damage to the covered conductor. • The wear resistance of the articulation shall be sufficient to prevent deterioration in service. • Breaking load = ~8kN
4.13.4	Insulating piercing connectors	• To connect a covered tap conductor to a covered main conductor without stripping. • Connector shall be adapted for installation in polluted areas. • Connector shall be resistant to tracking phenomenon.
4.13.5	Pre insulated junction sleeve for AAAC covered conductors	• Connection: water tightness shall be assured by a soft joint • The sleeve shall mention— ○ Number and order of compressions to be made ○ Length to be stripped on the conductor ○ The die to be used
4.13.6	Markings	• Manufacturer's trade mark or logo; • Product code or reference; • Traceability code / batch number; • The minimum and maximum cross section for which the unit is suitable; • Tightening torque or die reference, if applicable; • Recycling code, if any. **NOTE:** Marking shall be provided as per SS EN 50397-2.

5.0 TESTS

5.1 GENERAL

The type test, acceptance test, routine test any other tests specifically demanded by BSES and tests during manufacturing shall be carried out by the manufacturer on the whole **covered conductor** and **accessories without any cost implication to BSES**.

5.1.1	Type tests shall mean those tests, which are to be carried out from BSES approved testing laboratory (CPRI/ERDA) to prove the quality of product and general conformity of the material to this specification in the presence of BSES's representative. These tests shall be carried out on samples prior to commencement of commercial production against the order. The Manufacturer shall indicate his schedule for carrying out these tests in the activity schedule. BSES reserves the right to specify the name of the laboratory also, if so felt. All kind of expenses for type test shall be borne by manufacturer.
5.1.2	Acceptance Test means those tests which are to be carried out on samples of covered conductor taken from each lot offered for pre-dispatch inspection, for the purpose of acceptance of that lot. These tests shall be carried out at the manufacturer's works in presence of BSES's representative before the dispatch of the materials to the site/BSES store with in Delhi.
5.1.3	Routine Test means those tests which are to be carried out on each strand/spool/length of the covered conductor to check requirements, which are likely to vary during production. These tests shall be carried out by the manufacturer on each drum and shall have to furnish the reports to the BSES's representative during his visit for acceptance tests or/and on requirement of BSES.
5.1.4	Tests during manufacturing means those tests which are to be carried out during the process of manufacturing and end inspection by the manufacturer to ensure the desired quality of the end product to be supplied, including all quality control checks & raw material testing.

5.1.5	For all type and acceptance tests, the acceptance values shall be the values guaranteed by the Bidder in the "Guaranteed Technical Particulars ", of their proposal or the acceptance value specified in this specification, whichever is more stringent for that particular test.
5.1.6	BSES reserves the right to visit the plant and can review the manufacturing process as well as quality any time during manufacturing till delivery without any prior intimation to manufacturer.

5.2 TYPE TESTS

Bidder shall submit the Type test reports of AAAC AL-59 Dog and Goat conductor along with the type test reports of Accessories as mentioned in this specification during the submission of technical bid.

5.2.1	All the product including accessories must be of type tested quality from CPRI/ ERDA. Type test reports shall be submitted for the type, size and rating of all the products offers in the bid. BSES reserves the right to conduct type test from BSES PO for which the cost shall be borne by the bidder without any cost implication to BSES. Type tests shall be as per EN 50397-1: 2006 and its latest amendments.

5.3 ACCEPTANCE TESTS

Covered Conductor		
5.3.1	Visual and dimensional check on drum	SS 4240814 and IS: 398(Part IV) 1994/Relevant with latest Amendment.
5.3.2	Visual check for joints, scratches etc. and lengths of conductor	SS 4240814 and IS: 398(Part IV) 1994/Relevant with latest Amendment.
5.3.3	Dimensional check on Aluminium strands	SS 4240814 and IS: 398(Part IV) 1994/Relevant with latest Amendment.
5.3.4	Conductor Resistance test at 20˚C	EN 50397-1-2006
5.3.5	Volume Resistivity	EN 50397-1-2006
5.3.6	High Voltage test	EN 50397-1-2006

5.3.7	Leakage current test	EN 50397-1-2006
5.3.8	Tracking Resistance test	EN 50397-1-2006
5.3.9	Test for thickness of insulation, semicon and outer layer	EN 50397-1-2006
5.3.10	Dimension for insulation and layer	EN 50397-1-2006
5.3.11	Tensile and elongation at break of Insulation and outer layer	EN 50397-1-2006
5.3.12	Hot set test for insulation and outer layer	EN 50397-1-2006
5.3.13	UV test of outer layer from NABL approved lab	EN 50397-1-2006
5.3.14	Water Penetration test	EN 50397-1-2006
5.3.15	Water absorption test	EN 50397-1-2006
5.3.16	Check for lay ratio of various layers.	EN 50397-1-2006
5.3.17	Breaking load test on aluminum strands.	EN 50397-1-2006
5.3.18	Wrap test on aluminum strands.	EN 50397-1-2006
5.3.19	UTS test on welded joint of aluminum strand	As per this specification
5.3.20	Stress Strain test surface condition test	EN 50397-1-2006
5.3.21	Chemical analysis of Aluminium	EN 50397-1-2006
5.3.22	Chemical analysis of Outer layer	EN 50397-1-2006

5.3.23	Eccentricity check of insulation	IS 7098-2
5.3.24	Ageing in air oven of insulation and outer layer	SS 4240814 and IS: 398(Part IV) 1994/Relevant with latest Amendment.
5.3.25	Drum Rewinding	Factory Standard
5.3.26	Cable end sealing	Factory Standard
5.3.27	Drum Stenciling	Factory Standard
5.3.28	Carbon Black Content	EN 50397-1-2006
Accessories		
5.3.29	Visual Examination	EN 50397-2
5.3.30	Dimensional and material verification	EN 50397-2
5.3.31	Marking	EN 50397-2
5.3.32	Tensile test	EN 50397 -2

All above tests shall be carried out after stranding only.

5.4 ROUTINE TESTS

Physical Tests	
5.4.1	Check ensures that the joints are as per specifications.
5.4.2	Check that there are no cuts, fins etc. on the strands.
5.4.3	Check that drums are as per specification.

Electrical Tests	
5.4.4	High Voltage test
5.4.5	Conductor resistance test
Routine Tests on Accessories	
5.4.6	Routine tests on accessories are intended to prove conformance of fittings to specific requirements and are made on every fitting. Routine tests on accessories shall be as per SS EN 50397-2.

Test results from the above tests must appear in the documents forwarded by the vendor for inspection call.

5.5 TESTS DURING MANUFACTURING

5.5.1	Chemical analysis of Aluminium used for making Aluminium strands	As per relevant standard
5.5.2	Anti tracking test on each drum length	As per EN 50397-1:2006

Test report of the same shall be submitted to BSES.

5.6 TESTING CHARGES

5.6.1	The testing charges for the type tests specified and as per relevant standard shall be borne by the bidder. All the manufacturers irrespective of quantity allotted to them, will have to carry out the Type Tests at their own cost and BSES will not have any bearing on this account. The type test reports shall not be older than 5 yrs and shall be valid till the validity of offer
5.6.2	In case of failure in any of the type tests, the manufacturer is required to modify the design of the material if required and repeat the particular type test and same shall pass within three times at his own expenses. The decision of the BSES in this regard shall be final. BSES at its own desecration may also cancel the order at the risk and cost of the manufacturer if the

	material fails twice in the type test.
5.6.3	Type test shall be done from CPRI/ERDA. Ensure that the tests can be completed in these laboratories within the time schedule guaranteed by them in the appropriate schedule. BSES reserves the right to specify the name of the laboratory also, if so felt.
5.6.4	The entire cost of testing for the acceptance and routine tests and tests during manufacture specified herein shall be treated as included in the quoted unit price of conductor.

5.7 ADDITIONAL TESTS

BSES reserves the right of getting done any other test(s) of reasonable nature carried out at Manufacturer's premises, at site, or in any other place/ third party lab in addition to the aforesaid type, acceptance and / or routine tests to satisfy with the fact that the material comply with the specifications. In such case all the expenses will be to Manufacturer's account.

5.8 SAMPLE BATCH FOR TYPE TESTING

5.8.1	The Manufacturer shall offer at least three (3) drums for selection of samples required for conducting all the type tests. BSES reserves the right to choose drums.
5.8.2	The Manufacturer is required to carry out all the acceptance tests and anti tracking test successfully in the presence of BSES representative in their manufacturing facility before dispatch of the selected sample to the testing laboratory for type test.

5.9 TEST REPORTS

5.9.1	Soft copies of type test reports shall be furnished through mail only. BSES may ask original type test report to verify soft copy. BSES will not receive any hard copy for their office record. BSES will give final dispatch clearance after validating type test report.
5.9.2	Record of routine test reports shall be maintained by the Manufacturer at their works for periodic inspection by the BSES's representative and shall be reviewed during inspection.

5.9.3	Test Certificates of tests done during manufacturing shall be maintained by the Bidder. These shall be produced for verification as and when desired by the BSES.

6.0 INSPECTION

6.0.1	BSES representative shall at all times be entitled to have access to the works and all places of the manufacturer where covered conductor shall be manufactured and the representative shall have full facilities for unrestricted inspection of the Manufacturer's works, raw materials, store process and process of manufacture and conducting necessary tests as may be deemed fit, for certifying the quality of product.
6.0.2	The Manufacturer shall keep BSES informed in advance of the time of starting and of the progress of manufacturing of covered conductor in its various stages so that arrangements can be made for inspection.
6.0.3	No material shall be dispatched from its point of manufacture and works before it has been satisfactorily inspected, tested, and necessary dispatch instructions are issued in writing, except for the cases where waiver of Inspection is granted by BSES, and even in this case also, written dispatch instructions will be issued. Any dispatches before the issue of Dispatch Instructions in writing will be liable for rejection and non acceptance by the consignee.
6.0.4	The acceptance of any quantity of material shall in no way relieve the Manufacturer of any of his responsibilities for meeting all requirements of the specification, and shall not prevent subsequent rejection if such material is later found to be defective.
6.0.5	At least 10% of the total number of drums subject to minimum of two in any lot put up for inspection shall be selected at random to ascertain the length of conductor.
6.0.6	The sample cut from any numbers of drums for carrying out any type of tests will be to the manufacturers account.
6.0.7	Anti Tracking test on one sample of each offered lot shall be conducted from 3rd party lab (accredited by both BIS and NABL), cost shall be borne by the manufacturer.

6.0.8	Only soft copy of inspection report shall be furnished by manufacturer through mail. BSES shall not receive any hard copy of report for their office record.

7.0 QUALITY ASSURANCE PLAN

7.1 The bidder shall invariably furnish following information along with his offer, failing which his offer shall be rejected.

7.1.1	Statement giving list of important raw materials names of sub manufacturers for the raw materials, list of standards according to which the raw materials are tested, list of tests normally carried out on raw materials in presence of manufacturer's representative and as routine and / or acceptance during production and on finished goods, copies of test certificates.
7.1.2	Information and copies of test certificates as in mentioned above in respect of bought out accessories.
7.1.3	List of manufacturing facilities available.
7.1.4	Level of automation achieved and list of areas where manual processing exists.
7.1.5	List of areas in manufacturing process, where stage inspections are normally carried out for quality control and details of such tests and inspections.
7.1.6	List of testing equipment available with the Manufacturer for final
7.1.7	Testing of Covered Conductor to be specified. In the case if the manufacturer does not possess all the Routine and Acceptance testing facilities, the bid / PO shall be rejected.
7.1.8	BSES reserves the right for factory inspection to verify the quoted offer. If any of the facts are found to be misleading or incorrect the offer of that Bidder will be out rightly rejected and he may be black listed.
7.1.9	Special features provided to make it maintenance free.

7.2 The bidder shall also submit following information to the BSES along with the technical Bid.

7.2.1	List of raw materials as well as bought out accessories, and the name of manufacturers of raw materials as well as bought out accessories.
7.2.2	Type test certificates of the raw material and bought out accessories.
7.2.3	Quality assurance plan (QAP) with hold points for BSES's inspection.

7.3 The Manufacturer shall submit the routine test certificates (only soft copy through mail) of all the bought-out items, accessories etc.

NOTE: Final QAP shall be approved by BSES.

8.0 DOCUMENTATION

Submission of drawings, calculations, catalogues, manuals, test reports shall be as mentioned below:

8.0.1DRAWING, DATA AND MANUALS

Cross-Sectional drawing shall show every feature of construction, including the thickness/ diameter over every layer. This drawing shall also state the text to be embossed over the outer insulation layer i.e. type/ size etc. of the conductor, drum no./ lot no., sequential length marking over every meter, font sizes to be used, additional text if any etc. Also drum detail markings to be made on both sides of the drum.

8.0.2 DOCUMENTS TO BE SUBMITTED ALONG WITHBID FOR TECHNICAL JUSTIFICATION

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

a. All documents/drawings shall be provided in soft copy only in returnable Pen drives
b. Language of the documents shall be English only.
c. Incomplete submission shall be liable for rejection.
d. Document check sheet compliance shall be the first sheet for each submission stage i.e. Technical bid, Drawing Approval, Pre Dispatch, Pre closure
e. No submission is acceptable without check list compliance.

f. Deficient/ improper document/ drawing submission shall be liable for rejection.

g. Order of documents shall be strictly as per the check list.

h. Any document not included in the below table but necessary for detailed engineering shall be deemed to be included in bidder's scope

S.No.	Detail of Document	For Tender	For Approval/Review	Final Submission
1	Guaranteed Technical Particulars (GTP)	Required	Required	Required
2	Deviation Sheet, if any	Required	Required	Required
3	Detailed cross sectional drawing of cable and drum	Required	Required	Required
4	Installation Instructions		Required	Required
5	Manual/Catalogue	Required	Required	Required
6	Cable de-rating factors		Required	Required
7	Type test reports of offered type and rating of cable	Required	Required	Required
8	BIS certificate	Required		
9	Make of Raw Materials	Required	Required	Required
10	Inspection and test reports, carried out in manufacturer's works			Required
11	Routine Test Certificates			Required
12	Test certificates of all the raw materials			Required

- The manufacturing of the conductor shall be strictly in accordance with the approved drawings and no deviation shall be permitted without the written approval of the BSES. All manufacturing and fabrication work in connection with the conductor prior to the approval of the drawing shall be at manufacturer's risk.

Approval of drawing etc. by the BSES shall not relieve the Manufacturer of his responsibility and liability for ensuring correctness and correct interpretation of the latest revision of applicable standards, rules and codes of practices. The conductor shall conform in all respects to high standards of engineering, design, workmanship and latest revisions of relevant standards at the time of ordering and BSES shall have the power to reject any work or material which in his judgment is not in full accordance therewith.

9.0 PACKING & FORWARDING

9.1	The conductor shall be supplied in **non-returnable steel drums** only	
9.2	The drums shall be suitable for wheel mounting and for jetting off the conductor under a minimum controlled tension of the order of 5 KN.	
9.3	The bidder should submit the proposed drum drawings along with the bid. However, the same shall be in line with the requirements as stated herein.	
9.4	Both the ends of the conductor shall be properly sealed to prevent any deterioration of the conductor, due to ingress of water, etc.	
9.5	Shipping Information	The seller shall give complete shipping information concerning the weight, size of each package
9.6	Transit damage	The seller shall be responsible for any transit damage due to improper packing
9.7	Cable Drum handling	The drums shall be with MS 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.
9.8	Markings	• Drum identification number • Conductor type • Conductor length (meter)

		• PO number and date • SAP item code • Total weight of cable and drum • Manufacturer's name • Buyer's name • Month and year of manufacturing • Direction of rotation of drum • Conductor length final end markings (i.e. reading at inner end reading at the outer end, just before packing shall be marked on the drum)
9.9	Delivery Schedule	• Delivery period Start Date : From date of LOI / LOA • Delivery period End Date : As agreed with manufacturer • Material dispatch Clearance : After inspection by purchaser
9.10	Accessories	• Accessories shall be packed separately item wise with proper protection to prevent damage and easy handling. • Marking • Material description • Type • Dimension • PO number and date • SAP item code • Total weight of • Manufacturer's name • Buyer's name • Month and year of manufacturing • Storage type

10.0 DEVIATIONS

a) Deviations from this specification shall be listed separately by bidder clause wise (format given below) along with optional offer and has to submit the list along with bid/quotation. BSES will review the deviations and if BSES is agreed with the deviation, seller has to take written confirmation from BSES on deviation during tender evaluation.

b) In the absence of any separate list of deviations from the bidders with bid as well as written confirmation from BSES on deviations, it will be assumed by the Buyer that the Seller complies with the Specification fully.

c) Any deviations mentioned in any other submitted bid documents (i.e.in filled GTP, Catalog, BSES old approval, buyer's/seller's standards etc) by seller without separate deviation sheets will not consider as a deviation from this tech spec at any stage of contract.

Deviation Sheet Format-

Sino	Document Name	Clause No.	Deviation	Reason	Merits to BSES

ANNEXURE-A GUARANTEED TECHNICAL PARAMETERS

Note:

1) Every data shall be mentioned.
2) Seller may submit separate GTP for the cable, as suitable.
3) GTP shall be read in line with purchaser's Project Site Specific Requirement.

S.No	Description	AL59 DOG	AL59 GOAT
1	Guarantee Period	60 months from date of commissioning / 66 months (from date of receipt at purchaser's store) whichever is earlier	

S.No	Description	AL59 DOG		AL59 GOAT	
2	Standard according to which the conductor will be manufactured and tested	SS EN4240814 SS EN 4240813 SS EN 50397-1			
3	Quality of material & standard to which conform	SS EN 42 40814 & IS-9997			
4	Type of covered conductor	AAAC (AL-59) Covered Conductor			
5	Number of strands and wire diameter in mm	7/4.72 mm		37/3.71mm	
6	Number Of Strands – Nos.	7		37	
7	Diameter Of Strand – mm. I) Strands a) Nominal	4.72		3.71	
	b) Maximum	4.77		3.75	
	c) Minimum	4.67		3.67	
	II) Overall Of Conductor	14.16		25.97	
8	Nominal Cross Sectional Area (mm^2) Of- a) Whole Conductor b) Each Strand	122.5 17.50		400 10.81	
9	Laying Of Strands – Nos.	**Max**	**Min**	**Max**	**Min**
	a) Centre wire				
	b) First Layer	14	12	14	12
	c) Second Layer	-	-	13	11

S.No	Description	AL59 DOG		AL59 GOAT	
	d) Third Layer	-	-	13	11
	e) Fourth Layer	-	-	-	-
10	Weight (Excl. Wt. Of Grease) – Kg/Km. a) Whole Conductor	As per Manufacturer			
	b) Strand (At Nominal Dia.)	As per Manufacturer			
11	Calculated D.C. resistance at 20°C (Ω/Km) (Max.) a) Whole Conductor	0.2400		0.07411	
	b) Strand	1.66		2.69	
12	Ultimate Tensile Stress – KN a) Whole Conductor	28.2		96	
	b) Strand i) Before Stranding	4.02		2.59	
	ii) After Stranding	3.82		2.46	
13	Modulus of Elasticity –MPA	As per Manufacturer			
14	Coefficient of linear expansion – per deg. C.	$23.0x10^{-6}$		$23.0x10^{-6}$	
15	Chemical Composition	The wire material shall be AL59 Aluminium alloy meeting the requirements on Resistivity, tensile strength, DC resistance etc.			
16	Resistivity – Ω mm^2 / Mtr.				
17	a) Continuous minimum current rating of conductor in still air at ambient Temperature (40˚C)	375 A		828 A	
	b) Temperature rise for the above 55˚C	55		55	

S.No	Description	AL59 DOG	AL59 GOAT
18	Minimum continuous current rating of conductor at 95˚C corresponding of ambient temperature of 50˚C	375 A	828 A
19	Lay Ratios a) First Layer i) Maximum ii) Minimum	 14 12	 14 12
	b) Second Layer i) Maximum ii) Minimum	NA	13 11
	c) Third Layer i) Maximum ii) Minimum	NA	13 11
	d) Fourth Layer i) Maximum ii) Minimum	NA	NA
20	Minimum tensile strength of the finished strand with joint if any made in base rod or semi finished wire a) Aluminium Alloy	Min. 90% of wire before stranding	Min. 90% of wire before stranding
21	Conductor Screen		
	Material	Extruded semi-conducting layer (As per Cl. 4.8)	
	Nominal thickness (mm)	0.3	0.3

S.No	Description	AL59 DOG	AL59 GOAT
22	Insulation inner layer	(As per Cl. 4.9)	
	Material	TR-XLPE	TR-XLPE
	Nominal thickness (mm)	1.2	2.43
23	Insulation outer layer	(As per Cl. 4.10)	
	Material	UV stabilized, weather resistant and tracking resistant Black XLPE with UV RESISTANT,NON TRACKING & EROSION RESISTANT (EN 50397-1)	
	Nominal thickness (mm)	1.1	1.2
24	Approx. overall diameter (mm)	As per Manufacturer	
25	Approx. weight (kg/km)	As per Manufacturer	
26	Max. continuous operating conductor temperature (˚C)	95	95
27	Embossing on Insulation outer layer	As per Clause 4.10.6	
28	Standard packing length	1000 ± 5%	1000 ± 5%

ANNEXURE-B MAKE LIST

S.No.	Raw Materials		Name of the Manufacturers
1.	TR-XLPE/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.	Aluminium Rod	1	Bharat Aluminium Co. Ltd. (BALCO)
		2	Hindustan Aluminium Co. Ltd. (HINDALCO)
		3	National Aluminium Co. Ltd. (NALCO)
		4	Vedanta (Sesa Sterlite)

BSES

Technical Specification of

ACSR CONDUCTORS

(Insulated & Bare)

Specification no – BSES-TS-05-ACSR-R0

Rev:		0
Date:		04 Apr 2022
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1. SCOPE

1.1 This specification covers the design, manufacture, testing at manufacturer's works, packing and delivery at site of the ACSR conductor along with necessary accessories.

1.2 The conductor and its accessories shall be complete with all fittings and components necessary for the effective working and efficient performance and satisfactory maintenance under the various operating conditions specified. All such parts shall deemed to be included within the scope of supply where specifically included or not in this specification in the tender schedule. The successful bidder shall not eligible for any extra charge for such accessories.

1.3 The specification includes both insulated & un-insulated ACSR conductor. Following table suggest requirement of conductors under insulated & un-insulated type as per tender enquiry

Conductor name	Zebra	Goat	Panther	Wolf	Dog	Rabbit	Squirrel
Insulated	X	X	X	X	√	√	√
Un-Insulated	√	√	√	√	√	√	√

2. CODES AND STANDARDS

2.1 All equipment and material shall be designed, manufactured and tested in accordance with the latest applicable Indian Standard, IEC standard and CBIP manuals enlisted in the appendix 1, except where modified and / or supplemented by this specification.

2.2 Equipment and material confirming to any other standard, which ensures equal or better quality, may be accepted. In such case copies of English version of the standard adopted shall be submitted by the vendor with the offer

2.3 The electrical installation shall meet the requirement of Indian Electricity Rules as amended up to date; relevant IS code of practice and Indian electricity act. In addition other rules & regulations applicable to the work shall be followed. In case of any discrepancy the most stringent & restrictive one shall be binding.

2.4 The equipment offered shall in general comply with the latest issues including amendments of the standards enlisted in the appendix 1 but not restricted to it.

3. DESIGN

3.1 General

- All steel strands shall be smooth, uniform and free from all imperfections, such as spills and splits, die marks, scratches, abrasions and kinks after drawing and also after stranding.
- The finished material shall have minimum brittleness, as it will be subjected to appreciate vibration while in use.
- The steel strands shall be hot dip galvanized and shall have a maximum zinc coating of 240gms/sq.mm after stranding. The zinc coating shall be smooth, continuous of uniform thickness, free from imperfections and shall withstand three and a half dips after stranding in standard Price test.
- The steel wire rod shall be of such quality and purity that, when drawn to the size of the strands specified and coated with zinc, the finished strands shall be of uniform quality and have the same properties and characteristic as prescribed in relevant ASTM/IS/IEC standards.
- To avoid susceptibility towards wet storage stains (while rust), the finished material shall be provided with a protective coating of boiled linseed oil.
- The finished conductor shall have a smooth surface without any surface cuts, abrasions, scuff

marks and shall be free from dirt, grit etc.

- The Steel wire shall be made from materials produced either by the acid or basic Open Hearth process or by electric process. No steel wire drawn from 'Bessemer processes shall be used. The steel wire shall not contain sulphur or phosphorous exceeding 0.5% and the total of sulphur and phosphorous shall not exceed 0.085%.
- The steel strands shall be performed and post formed in order to prevent spreading of strands in the event of cutting of composite core wire. Care shall be taken to avoid damages to galvanization during performing and post forming operations.

3.2 MATERIALS

- The aluminium strands shall be hard drawn from electrolytic aluminum rods having a purity of not less than 99.5% and a copper content not exceeding 0.04%.
- The steel wire strands shall be drawn from high carbon steel wire rods produced by either the acid or basic open hearth process, the electric furnace process, or the basic oxygen process and shall conform to the following requirements as to the chemical composition:

Element	% composition
Carbon	0.50 to 0.85
Manganese	0.50 to 1.10
Phosphorus	Not more than 0.035
Sulphur	Not more than 0.045
Silicon	0.10 to 0.35

- The zinc used in galvanizing shall be electrolytic high grade zinc of 99.95% purity. It shall conform to and satisfy all the requirements of IS/IEC.

3.3 STANDARD LENGTH

- The standard length of the conductor shall be 3000 meters. A tolerance of +/-5% on the standard length offered by the Bidder shall be permitted. All lengths outside this limit of tolerance shall be treated as random lengths.
- Random lengths will be accepted provided no length is less than 70% of the standard length and the total quantity of such random length shall not be more than 10% of the total quantity ordered. When one number random length has been manufactured at any time, five (5) more individual lengths, each equivalent to the above random length with a tolerance of +/-5% shall also be manufactured and all the above six random lengths shall be dispatched in the same shipment. At any point, the cumulative quantity supplied including such random lengths shall not be more than 12.5% of the total cumulative quantity supplied including such random lengths. However, the last 20% of the quantity ordered shall be supplied only in standard lengths as specified.
- Bidder shall also indicate the maximum single length, above the standard length, he can manufacture in the guaranteed technical particulars of offer. This is required for special stretches like river crossing etc. The employer reserves the right to place orders for the above lengths on the same terms and conditions applicable for the standard lengths during the pendency of the Contract.

3.4 JOINT IN WIRES

- **Aluminium wires**
  No joints shall be permitted in the individual wires in the outer most layer of the finished conductor. However, joints in the 12 wire and 18 wire inner layer of the conductor shall be allowed but these joints shall be made by cold pressure butt welding and shall be such that no such way joints are within 15 meters of each other in the complete stranded conductor. The joints shall withstand a stress of not less than the breaking strength of individual strand guaranteed.

- **Steel Wires**
  There shall be no joint of any kind in the finished wire entering into manufacture of the non strand joint or strand splices in any length of the complete stranded steel core of the conductor.

3.5 INSULATON

S. No.	Particular	Data
1	Voltage Grade	1.1 kV
2	Insulation Material	XLPE
3	Nominal Thickness of Insulation	As per table 3 of IS 7098 P-1

4. QUALITY ASSURANCE

4.1 Vendor shall follow his standard procedures for quality assurance and control. These standard procedures including quality assurance plan shall be submitted to the purchaser for approval.

4.2 The procedures shall be in such a form as to clearly indicate the manufacturing sequence and major inspection points and to reference Bidder's test in inspection procedures.

4.3 Manufacturing and quality control procedures shall be available for audit to the Purchaser and / or its representatives at the place of manufacture.

4.4 The Purchaser and/or its representative reserves the right to inspect the equipment at the point of manufacture and witness factory and other such tests as may be necessary to ensure conformance to the specification.

4.5 The Purchaser and / or its representative shall inspect the Vendor facilities prior to award of contract.

4.6 The Purchaser and/or its representative may conduct surveillance of the Vendor facilities for compliance to his standard procedures of quality assurance and quality control while work is in progress.

5. INSPECTION AND TESTING

5.1 INSPECTION

- The purchaser's representative shall at all times be entitled to have access to the works and all places where conductor shall be manufactured and shall have full facilities for unrestricted inspection of the manufacturer works, raw materials and process of manufacture for conducting necessary tests as detailed herein.
- The manufacturer shall keep the Employer informed in advance of the time of starting and of the progress of manufacture of conductor in its various stages so that arrangements can be made for inspection.
- No material shall be dispatched from its point of manufacture before it has been satisfactory inspected and tested, unless the inspection is waived off by the purchaser in writing. In the latter

case also the conductor shall be dispatched only after satisfactory testing for all tests specified herein have been completed.

- The acceptance of any quantity of material shall in no way relieve the manufacturer of any of his responsibilities for meeting all requirements of the Specification and shall not prevent subsequent rejection if such material is later found to be defective.

5.2 TESTS

The following acceptance and routine tests and tests during manufacture shall be carried out on the conductor. For the purpose of this clause, the following shall apply

- Acceptance tests shall mean those tests which are to be carried out on samples taken from each lot offered for pre-dispatch inspection, for the purpose of acceptance of that lot.
- Routine tests shall mean those tests, which are to be carried out on each strand/spool/length of the conductor to check requirements which are likely to vary during production.
- Tests during manufacture shall mean those tests, which are to be carried out during the process of manufacture to ensure the desired quality of the end product.
- For all acceptance tests, the acceptance values shall be the values shall be the values guaranteed by the Bidder in the guaranteed technical particulars of his proposal or the acceptance value specified in this Specification, whichever is more stringent for that particular test.

5.3 **TYPE TESTS**

Supplier shall submit all Type test report with validity of 5 years, along with the bid. The entire test certificate as per relevant IS/IEC shall be submitted for purchaser review. In case type tests have not been conducted earlier the same has to be carried out without any cost implication to purchaser. Purchaser has the right of witnessing any of the tests for which the supplier has to give prior notice before the date of conducting such tests. The unit rates for each type of the tests to be carried out shall be indicated in the offer. Requirement of type test shall be as listed below. Type test charges shall not be included as part of main price to be indicated in the offer.

The following tests shall be performed on a typical length of conductor. The cost of these tests shall be quoted separately.

a) Surface condition test
b) Test for ultimate breaking load on stranded conductor
c) Stress strain test
d) Measurement of diameter of individual aluminium and steel wires.
e) Measurement of lay ratio.
f) Breaking load of individual wires
g) Ductility test
h) Wrapping test
i) Resistance test and
j) Galvanizing test

5.4 ACCEPTANCE TESTS

a) Visual and dimensional check by drum
b) Visual check for joints scratches etc and lengths of conductor by rewinding
c) Dimensional check on steel and Aluminium strands

d) Galvanizing test on steel strands
e) Torsion and elongation test on steel strands
f) Check for lay ratio of various layers
g) Breaking load test on steel and aluminium strands
h) Wrap test on steel and aluminum strands
i) DC resistance test on aluminium strands
j) UTS Test on welded joint of strands
k) Tensile test (For Aluminium)
l) Test for thickness of insulation
m) Tensile strength & elongation at break test for insulation
n) High voltage test
o) Insulation resistance (Volume resistivity) test

All above tests except (j-o) shall be carried out on aluminium and steel strands after stranding only.

5.5 ROUTINE TESTS

a) Check to ensure that the joints are as per Specification.
b) Check that there are no cuts, fins etc on the strands.
c) Check that drums as per Specification.
d) All acceptance test as mentioned above to be carried out on each coil

6. EMBOSSING & PRINTING

Following text shall be embossed on insulated conductor only

a) BSES, PO No. & Date, Manufacturing month & year, Type of Conductor- one each meter length
b) Printing of running meter No.- on each meter length- White colour

7. APPROVED VENDORS & SUPPLIERS OF RAW MATERIAL

S. No	Material	Approved Suppliers
1	Steel	TATA /SAIL
2	Aluminium	NALCO/BALCO/HINDALCO
3	Insulation	KLJ/KALPENA/DOW/HANWHA/BOREALIS

8. DOCUMENT SUBMISSION MATRIX

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

a. All documents/drawings shall be provided in soft copy only via mail or in returnable Pen drives
b. Language of the documents shall be English only.
c. Document check sheet compliance shall be the first sheet for each submission stage i.e. Technical bid, Drawing Approval, Pre Dispatch, Pre closure
d. No submission is acceptable without check list compliance.
e. Deficient/ improper or incomplete document/ drawing submission shall be liable for rejection.
f. Order of documents shall be strictly as per the check list.

g. Any document not included in the below table but necessary for detailed engineering shall be deemed to be included in bidder's scope

S No.	Detail of Document	Bid	Approval	Pre Dispatch
1	Guaranteed Technical Particulars (GTP)	Required	Required	
2	Deviation Sheet, if any	Required	Required	
3	Detailed cross sectional drawing of ACSR Conductor	Required	Required	
4	Dimensional drawing of drum	Required	Required	
5	Type test reports of offered type and rating of ACSR conductor	Required	Required	
6	BIS certificate	Required		
7	Complete cable catalogue	Required		
8	Make of Raw Materials	Required	Required	
09	Inspection test reports and Routine Test Certificates carried out in manufacturer's works			Required
10	Test certificates of all raw materials			Required
11	Calibration test reports of instruments			Required

9. ANNEXURE - I

CONDUCTOR DATA SHEET

S.N.	Particulars	Conductor Details						
1	Conductor Name	Zebra	Goat	Panther	Wolf	Dog	Rabbit	Squirrel
2	Stranding and wire diameter	54/3.18 mm Al. + 7/3.18 mm Steel	30/3.71 mm Al. + 7/3.71 mm Steel	30/3.0 mm Al. + 7/3.0 mm Steel	30/2.59 mm Al. + 7/2.59 mm Steel	6/4.72 mm Al. + 7/1.57 mm Steel	6/3.35 mm Al. + 1/3.35 mm Steel	6/2.11 mm Al +1/2.11 mm Steel
3	Number of strands							
3a	Core	1	1	1	1	1	1	1
3b	1st layer	6	6	6	6	6	6	6
3c	2nd Layer	12	12	12	12	6	--	--
3d	3rd layer	18	18	18	18	--	--	--
3e	4th Layer	24	--	--	--	--	--	--
4	Sectional	428.9 Sq.	324.30	212.10	158.10	105.00	52.88 Sq.	20.98 Sq.

	Area of Aluminum	mm	Sq. mm	Sq. mm	Sq. mm	Sq. mm	mm	mm
5	Total Sectional Area	484.5 Sq. mm.	400.00 Sq. mm	261.50 Sq. mm	194.90 Sq. mm	118.50 Sq. mm	61.70 Sq. mm	24.48 Sq. mm
6	Overall Diameter	28.62 mm	25.97 mm	21.00 mm	18.13 mm	14.15 mm	10.05 mm	6.33 mm
7	Approx. Weight							
7a	Aluminum	1186 kg/Km	878 kg/Km	587 kg/Km	428 kg/Km	287 kg/Km	145 kg/Km	58 kg/Km
7b	Steel	435 kg/Km	610 kg/Km	387 kg/Km	298 kg/Km	107 kg/Km	69 kg/Km	27 kg/Km
7c	Total	1621 kg/Km	1488 kg/Km	974 kg/Km	726 kg/Km	394 kg/Km	214 kg/Km	85 kg/Km
8	Calculated DC resistance at 20°C	0.06868 Ohm/Km	0.09106 Ohm/Km	0.13900 Ohm/Km	0.18710 Ohm/Km	0.27920 Ohm/Km	0.55240 Ohm/Km	1.39400 Ohm/Km
9	Minimum UTS	130.32 KN	137.00 KN	89.67 KN	67.34 KN	32.41 KN	18.25 KN	7.61 KN

Lay Ratio of Aluminum Conductors, Steel Reinforced

S. No.	**Conductor**	**No. of wire**		**Ratio of Aluminum Wire Diameter to Steel wire Diameter**	**Lay ratio to Steel core (6 wire ratio)**		**Lay ratio for Aluminum wire**					
							Outermost Layer		**Layer immediately beneath Outermost Layer**		**Innermost Layer of conductors with 3 Aluminum wire Layers**	
		Aluminum	Steel		Min	Max	Min	Max	Min	Max	Min	Max
1	Zebra	6	1		-	-	10	14	-	-	-	-
		6	7		13	28	10	14	-	-	-	-
		30	7		13	28	10	14	10	16	-	-
		42	7		13	28	10	14	10	16	10	17
		54	7		13	28	10	14	10	16	10	17

Diameter of Aluminum & Steel Strands

S. No.	Conductor Name	Aluminum			Steel		
		Nominal	Maximum	Minimum	Nominal	Maximum	Minimum
1	Zebra	3.18	3.21	3.15	3.18	3.24	3.12
2	Goat	3.71	3.74	3.68	3.71	3.76	3.65
3	Panther	3.00	3.03	2.97	3.00	2.94	2.06
4	Wolf	2.59	2.62	2.56	2.59	2.64	2.54
5	Dog	4.72			1.57		
6	Rabbit	3.35	3.32	3.38	3.35	3.42	3.28
7	Squirrel	2.11	2.13	2.9	2.11	2.15	2.07

10. ANNEXURE - II

VENDOR DATA (GURANTEED TECHNICAL PARTICULARS)(SEPARATE DATA SHEET SHALL BE SUBMITTED FOR EACH TYPE OF CONDUCTOR)

SI.NO.	DESCRIPTION	BSES Requirement	PARTICULARS
1	Name of the material offered	XLPE Insulated ACSR Conductor	
2	Maker's Name	Required	
3	Address and Phone No.		
4	Reference Standards	IS-398Pt-1, IS 1778 , IS 7098	
5	No.of strands/diameter of Galvanised steel wire/Al strand	Required	
6	Apporx.Dia over covered conductor		
7	Minimum Ultimate Tensile Strength of Conductor	18.25	
8	Direction Of Lay	Successive layers shall have opposite directions of lay outermost layer being Right Handed	
9	Lay ratio of Aluminum wire		
10	Continuous max. current rating of ACSR	Required	
	Conductor in still air at an ambient		
	temperature at 45 Deg C		
11	Temperature rise for the above current	Required	
12	Short Circuit current rating of ACSR	Required	
	Conductor for 1sec		
13	Module of elasticity of complete	79	

	Conductor		
14	Coefficient of linear expansion of	19.1x10^6	
	complete conductor		
15	Cross sectional area	Required	
16	Nominal aluminium area	Required	
16.1	Conductivity and Grade of Al	61% EC Grade	
16.2	% Composition of steel wire	As Per spec	
17	Chemical composition certificate from NABL approved lab	Required	
18	Minimum breaking load		
18.1	Aluminum strand (After Stranding)	Required	
18.2	Galvanised steel wire (After Stranding)	Required	
19	Total Conductor	Required	
20	Max.Working tension of conductor	75% of UTS	
21	Resistance of Al conductor at 20Deg	Required	
	C(Max)		
22	Weight		
22.1	Aluminium strand	Required	
22.2	Steel Strand	Required	
22.3	Conductor without insulation	Required	
22.4	Conductor with insulation	Required	
23	Purity of AL.rod in %age	Required	
24	Zinc coating on steel wire		
24.1	Grade of Zinc	Electrolytic High Grade Zinc not less Than 99.95% purity as per IS209-1992	
24.2	Min wt of Zinc Coating	Required	
24.3	No.& duration of dips of Zinc coating (Before Stranding)	Required	
25	Type of Insulation	XLPE Type as per IS 7098	
25.1	Nominal thickness of XLPE insulation	1.6	
25.2	Min thickness of XLPE insulation	1.5	
25.3	Color of XLPE insulation	Black	
25.4	Tensile strength of Insulation (Min)	12.5	
25.5	Percentage elongation at break of Insulation(Min)	200	
25.6	Insulation resistance test (Volume resistivity) Min	1x10^14 at 27deg C 1x10^12 at 90deg C	

26	Chemical composition test certificate of XLPE insulation material	Required, shall be weather proof and have property of protection against ultraviolet light having 2.5% black carbon content	
27	Drum	Required	
27.1	Ref IS	IS-1778-1980	
27.2	Gross weight of drum including weight of Conductor	Required	
27.3	Standard length of each piece of Conductor	3Km	
27.4	Non standard length	length	
28	Order quantity tolerance	(+/-)2%	Yes/No
29	Embossing	Name of manufacturer, Manufacture year, Manufacturing month, Type of conductor, BSES, P.o no & date	