

NOTICE INVITING TENDER (NIT)

**RATE CONTRACT FOR SUPPLY
OF
POWER CABLE 33KV, 3CX400 SQ.MM (A2XWY)
(OFC EMBEDDED)**

NIT No.: CMC/BY/26-27/RS/SkS/SV/ASR/8

[RFx Number: 2200000207 dated 06/05/2026]

Due Date for Submission: 26.05.2026, 15:00 HRS

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

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VOLUME – I: INFORMATION TO BIDDER (ITB)

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Bidders seal & Signature

SECTION – I: REQUEST FOR QUOTATION

1.00 EVENT INFORMATION

- 1.01 BSES Yamuna Power Ltd (hereinafter referred to as "BYPL") invites **Open Tender** in the E-Tender Bidding Process on a "Single Stage: Two Parts" from interested Bidders as detailed below:

Tender Description	Tender Fee (₹)	Estimated Cost (₹)	EMD Amount (₹)	Delivery at
Rate Contract for Supply of Power Cable 33KV, 3cx400 sq.mm (A2XWY) (OFC Embedded)	1,180	14.13 Cr	14.13 Lakh	Delhi Store(s)/ Site (s)

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

- 1.02 The tender document is available for downloading from our website www.bsesdelhi.com --> **BSES YAMUNA POWER LTD** --> **Tender-->Open Tenders** or through our E-Tendering portal link (<https://srmprportal.bsesdelhi.com:50001/irj/portal>).
- 1.03 **Tender Fee:** The bidder has to compulsorily submit thenon-refundable tender fee of ₹ **1,180/-** as demand draft or online transfer of the requisite amount through IMPS/NEFT/RTGS covering the cost of bid documents. Any such bid submitted without this Fee shall be rejected.
- 1.04 **Earnest Money Deposit (EMD)** of ₹ 14,13,000/- (Rupees Fourteen Lacs Thirteen thousand only) valid for 120 days from the due date of bid submission in the form of BG/FD/online transfer of the requisite amount through IMPS/NEFT/RTGS. Any such bid submitted without EMD shall be rejected.
- 1.05 **TIME SCHEDULE**

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

S. No.	Events	Due date & Time
1	Date of availability of tender documents from BYPL Website & SRM	Till 06.05.2026 up to 15:00 Hours
2	Date & Time of Pre-Bid Meeting Pre-Bid Meeting will be done online, Register in advance for this meeting via, the Zoom Meeting link: https://teams.microsoft.com/meet/42031582829895?p=wHan1F6cj513X2xlz3 After registering, you will receive a confirmation email containing information about joining the meeting.	11.05.2026, 11:30 Hours
3	Last Date of receipt of pre-bid queries, if any (Queries to be submitted via e-mail)	11.05.2026 up to 17:30 Hours
4	Last Date of replies to all the pre-bid queries as received	14.05.2026 up to 17:30 Hours
5	Last date and time of receipt of Complete Bids (Tender Fees, EMD, Part A & Part B)	26.05.2026 up to 15:00 Hours
6	Date & Time of Opening of PART A – EMD and Technical Bid	26.05.2026 up to 16:00 Hours
7	Date & Time of opening of Price/RA of qualified bids	Will be notified to the qualified bidders through our website/e-mail

Note: In the event of the last date specified for submission of bids and the date of opening of bids is declared as a closed holiday for the BSES office, the last date of submission of bids and date of opening of bids will be the following working day at the appointed times.

1.06 The Bid shall be submitted online in two (02) parts. Details of the parts are as follows:

Part A – Techno Commercial Bid

Part B – Price Bid

Bids will be submitted online and received up to **26.05.2026, 15:00 Hr.** at the address given below.

Part A of the Bid shall be opened online on **26.05.2026, 16:00 Hr.**

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

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

"All envelopes shall be duly superscribed "Bid for Supply of Power Cable 33 kV, 3C x 400 sq. mm. (A2XWY)-(OFC Embedded)" **CMC/BY/26-27/RS/SkS/SV/ASR/8 [RFx No. 220000207]** DUE ON 26.05.2026, 15:00 Hr."

1.07 BSES Yamuna Power Ltd reserves the right to accept/reject any or all tenders without assigning any reason thereof in the event of the following:

- a) Tender is received after the due date and time.
- b) Tender fee of requisite value is not submitted.
- c) Earnest Money Deposit (EMD) of requisite value & validity is not submitted in the shape of a Bank Guarantee drawn in favour of BSES Yamuna Power Ltd, payable at Delhi or Online transfer of requisite amount through IMPS/NEFT/RTGS.
- d) Price Bid as per the Price Schedule is not submitted.
- e) Incomplete Bids.
- f) Necessary documents against compliance to Qualification Requirements mentioned in Section 1 Clause 2.0 of this Tender Document.
- g) Complete documents/details are not enclosed as per the Bid Index for Part-A (Technical Bid) at APPENDIX I ANNEXURE – 1.01.
- h) Filled in Schedule of Deviations as per Annexure is not submitted.

2.00 QUALIFICATION CRITERIA

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

2.01 Technical Criteria:

S. No.	Criteria	Documents to be submitted by the bidder
1.	The Bidder should have its own manufacturing facility in India for the last three (03) years for 33KV or higher voltage grade Power Cables.	i. Manufacturing and factory incorporation certificate / Undertaking ii. The details of manufacturing units, locations and works from where supply

		against this tender shall be proposed to be furnished.
2.	The bidder must have a Dry cure and Dry cooling CCV/VCV line for manufacturing of the offered or higher voltage grade cables.	Self-Undertaking
3.	The bidder should have supplied at least 100km of cable size 33KV 3CX400 MM2 or higher voltage or higher size & rating in the last 5 years to any utilities/ SEB's/ PSU's/ reputed companies wherein the end-user shall be utilities/ SEB's/ PSU's.	i. Summary list of executed Purchase orders (Details to be submitted as per the format enclosed in APPENDIX I - ANNEXURE – 1.09) ii. Purchase order copies iii. Material delivery clearance certificate copy or Invoice Copies or Delivery completion/ Performance certificate
4.	Performance certificate for minimum 2-year satisfactory performance for cable size 33KV 3CX400 MM2 or higher voltage or higher size & rating supplied in last 7 years from the date of bid opening from at least two utilities/ SEB's/ PSU's/ reputed companies wherein the end-user shall be utilities/ 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 (Details to be submitted as per the format enclosed in APPENDIX I - ANNEXURE – 1.10)
5.	The bidder should have a manufacturing capacity of a minimum 20 km per month for the offered or higher voltage grade Power Cables.	Installed Manufacturing Capacity (duly certified by the CE/CA/DIC/Self-Undertaking/Government organization/others)
6.	The bidder must possess valid ISO 9001:2015 certification.	Valid copy of Certification
7.	The bidder must possess valid BIS Licence.	Valid copy of Licence

2.02 Commercial Criteria:

S. No.	Criteria	Documents to be submitted by the bidder
1.	Bidder should have an Average Annual Sales Turnover of Rs 300 Crores or more in the last three (3) Financial Years (i.e., FY 2022-23, 2023-24, 2024-25).	Balance Sheet / Copy of audited P&L Account / Duly certified CA certificate having UDIN to be submitted (Details to be submitted as per the format enclosed in APPENDIX I - ANNEXURE – 1.14)
2.	The Bidder shall submit an undertaking that "No Litigation" is pending with the BYPL or its Group/Associates Companies as on date of bid opening.	Self-Undertaking (as per the format enclosed in APPENDIX I - ANNEXURE – 1.15) (Details to be submitted as per the format enclosed in APPENDIX I - ANNEXURE – 1.14)
3.	An undertaking (self-certificate) that the bidder has not been blacklisted/debarred by any central/state government institution/Electricity utilities as on	Self-Undertaking (as per the format enclosed in APPENDIX I - ANNEXURE – 1.15) (Details to be submitted as per the format enclosed in

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	date of bid opening.	APPENDIX I - ANNEXURE – 1.14)
4.	The bidder must have valid PAN No., and GST Registration Number, in addition to other statutory compliances. The bidder must submit copy of registrations and submit an undertaking that the bidder shall comply with all the statutory compliances as per the laws/rules etc. before the start of the supply/work.	Relevant Statutory Documents Copy/ Self Undertaking (as per the format enclosed in APPENDIX I - ANNEXURE – 1.15) (Details to be submitted as per the format enclosed in APPENDIX I - ANNEXURE – 1.14)

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

3.00 BIDDING AND AWARD PROCESS

Bidders are requested to submit their offer strictly in line with this tender document. Normally, the deviations to tender terms are not admissible and the bids with deviations are liable for rejection. Hence, the bidders are advised to refrain from taking any deviations on this Tender. Still, in case of any deviations, all such deviations shall be set out by the Bidders, clause by clause in the "Annexure - Schedule of Deviations" and the same shall be submitted as a part of the Technical Bid.

3.01 BID SUBMISSION

BIDS ARE INVITED THROUGH THE E-PROCUREMENT PORTAL:

BSES will carry out E-Procurement through its e-procurement portal (<https://srmpportal.bsedelhi.com:50001/irj/portal>).

Interested Non-registered bidders are requested to obtain the portal user name and password (if not available) for bid submission. For participating in e-Tenders of BYPL, please write a mail to

1. Mr Rakesh Sharma, E-mail: Rakesh.Ku.Sharma@reliancegroupindia.com,
2. Mr Ajay Rajput, E-mail: ajay.s.rajput@reliancegroupindia.com, with your details as per below:

- a) Existing Vendor Code with BYPL or its Group/Associates Companies (if available):
- b) Trade Name:
- c) Address of Principal Place of Business:
- d) Contact Person's Name:
- e) Contact Person's Designation:
- f) Contact Person's Mobile No.:
- g) Contact Person's email ID:
- h) Also, attach a valid copy of the Power of Attorney in favour of the above-mentioned Contact Person for being authorized to receive user ID and password on behalf of their organization.

The login ID details shall be sent through email to the email ID mentioned by you for the same.

Bids shall be submitted in 2 (Two) parts on the assigned folder of the e-procurement site. Please refer to the user manual available at <https://srmpportal.bsedelhi.com:50001/irj/portal> and enclosed with the tender.

Bids have to be mandatorily submitted only through the e-procurement portal of BSES Delhi. Bids submitted through any other form/ route shall not be admissible.

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However, documents that necessarily have to be submitted in originals like Tender Fee (in the form of DD) or EMD (in the form of BG/FD/DD as applicable) and any other documents mentioned in the tender documents have to be submitted at the BYPL office before the due date & time of submission.

Please mention our NIT Number: -on the Tender and drop the same in our Tender Box placed at **BSES Yamuna Power Ltd, Reception, Ground Floor, Shaktikiran Building, Karkardooma, Delhi 110032**

The bids and the outer envelope shall be addressed to the following:

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

Kindly Note:

- The bidder has to ensure that the tender is dropped in the correct box designated for tender submission only.
- BYPL shall not be responsible for any wrong placement of tender documents by the bidder.

This is a two-part bid process. Bidders are to submit the bids online in 2(Two) parts **PART-A TECHNICAL BID & COMMERCIAL TERMS & CONDITIONS** and **Part-B FINANCIAL BID** and shall be submitted before the due date & time specified.

PART A: TECHNICAL BID comprising of the following, do not contain any cost information whatsoever and shall be submitted within the due date:

S. No.	Descriptions	Type of Documents/Format
A.1	Bid Details	
1	Bid Index for Part-A (Technical Bid)	In the prescribed format enclosed at APPENDIX I ANNEXURE – 1.01
2	Cover Letter, if any	Standard Format
3	Bid Form (Unpriced) Duly Signed	Duly Signed Bid Form as per enclosed format at APPENDIX I ANNEXURE – 1.02
4	Tender Fee	Non-refundable demand draft or online transfer of the requisite amount through IMPS/NEFT/RTGS for Rs 1,180/-, Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.03
5	EMD	Online transfer of the requisite amount through IMPS/NEFT/RTGS or FD or BG in the prescribed stamp paper & format enclosed at APPENDIX I ANNEXURE – 1.05, EMD Details Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.04
6	Power-of-Attorney/Authorization Letter	In the standard stamp paper/letter
A.2	Technical Bid	
7	Communication Details of the Bidder	Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.06
8	Manufacturer Authorization Form (as applicable)	Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.07
9	Technical Qualifying Criteria Compliance	Documentary evidence in support of qualifying criteria mentioned in Section 1 Clause 2.00. Duly filled and signed as

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	Index & Documents	per enclosed format at APPENDIX I ANNEXURE – 1.08, ANNEXURE – 1.09 & ANNEXURE – 1.10
10	Schedule of Deviations - Technical	Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.11
11	Technical Details/ Filled in Guaranteed Technical particulars (GTP) as per specification	Bidder shall submit duly filled GTP with all Technical documents (If Applicable)
12	Technical Drawings as per specification	Bidder shall submit all Drawings as per the specification (If Applicable)
13	Type Test Reports	Bidders shall submit a copy of type test reports in their technical bids in support of technical specifications. Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.12(If Applicable)
14	Sample Submission Details (if applicable as per specification)	Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.13 (If Applicable)
15	Product Catalogue (If applicable)	Bidders shall submit a copy of the product catalogue in their technical bids in support of technical specifications
16	Manufacturer's Quality Assurance Plan	Bidders shall submit a copy of MQP in their technical bids in support of technical specifications
17	Other drawings/ documents mentioned in technical specification	Bidders shall submit a copy of documents in their technical bids in support of technical specifications(If Applicable)
18	Testing Facilities	Bidder shall submit the details of testing facilities available at their works/factory.
A.3	Commercial Bid	
19	Company Profile, Organization Chart & Manpower Details.	Bidder shall submit the details of Organization & Manpower with qualification and experience.
20	Commercial Qualifying Criteria Compliance Index & Documents	Documentary evidence in support of qualifying criteria mentioned in Section 1 Clause 2.00. Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.14
21	Undertakings	Duly signed self-undertakings as per enclosed format at APPENDIX I ANNEXURE – 1.15
22	Schedule of Deviations - Commercial	Duly filled and signed as per enclosed format at APPENDIX I ANNEXURE – 1.16
23	Acceptance Form For Participation in Reverse Auction Event	Duly signed Acceptance Form For Participation In Reverse Auction Event as per enclosed format at APPENDIX I ANNEXURE – 1.17
24	Commercial Terms and Conditions	Acceptance of Commercial Terms and Conditions viz. Delivery Schedule/Period, Payment terms, PBG etc. Duly filled and signed as per enclosed format at APPENDIX II ANNEXURE – 2.05
25	Unprice Bid Duly Signed	Item wise marked as "Quoted" & Duly Signed Un price Bid as per enclosed format at VOLUME – II - PRICE BID FORMAT
26	Signed Tender document	Original Tender documents duly stamped & signed on each page as a token of acceptance

PART B: FINANCIAL BID comprising of

- Price strictly in the Format enclosed at VOLUME – II - PRICE BID FORMAT indicating Break up of basic price, taxes & duties, etc.
- The Bidder has to submit the item-wise price bifurcation in the bid. An unpriced copy must be attached with the Part A (Technical Bid).

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

REVERSE AUCTION CLAUSE: Purchaser reserves the right to use the reverse auction as an optional tool through SAP-SRM as an integral part of the entire tendering process. All techno-commercially qualified bidders shall participate in the reverse auction. Reverse Auction will be carried out on individual item-wise rates or Package-wise.

Notwithstanding anything stated above, the Purchaser reserves the right to assess the bidder's capability to perform the contract, should the circumstances warrant such assessment in the overall interest of the purchaser. In this regard the decision of the purchaser is final. Bidder is to submit their acceptance as per the format APPENDIX I ANNEXURE – 1.17.

BIDS RECEIVED AFTER THE DUE DATE AND TIME MAY BE LIABLE FOR REJECTION

4.00 AWARD DECISION

- 4.01 Purchaser intends to award the business on the lowest bid basis, so suppliers are encouraged to submit the bid competitively. The decision to place a Rate Contract/Purchase Order/LOI solely depends on the purchaser on the cost competitiveness across multiple lots, quality, delivery and bidder's capacity, in addition to other factors that Purchaser may deem relevant.
- 4.02 In the event of your bid being selected by the purchaser (and/or its affiliates) and you subsequent DEFAULT on your bid; you will be required to pay the purchaser (and/or its affiliates) an amount equal to the difference in your bid and the next lowest bid on the quantity declared in NIT/RFQ.
- 4.03 In case any supplier is found unsatisfactory during the delivery process, the award may be cancelled and BYPL reserves the right to award other suppliers who are found fit.
- 4.04 Rate shall remain FIRM till the validity of the Contract.
- 4.05 Quantity Variation: The purchaser reserves the right to vary the quantity by (+/-) 30% of the tender quantity during the execution of the rate contract.
- 4.06 Quantity Splitting: The purchaser reserves the right to distribute the procurable quantity on one or more than one of the eligible tenders. If the quantity is to be split, quantity distribution shall be in the manner detailed below:
 - a) If the quantity is split among 2 bidders, it will be done at 70:30 on the L1 price.
 - b) If the quantity is split among 3 bidders, it will be done at 50:30:20 on the L1 price. Note: If quantity needs to be distributed and order splitting is required, quantity distribution shall be maximum among three (3) bidders.

5.00 MARKET INTEGRITY

We have a fair and competitive marketplace. The rules for bidders are outlined in the Terms & Conditions. Bidders must agree to these rules before participating. In addition to other remedies available, we reserve the right to exclude a bidder from participating in future markets due to the

bidder's violation of any of the rules or obligations contained in the Terms & Conditions. Bidders who violate the marketplace rules or engage in behavior that disrupts the fair execution of the marketplace restrict a bidder to the length of time, depending upon the seriousness of the violation. Examples of violations include, but are not limited to:

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

6.00 SUPPLIER CONFIDENTIALITY

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

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

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

7.00 CONTACT INFORMATION

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

Address	Name/ Designation	E-mail Address
Technical		
CES Dept. 3rd Floor, B Block, BSES Yamuna Power Ltd Shaktikiran Building, Karkardooma, Delhi 110032	Vijender Goyal Manager (CES)	Vijender.Goyal@reliancegroupindia.com
	Srinivas Gopu GM (CES)	srinivas.Gopu@reliancegroupindia.com
	Amit As Tomar (Asst VP)	Amit.as.tomar@reliancegroupindia.com
Commercial		
C&M Dept. 3 rd Floor, A-Block, BSES Yamuna Power Ltd Shaktikiran Building, Karkardooma, Delhi 110032	Ajay Rajput Buyer- Procurement	Ajay.s.rajput@reliancegroupindia.com
	Santosh Kumar Singh Additional VP (Head-Procurement)	Santosh.kum.Singh@reliancegroupindia.com
	Robin Sebastian Vice President (Head-Contracts &Materials)	Robin.Sebastian@reliancegroupindia.com

SECTION – II: INSTRUCTION TO BIDDERS

A. GENERAL

1.00 BSES Yamuna 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 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 Unloading and proper stacking at Purchaser's stores/site.

3.0 DISCLAIMER

3.01 This Document includes statements, which reflect various assumptions, which may or may not be correct. Each Bidder/Bidding Consortium should conduct its 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 interest.

3.02 Neither Purchaser nor its employees will have any liability whatsoever to any Bidder or any other person under the law or contract, the principles of restitution or unjust enrichment or otherwise for any loss, expense or damage whatsoever which may arise from or be incurred or suffered in connection with anything contained in this document, any matter deemed to form part of this Document, provision of Services and any other information supplied by or on behalf of Purchaser or its employees, or otherwise arising in any way from the selection process for the Supply.

3.03 Though adequate care has been taken while issuing the Bid document, the Bidder should satisfy itself that the Documents are complete in all respects. Intimation of any discrepancy shall be given to this office immediately.

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

4 COST OF BIDDING

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

B. BIDDING DOCUMENTS

5.01 The Scope of Work, Bidding Procedures and Contract Terms are described in the Bidding Documents.

5.02 The Bidder is expected to examine the Bidding Documents, including all Instructions, Forms, Terms and Specifications. Failure to furnish all information required by the Bidding Documents or

submission of a Bid not substantially responsive to the Bidding Documents in every respect may result in the rejection of the Bid.

6.0 AMENDMENT OF BIDDING DOCUMENTS

6.01 At any time before the deadline for submission of Bids, the Purchaser may for any reason, whether at its initiative or in response to a clarification requested by a prospective Bidder, modify the Bidding Documents by Amendment.

6.02 The Amendment shall be part of the Bidding Documents, pursuant to Clause 5.01, and it will be notified on the website www.bsesdelhi.com and the same will be binding on them.

6.03 To afford prospective Bidders reasonable time in which to take the Amendment into account in preparing their Bids, the Purchaser may, at its discretion, extend the deadline for the submission of Bids. The same shall be published as a corrigendum on the website www.bsesdelhi.com

6.04 Purchaser shall reserve the rights to the following:

- a) Extend the due date of submission,
- b) Modify the tender document in part/whole,
- c) Cancel the entire tender

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

C. PREPARATION OF BIDS

7.0 LANGUAGE OF BID

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

8.0 DOCUMENTS COMPRISING THE BID

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

- (a) All the Bids must be accompanied by the required Tender Fees and EMD as mentioned in the tender.
- (b) PART A – Technical Bid and
- (c) PART B - Financial Bid

9.0 BID FORM

9.01 The Bidder shall submit Bid Form with the Bidding Documents.

9.02 **EMD**

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

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

- (a) Bank Guarantee drawn in favour of BSES Yamuna Power Ltd, payable at Delhi or
- (b) Fixed Deposit (lien marked in favour of BSES Yamuna Power Limited) payable at Delhi.
- (c) Online transfer of requisite amount through IMPS/NEFT/RTGS to BYPL account mentioned herein in Appendix II - **BYPL BANK DETAILS WITH IFSC CODE.**

EMD shall be valid for One Hundred Twenty (120) days after the due date of submission drawn in favour of BSES Yamuna Power Ltd.

The EMD may be forfeited in the case of:

- (a) the Bidder withdraws its bid during the period of specified bid validity
or
- (b) the case of a successful Bidder, if the Bidder does not
 - (i) Accept the Purchase Order, or
 - (ii) Furnish the required performance security BG.

10.0 **BID PRICES**

10.01 Bidders shall quote for the entire Scope of Supply/Work with a break-up of prices for individual items. The total Bid Price shall also cover all the Supplier's obligations mentioned in or reasonably to be inferred from the Bidding Documents in respect of Design, Supply, and Transportation to the site, all in accordance with the requirement of the Bidding Documents. The Bidder shall complete the appropriate Price Schedules included herein, stating the Unit Price for each item & total Price.

10.02 The prices offered shall be inclusive of all costs as well as Duties, Taxes or Levies paid or payable during the execution of the supply work, a breakup of price constituents, should be there.

10.03 Prices quoted by the Bidder shall be "**Variable**" and are subject to price adjustment during the execution of the Contract.

10.04 **Price Variation Formula:**

$$P = P_o + AIF * (AI - A_{lo}) + XLFAL * (CC - C_{co}) + SMIF * (SMIF1 - SMIF0) + FeF * (FeF1 - FeF0) + CCF AI * (PVCc - PVC_{co})$$

For unarmoured Three core cables, steel Armour factor (FeF for Strip & FeW for Wire) shall be 0.

P = Ex-works Price payable as adjusted in accordance with above appropriate formula (in Rs/Km)

P_o = Ex-works Price as per RC/PO (in Rs./KM) Following Price Indices is to be used for PV Calculations:

Aluminium

AIF = Variation factor for Aluminium

Al = Price of Aluminium in Rs. /MT. This price is as applicable on first working day of the month, one month prior to the date of delivery.

Alo = Price of Aluminium in Rs. /MT. This price is as applicable on first working day of the month, one month prior to the due date of Tender.

XLPE

XLFAL= Variation factor for XLPE compound for Aluminium conductor cable.

CC = Price of XLPE compound Rs. /MT . This price is as applicable on first working day of the month, one month prior to the date of delivery.

Cco = Price of XLPE compound Rs. /MT . This price is as applicable on first working day of the month, one month prior to the due date of Tender.

PVC Compound

CCFAI= Variation factor for PVC compound / Polymer for Aluminium conductor cable.

PVCc = Price of PVC compound Rs. /MT . This price is as applicable on first working day of the month, one month prior to the date of delivery.

PVCco = Price of PVC compound Rs. /MT . This price is as applicable on first working day of the month, one month prior to the due date of Tender.

STEEL

FeF= Variation factor for steel.

Fe = Price of steel wire / steel strips Rs. /MT. This price is as applicable on first working day of the month, one month prior to the date of delivery.

Feo = Price of steel wire / steel strips Rs. /MT. This price is as applicable on first working day of the month, one month prior to the due date of Tender.

Copper Tape

SMIF = Variation factor for Copper Tape.

SMIF1 = Price of CC Copper rods Rs. /MT. This price is as applicable on first working day of the month, one month prior to the date of delivery.

SMIF0 = Price of CC Copper rods Rs. /MT. This price is as applicable on first working day of the month, one month prior to the due date of Tender.

The above prices and indices are as published by IEEMA prevailing as on the first working day of the calendar month, i.e. one month prior to the due date of tender submission e.g. if tender is submitted in March 2025, the applicable prices should be those prevailing as on 1st February, 2025.

If the date of delivery in terms of clause given below falls in September 2026, the applicable prices of raw material should be as published by IEEMA prevailing as on 1st August, 2026. Note:

a) All prices of raw materials are exclusive of GST amount and exclusive of any other Central, State or Local Taxes etc.

b) Due Date of Tender is the original due date of tender submission. If due date of tender (bid submission) is extended due to any reason, the base date (original due date) will remain unchanged for the calculation of PV clause.

c) The date of delivery for PV calculation shall be the date on which the equipment/ material is notified as being ready for inspection/ dispatch or the contracted delivery date whichever is earlier whenever supplies are affected within contractual delivery period. In case the supplies are affected after the original contractual delivery period, the date of delivery for P.V. purpose would be the one out of original or extended date on which price variation is lower.

d) Bidder shall submit detailed calculation of revised rate and amount as per the Price Variation Formula along with relevant IEEMA circulars. After approval/ clearance from Buyer of revised rates, Invoicing shall be done by the supplier.

11.0 BID CURRENCIES

11.01 Prices shall be quoted in Indian Rupees Only.

12.0 PERIOD OF VALIDITY OF BIDS

12.01 Bids shall remain valid for 120 days from the due date of submission of the Bid.

12.02 Notwithstanding Clause 12.01 above, the Purchaser may solicit the Bidder's consent to an extension of the Period of Bid Validity. The request and the responses thereto shall be made in writing and sent by post/courier/E-mail.

13.0 ALTERNATIVE BIDS

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

14.0 FORMAT AND SIGNING OF BID

14.01 The original Bid Form and accompanying documents, must be received by the Purchaser at the date, time and place specified pursuant to Clauses 15.0 and 16.0.

14.02 The original 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-Authority accompanying the Bid. The Bid submitted on behalf of companies registered with the Indian Companies Act, for the time being in force, shall be signed by persons duly authorized to submit the Bid on behalf of the Company and shall be accompanied by certified true copies of the resolutions, extracts of Articles of Association, special or general Power of Attorney etc. to show clearly the title, authority and designation of persons signing the Bid on behalf of the Company. Satisfactory evidence of the authority of the person signing on behalf of the Bidder shall be furnished with the bid. A bid by a person who affixes to his signature

the words 'President', 'Managing Director', 'Secretary', 'Agent' or other designations without disclosing his principal will be rejected.

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

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

D. SUBMISSION OF BIDS

15.0 SEALING AND MARKING OF BIDS

- 15.01 Bid submission: Bids have to be mandatorily submitted only through the e-procurement portal of BSES Delhi. Bids submitted through any other form/ route shall not be admissible.

- 15.02 However, documents that necessarily have to be submitted in originals like EMD or Tender Fee (in the form of BG/ DD /FD as applicable) and any other documents mentioned in the tender documents have to be submitted at the BYPL office before the due date & time of submission. The Technical Documents and the EMD shall be enclosed in a sealed envelope and the said envelope shall be superscribed with — "Technical Bid & EMD". All the envelopes should bear the Name and Address of the Bidder and mark for the Original. The envelopes should be superscribed with — "Tender No. & Due date of opening".

- 15.03 The Bidder has the option of sending the Bids in person. Bids submitted by Email/Telex/Telegram /Fax will be rejected. No request from any Bidder to the Purchaser to collect the proposals from Courier/Airlines/Cargo Agents etc. shall be entertained by the Purchaser.

16.0 DEADLINE FOR SUBMISSION OF BIDS

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

17.0 ONE BID PER BIDDER

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

18.0 LATE BIDS

- 18.01 No Bid will be received by the Purchaser after the deadline for submission of Bids prescribed by the Purchaser, pursuant to Clause 16.0.

19.0 MODIFICATIONS AND WITHDRAWAL OF BIDS

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

E. EVALUATION OF BID

20.0 PROCESS TO BE CONFIDENTIAL

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

21.0 CLARIFICATION OF BIDS

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

22.0 PRELIMINARY EXAMINATION OF BIDS / RESPONSIVENESS

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

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

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

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

23.0 EVALUATION AND COMPARISON OF BIDS

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

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

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

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

INFORMATION TO BIDDER (ITB) NIT NO:CMC/BY/26- 27/RS/SkS/SV/ASR/8 [RFx Number: 2200000207]	Page 16 of 19	Bidders seal & Signature
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- (a) Delivery Schedule
- (b) Conformance to Qualifying Criteria
- (c) Deviations from Bidding Documents

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

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

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

F. AWARD OF CONTRACT

24.0 CONTACTING THE PURCHASER

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

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

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

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

26.0 AWARD OF CONTRACT

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

27.0 THE PURCHASER'S RIGHT TO VARY QUANTITIES

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

28.0 LETTER OF INTENT/ NOTIFICATION OF AWARD

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

INFORMATION TO BIDDER (ITB) NIT NO:CMC/BY/26- 27/RS/SkS/SV/ASR/8 [RFx Number: 2200000207]	Page 17 of 19	Bidders seal & Signature
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The successful Bidder shall be required to furnish a letter of acceptance within 7 days of the issue of the letter of intent /Notification of Award by Purchaser.

29.0 CONTRACT PERFORMANCE BANK GUARANTEE (PBG)

To be submitted within twenty-eight (28) days from the date of issuance of the Letter of Intent/Award/PO. Bidder shall submit PBG equivalent to 10% of the PO value (including GST) valid for a period of 30 months from the date of last receipts at site/stores plus 3 months claim period.

30.0 CORRUPT OR FRAUDULENT PRACTICES

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

- (a) Defines, for this provision, the terms set forth below as follows:
 - (i) "Corrupt practice" means behaviour 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 contract execution; and
 - (ii) "Fraudulent practice" means a misrepresentation of facts to influence a procurement process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Bidders (before or after Bid submission) designed to establish Bid prices at artificial non-competitive levels and to deprive the Purchaser of the benefits of free and open competition.
- (b) Will reject a proposal for award if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question;
- (c) Will declare a firm ineligible, either indefinitely or for a stated period, to be awarded a contract if it at any time determines that the firm has engaged in corrupt or fraudulent practices in competing for, or in executing a contract.

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

31.0 STATUTORY GUIDELINES & REGULATIONS

The bidder shall make himself fully aware & familiarize himself with all applicable laws/guidelines/regulations.

32.0 SAFETY

Safety related requirements as mentioned in our safety Manual put on the Company's website which can be accessed at <http://www.bsesdelhi.com>. All bidders shall strictly abide by the guidelines provided in the safety manual at all relevant stages during the contract period.

33.0 PRIORITY OF CONTRACT DOCUMENTS

The several documents forming the Agreement 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 company, who shall, accordingly, issue suitable instructions thereon to the Contractor. In such event, unless otherwise provided in the agreement or explained by way of instructions by

the company, as mentioned above, the priority of the documents forming the Agreement shall be as follows:

- i) Contract Agreement/Purchase Order.
 - (a) Special Conditions of Contract
 - (b) General Conditions of Contract
- (ii) The Letter of Acceptance/ Intent
- (iii) Agreed Minutes of the Tender Negotiation Meetings
- (iv) Agreed Minutes of the Tender Technical Meetings
- (v) The Priced Bill of Quantities
- (vi) The Technical Specifications / Scope of work
- (vii) The Tender document, including all Appendices and/or Addenda, Corrigendum the latest taking precedence.

In the event of any conflict between the above-mentioned documents, the more stringent requirement or conditions which shall be favourable to the company shall govern and the decision of the company/BYPL shall be final and binding upon the parties.

APPENDIX I ANNEXURE – 1.01**BID INDEX FOR PART-A (TECHNICAL BID)**

(To be filled & submitted on Bidder Letter Head, Bidders document submission should have following main categories as outlined below and should have page numbers printed at the bottom of each page with this page as page number 1. The page number should be in "Page X of Y" format. Separator with document description shall be provided before each document)

NIT & RFX No.:

Bidder's Name:

Bidder's Bid Reference No. & Date:

S. No.	Particulars	Bid Pdf Page No.	
		From	To
A.1 Bid Details			
1.	Bid Index for Part-A (Technical Bid) as per APPENDIX I ANNEXURE - 1.01	1	
2.	Cover Letter, If any		
3.	Bid Form (Unpriced) Duly Signed as per APPENDIX I ANNEXURE - 1.02		
4.	Tender Fee Details as per APPENDIX I ANNEXURE - 1.03		
5.	EMD Details as per APPENDIX I ANNEXURE - 1.04 & 1.05		
6.	Power-of-Attorney / Authorization Letter		
A.2 Technical Bid			
7.	Communication Details of the Bidder as per APPENDIX I ANNEXURE - 1.06		
8.	Manufacturer Authorization Form (as applicable) as per APPENDIX I ANNEXURE - 1.07		
9.	Technical Qualifying Criteria Compliance Index & Documents as per APPENDIX I ANNEXURE - 1.08, 1.09, 1.10		
10.	Schedule of Technical Deviations (along with soft editable Excel copy) as per APPENDIX I ANNEXURE - 1.11		
11.	Guaranteed Technical particulars (GTP) as per specification (If Applicable)		
12.	All Drawings as per specification (If Applicable)		
13.	Type Test Reports (Sequence of Tests shall be strictly in accordance with relevant IS/IEC) as per APPENDIX I ANNEXURE - 1.12		
14.	Sample Submission Details (If applicable as per Specification) as per APPENDIX I ANNEXURE - 1.13		
15.	Product Catalogue (If applicable)		
16.	Manufacturer's quality assurance plan (as applicable)		
17.	Other drawings/ documents mentioned in technical specification		
18.	Testing Facilities		
A.3 Commercial Bid			
19.	Company Profile/Organogram/Organization Chart & Manpower Details		
20.	Commercial Qualifying Criteria Compliance Index & Documents as per APPENDIX I ANNEXURE - 1.14		
21.	Undertakings as per APPENDIX I ANNEXURE - 1.15		
22.	Schedule of Commercial Deviations (along with soft editable Excel copy) as per APPENDIX I ANNEXURE - 1.16		
21.	Acceptance form for participation in reverse auction event as per APPENDIX I ANNEXURE - 1.17		
24.	Acceptance of Commercial Terms and Conditions as per APPENDIX II ANNEXURE - 2.05		
25.	Un Price Bid Duly Signed (Volume - II Price Bid Format)		
26.	NIT Document complete Signed & Stamped		

BID FORM

To

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

Sir,

1. We understand that BYPL is desirous of procuring.....
for it's licensed distribution network area in Delhi.
2. Having examined the Bidding Documents for the above-named works, we the undersigned, offer to deliver the goods in full conformity with the Terms and Conditions and technical specifications for the sum indicated in the Price Bid or such other sums as may be determined in accordance with the terms and conditions of the contract. The amounts are in accordance with the Price Schedules attached herewith and are made part of this bid.
3. If our Bid is accepted, we undertake to deliver the entire goods as per the delivery schedule mentioned in Section IV from the date of award of the purchase order/letter of intent.
4. If our Bid is accepted, we will furnish a performance bank guarantee for due performance of the Contract in accordance with the Terms and Conditions.
5. We agree to abide by this Bid for 120 days from the due date of bid submission and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
6. We declare that we have studied the provision of Indian Laws for the supply/services 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, by the Laws and Jurisdiction of Contract.

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

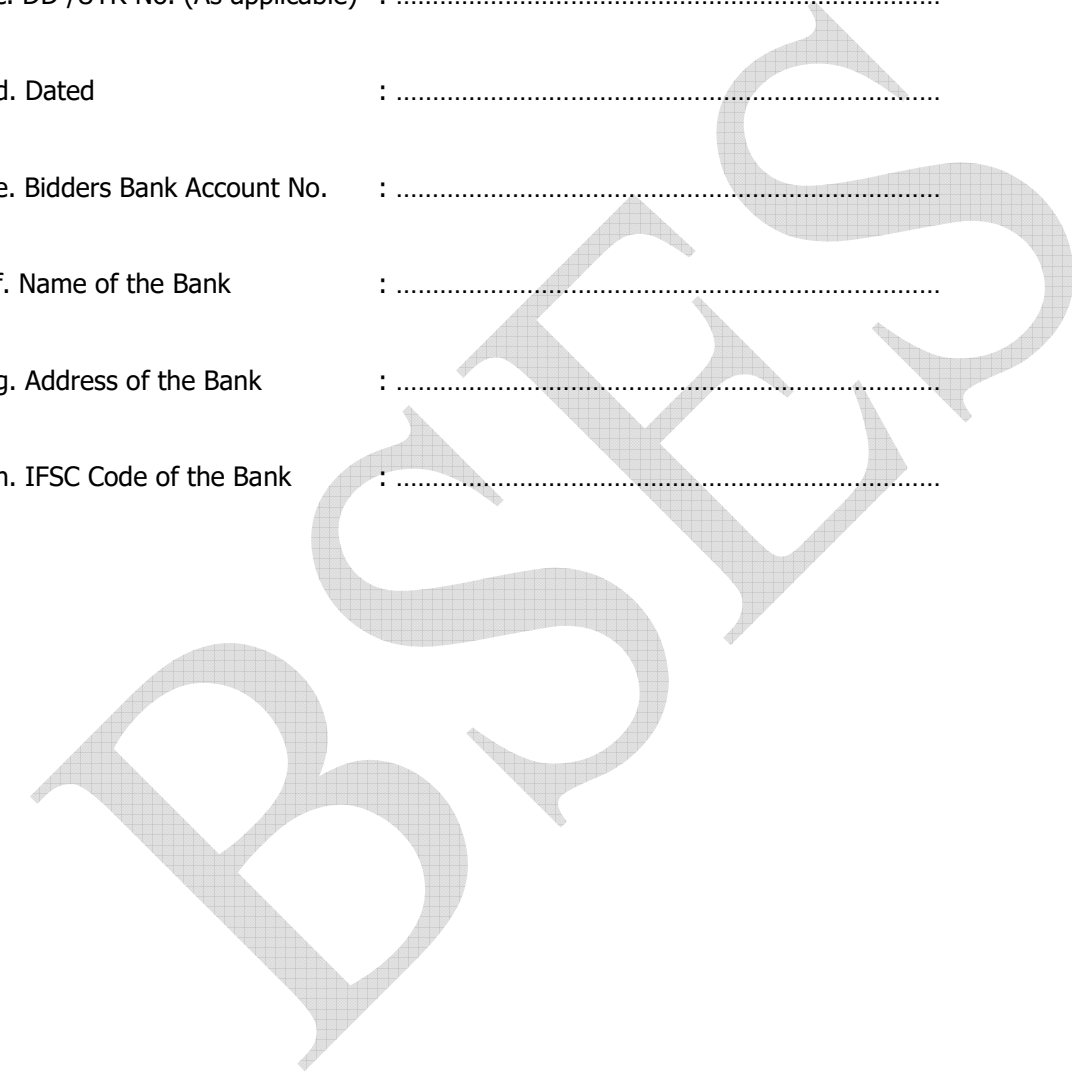
Signature..... In the capacity of

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

(IN BLOCK CAPITALS).....

TENDER FEE DETAILS

- a. Amount (Rs.) : **1,180/- (One Thousand One Hundred Eighty Only)**
- b. Mode of Payment : DD or online transfer through IMPS/NEFT/RTGS (select any one)
- c. DD /UTR No. (As applicable) :
- d. Dated :
- e. Bidders Bank Account No. :
- f. Name of the Bank :
- g. Address of the Bank :
- h. IFSC Code of the Bank :



EMD DETAILS

- a. EMD Amount (Rs.) :
- b. Mode of Payment : BG/FD/online transfer through IMPS/NEFT/RTGS (select any one)
- c. BG/FD/UTR No. (As applicable):
- d. Dated :
- e. BG valid up to :
- f. BG Claim period up to :
- g. Bidders Bank Account No. :
- h. Name of the Bank :
- i. Address of the Bank :
- j. IFSC Code of the Bank :

(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*] (hereinafter called the "Bidder") has submitted its bid dated [*date of submission of bid*] for the supply of [*name and/or description of the goods*] (hereafter 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*] (hereinafter called the "Bank"), are bound unto BSES Yamuna Power Ltd., with its Corporate Office at Shaktikiran Building, Karkardooma, Delhi -110032, (hereinafter called - the "Purchaser") in the sum of Rs..... (Rupees..... only) for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents.

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

The conditions of this obligation are:

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

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

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

(Stamp & signature of the bank)

Signature of the witness

COMMUNICATION DETAILS OF THE BIDDER

Sl. No.	Designation	Name	Mobile No.	E-mail id
1	CEO / MD			
2	Sales / Marketing Head			
3	Sales Representative / Key Account Manager (KAM)			
4	Technical Head			
5	Manufacturer Plant / Operations Head			
6	Post Order Execution In Charge			
7	Authorized contact person (Primary responsibility for the Bid)			
8	Authorized contact person (Secondary responsibility for the Bid)			

MANUFACTURER AUTHORIZATION FORM
(To be submitted on OEM's Letter Head)

Date :

Tender No.:

To

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

Sir,

WHEREAS M/s. *[name of OEM]*, who are official manufacturers of having factories at *[address of OEM]* do hereby authorize M/s *[name of bidder]* to submit a Bid in relation to the Invitation for Bids indicated above, the purpose of which is to provide the following Goods, manufactured by usand to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty by the Conditions of the Contract or as mentioned elsewhere in the Tender Document, concerning the Goods offered by the above firm in reply to this Invitation for Bids.

We hereby confirm that in case, the channel partner fails to provide the necessary services as per the Tender Document referred above, M/s *[name of OEM]* shall provide standard warranty on the materials supplied against the contract. The warranty period and inclusion/exclusion of parts in the warranty shall remain the same as defined in the contract issued to our channel partner against this tender.

Yours Sincerely,

For,

Authorized Signatory

QUALIFYING CRITERIA COMPLIANCE INDEX - TECHNICAL CRITERIA				
Sl. No.	Qualifying Criteria Description as per section 1 clause 2.00	Documentary Proof Description	Documentary Proof Enclosed on Bid Page No.	
			From	To
1				
2				
3				
4				
5				

ANNEXURE – 1.09

LIST OF PURCHASE ORDERS EXECUTED & DELIVERY DETAILS IN SUPPORT OF QUALIFYING REQUIREMENTS											
Sl. No.	Item Details		PO & Execution Details					Customer Name	End User (shall be Utility/ SEB's/ PSU's) name and details	PO copy, MDCC /Delivery completion certificates/ Invoice Copies enclosed on Bid Page no.	
	Item	Model	PO No.	PO Date	PO Qty	Executed Qty	Execution Year			From	To
Total					Σ	Σ					

Note – Only items relevant as per qualifying requirements should be included in the list.

ANNEXURE – 1.10

LIST OF PERFORMANCE CERTIFICATES IN SUPPORT OF QUALIFYING REQUIREMENT												
S No	Item Details		PO No	Supplied/ Commissioning		Performance Certificate Issue Date	Performance Certificate Issued By End User (Utility/SEB/Govt Org.)	Contact Details of Issuing Person			Enclosed on Bid Page No.	
	Item	Model		Qty.	Date			Name	Email	Mobile	From	To
Total			Σ									

Note –

- 1. Only items relevant as per qualifying requirement should be included in the list.**
- 2. Only Performance certificates issued by End User (utilities/ SEB's/PSU's only) will be accepted as per qualifying requirement.**

SCHEDULE OF DEVIATIONS - TECHNICAL

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

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

Technical Deviations:-

Sl. No.	NIT Pdf Page No.	NIT Clause No.	NIT Clause Descriptions	Details of Clarification/deviation with justifications

Note – Please enclose detailed GTP and drawings as per specification after the technical deviation sheet

Seal of the Bidder:

Signature:

Name:

ANNEXURE – 1.12

TYPE TEST REPORTS (IF APPLICABLE SEQUENCE OF TESTS SHALL BE STRICTLY IN ACCORDANCE WITH RELEVANT IS/IEC)								
Sl. No.	Test Description	Reference Standard	Reference Standard Clause No.	Name of Testing Lab	Test Report Reference Number	Date of Issue of Report	Report Enclosed on Bid Page No	
							From	To
1								
2								
3								
4								
5								
6								
7								

ANNEXURE – 1.13

SAMPLE SUBMISSION DETAILS (IF APPLICABLE AS PER SPECIFICATION)		
Sl. No.	Description	Bidder's Response
1	Samples submitted with the bid	
1	Sample Type -1	
1.1	Model Number	
1.2	Number of samples	
2	Sample Type -2	
2.1	Model Number	
2.2	Number of samples	

QUALIFYING CRITERIA COMPLIANCE INDEX - COMMERCIAL CRITERIA				
Sl. No.	Qualifying Criteria Description as per section 1 clause 2.00	Documentary Proof Description	Documentary Proof Enclosed on Bid Page No.	
			From	To
1				
2				
3				
4				
5				

UNDERTAKINGS
(To be submitted on Bidders Letter Head)

Date:.....

Tender No.:

To

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

Sir,

We M/s *[name of bidder]*, do hereby undertake that

- *[name of bidder]* has "No Litigation" pending with the BYPL or its Group/Associates Companies as on the date of bid opening.
- *[name of bidder]* has not been blacklisted/debarred by any central/state government institution/Electricity utilities as on the date of bid opening.
- *[name of bidder]* shall comply with all the statutory compliances as per the laws/rules etc. before the start of the supply/work.

Yours Sincerely,

For

Authorized Signatory

SCHEDULE OF DEVIATIONS - COMMERCIAL

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

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

Commercial Deviations:-

Sl. No.	NIT Pdf Page No.	NIT Clause No.	NIT Clause Descriptions	Details of Clarification/deviation with justifications

By signing this document we hereby withdraw all the deviations whatsoever taken anywhere in this bid document and comply with all the terms and conditions, technical specifications, scope of work etc. as mentioned in the standard document except those mentioned above.

Seal of the Bidder:**Signature:****Name:**

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed and stamped by the bidder)

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

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

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

Signature & seal of the Bidder

Name of Authorized person

ANNEXURE – 1.18

CODE OF CONDUCT FOR SUPPLIERS

BSES expects suppliers including their personnel (employees or sub-contractors) to support, embrace and enact the following Code of Conduct (CoC), apart from complying with all national and international regulations and laws that are applicable at any given time. BSES encourages its suppliers to go beyond compliance and embrace the principles of sustainability. BSES will support training and capacity-building programmes undertaken by suppliers, which promote awareness on sustainability and responsible business practices. BSES shall incorporate regulatory compliance and ESG performance as key criteria based on requirements as stated in the Code during evaluation of the suppliers.

A. Promote Environmental Sustainability

All suppliers support a precautionary approach to environmental issues and undertake initiatives to promote better environmental responsibility. To this end, suppliers will

1. Reduce resource consumption and conserve natural resources:

1.1. Conduct all operations, sourcing, manufacture, distribution of products and the supply of services with the aim of protecting and preserving the environment.

1.2. Use natural resources rationally and work towards reducing resource consumption (water, energy, fuel, electricity, other materials etc.) and GHG emissions.

1.3. Identify environmental risks and set up appropriate prevention measures.

2. Prevent pollution and reduce waste generation

2.1. Maintain all required official permits, licenses and registrations.

2.2. Prevent contamination, limit waste generation, and avoid or minimise adverse impact on the environment and biodiversity by facilitating reusing and recycling material.

2.3. Clearly monitor the precautions to be taken during operations & maintenance in case of emission of heat, vibrations, radioactive rays, noise or similar.

2.4. Use only those chemicals and aerosols with very low or zero ODP (Ozone Depletion Potential), which are allowed as per the regulatory provisions.

2.5. Ensure that all the chemical and hazardous substances are accompanied by the manufacturer MSDS (Material Safety Data Sheet) during transport, storage, use and disposal, and that instructions mandated be strictly followed. No chemical and hazardous substance shall be received without a MSDS document. All the applicable regulatory guidelines shall be adhered strictly for the procurement, transport, storage, use and disposal of such harmful and hazardous chemicals.

2.6. Provide written instructions about handling and/or disposal of equipment and product during the life cycle if special handling is required.

B. Commitment to Human Rights, Labour and the Society

Suppliers shall support, respect and protect human and labour rights and make sure their organisation/entity is not complicit in any kind of abuses and/or violations. In this regard, the suppliers must:

1. Fair working conditions

1.1. Provide and maintain healthy and safe working conditions and welfare facilities for the employees in its establishment.

1.2. Ensure that that wages and benefits of their employees and subcontractors are fair and comply with applicable national and local laws as well as with contractual agreements.

1.3. Provide all workers, both permanent and non-permanent, with employment documents that are freely agreed to and which respect their legal and contractual rights.

2. Health & Safety

Ensure that the activities of suppliers do not harm the health and safety of their own employees, suppliers and subcontractors, local communities/population, and finally the users of its products and services, which is in accordance with the BSES's Mission Zero Harm in Health and Safety.

3. Child Labour

3.1. No person below 18 years shall be employed or permitted to work in any occupation or process.

3.2. Zero tolerance for any kind of child labour in their establishments and supply chain.

4. Forced Labour

4.1. Under no circumstance shall suppliers use forced labour¹, whether in form of compulsory or trafficked labour, indentured labour, bonded labour or other forms, through direct or indirect use of force and/or intimidation.

4.2. Any kind of slavery, mental and physical coercion, human trafficking and debt bondage in the supply chain shall not be tolerated.

5. Wages and Working hours

5.1. Ensure that all applicable regulations related to wages, overtime compensation and other legally mandated benefits of their employees and subcontractors are fair and comply with applicable national and local laws as well as with contractual agreements. Minimum wages are applicable as per applicable in central Act and State rules.

5.2. Ensure that maximum working hours laid down and are adhered to.

6. Freedom of Association and Collective Bargaining

6.1. Recognise and respect the rights of workers to freedom of association and collective bargaining. Workers are not intimidated or harassed in the exercise of their right to join or refrain from joining any organisation.

6.2. Ensure that all employees can communicate with the management regarding working conditions.

7. Non-Discrimination and Equal opportunity

7.1. Commit, within the scope of prevailing laws and statutes, to oppose all forms of discrimination.

7.2. Maintain a work environment free from any form of discrimination and harassment.

7.3. Refrain from discrimination in hiring and employment practices on grounds of skin colour, age, caste, gender, race, ethnicity, nationality, socio-economic background, physical or mental disability, religion, sexual orientation, marital status, pregnancy, dependants, political or religious opinion, ideology, union membership and personal or social circumstances. Special attention must be paid to the rights of workers most vulnerable to discrimination.

8. Zero Tolerance towards Harassment

8.1. Treat all employees with respect and dignity and furthermore ensure that their own suppliers treat their employees in the same manner.

8.2. No tolerance towards unacceptable treatment of employees, such as physical punishment or torture, sexual harassment, or abuse, mental or physical coercion or verbal abuse, or the threat of any such treatment.

8.3. No worker should be subjected to any physical, sexual, psychological, or verbal harassment, abuse or other form of intimidation.

C. Ethical Integrity and Legality

Suppliers shall demonstrate the highest standard of integrity, ethics, and business conduct.

1. Compliance with Applicable laws and regulations:

1.1. All activities must be carried out in compliance with the legislation that is applicable in the countries in which the suppliers operate.

1.2. All other applicable international laws and regulations must be complied with, including those relating to international trade (such as those relating to sanctions, export controls and reporting obligations), data protection and antitrust/ competition laws.

1.3. Avoid any conduct that could tarnish or damage the reputation of BSES.

2. Anti-Corruption & Anti Bribery

2.1. All forms of bribery and corruption are prohibited

2.2. Adequate measures and procedures should be in place to prevent bribery in all commercial dealings.

2.3. Maintain a policy of 'Zero Tolerance' of any practice that may be deemed to be corruption, either active or passive.

2.4. No tolerance for unacceptable conduct, which includes, but not limited to, non-compliance with anti- corruption laws and, directly or indirectly offering, promising, hiring or authorising payments in cash or in kind to any BSES employee, public official or any other person or entity, with intention of a) obtaining or retaining business b) Influencing business decisions; and/or c) securing an unfair advantage.

3. Conflict of Interest

3.1. All and any conflict of interest in any business dealings with BSES, of which the suppliers are aware, should be declared to BSES so that appropriate action can be taken.

3.2. Avoid a situation where there is a real or potential conflict of interest with BSES employees, or with their family or closely associated persons, that could affect the independence or objectivity of their professional actions or decisions. If avoidance is not possible, the suppliers should inform BSES of the situation so that appropriate action can be taken.

4. Insider Trading and Other Economic Crimes

4.1. Ensure that all business and commercial dealings are transparently performed and accurately recorded in the books and records.

4.2. Comply with applicable anti-money laundering laws, conduct business only with ethically responsible partners and receive funds only from legitimate sources.

4.3. Avoid actual or attempted participation in economic offences, such as (but not limited to) money laundering, criminal breach of trust, counterfeiting, criminal misappropriation of properties, forgery, cheating, extortion, embezzlement and fraud.

4.4. Refrain from insider trading. No confidential information regarding BSES is used to either engage, facilitate or support insider trading in BSES's shares.

4.5. Take necessary measures to detect and prevent any illicit or suspicious forms of payment and inform and/or report through established channels if it has any suspicion or concern in this regard.

5. Gifts & Hospitality

5.1. Any business entertaining/hospitality with BSES should be modest in value, appropriate, and compliant with the law and company policies, entirely for the purpose of maintaining good business relations and not intended to influence in any way BSES's decisions on future business relationship.

5.2. Only gifts/honorarium of nominal value accepted or offered on festivals, at conferences, etc. will be permitted. Such gifts should comply with local laws and customs (including cultural and religious festivals) and should not be prohibited under applicable law and should not include cash or cash equivalents, gold or other precious metals, gems or stones.

5.3. Neither receive nor offer or make, directly or indirectly, any illegal payments, remunerations, gifts, donations or comparable benefits that are intended, or perceived, to obtain uncompetitive favours for the conduct of its business with BSES.

5.4. Neither directly or indirectly offer any gift, entertainment, trip, discount, service, or other benefit to any official of BSES or his/her close relations which would or be capable of compromising, influencing, liable to corrupt the integrity and objectivity of that person.

6. Competition, Confidentiality and Data Privacy

6.1. All market survey/other entities information must be obtained and used legitimately and in compliance with all applicable laws and regulations.

6.2. No attempt should be made to divulge to BSES any information about any other entity in violation of any law or agreement.

6.3. Likewise, BSES's confidential information must not be shared with any Supplier unless expressly permitted by BSES in writing by authorised signatory under the respective purchase order or agreement, as the case may be.

7. Transparency and Ethics

7.1 Fair competition

Avoid any action that may constitute an illegal practice of unfair competition and ensure compliance with applicable competition laws.

7.2 Corporate image and reputation Suppliers must NOT:

- Make false statements or provide any misleading information regarding its products/services.
- Give the impression of representing or being the spokesperson of BSES while getting associated with any religious/political party or for activities in their personal capacity.

8. Protection of Intellectual Property and No Misuse or Improper use of BSES's assets/ property

8.1. Respect and protect all confidential information and intellectual property of BSES.

8.2. Do not misuse and share assets of BSES and employ them only for the purpose of conducting the business for which they are duly authorised by BSES. These include tangible assets such as equipment and machinery, systems, facilities, materials, and resources and intangible assets such as intellectual property rights, processes, know how & technology, proprietary information, etc.

8.3. Safeguard, secure, and protect BSES's assets and information technology from theft, destruction, misappropriation, wastage, and abuse.

8.4. Promptly report loss, theft or destruction of any intellectual property and data of the Company or that of any Supplier.

9. Financial Records and Accuracy in Books

9.1. Have accounting practices in place to ensure accuracy of its financial books and records.

9.2. Ensure accurate accounting and proper reporting of information pertaining to the business and financial results in accordance with applicable Accounting Standards [Generally Accepted Accounting Principles (GAAP)].

9.3. Ensure compliance to applicable laws and regulations with respect to accounting and taxation and timely discharge of tax liability.

10. Sanction Laws

10.1 Do not engage in any dealings or transactions with any person, or in any country or territory that are subject to global / regional sanctions as mentioned herein below in clause 10.2. BSES is vigilant of its suppliers who may be on a sanctions list or have a related company in a country subject to global/regional sanctions. In case of any concerns, the supplier should immediately report to BSES.

10.2 Do not be subject to or the target of any economic or financial sanctions or trade embargoes imposed, administered or enforced by the U.S. Government including without limitation by the World Bank or by the United Nations Security Council, the European Union, the United Kingdom including by Her Majesty's Treasury or the Department of Business, Innovation and Skills, a relevant regulatory authority or the Minister of Foreign Affairs of Canada under the Special Economic Measures Act or the United Nations Act or legislation or regulations with similar purpose or effect or any other relevant sanctions authority of any other country (collectively, 'Sanctions Laws') nor is the Company or any of its subsidiaries / affiliates located, organised or resident in a country or territory that is the subject of the target of Sanctions Laws.

10.3 Do not take any action which places or is likely to place BSES in violation of Sanctions Laws and/ or breaches affecting the reputation and/ or business interests of BSES.

11. Responsible Sourcing

Ensure that goods and materials are not sourced in a suspicious or illegal way and implement measures for sustainable procurement practices³ to ensure compliance with laws and regulations.

12. Quality of Product and Services

Products and services should meet the specifications, quality, safety and environmental criteria specified in the relevant contract documents and required by applicable laws

13. Corporate Citizenship

Suppliers shall be committed to be good corporate citizens, not only in compliance with all relevant laws and regulations, but also by assisting and supporting initiatives to improve the quality of life of local communities/regions in which it operates. The activities may be, but not limited to, community health and family welfare, vocational training, education and literacy and employment.

.....
1 'Forced Labour' or 'Involuntary Labour' refers to all work or service that is extracted under the menace of penalty. It also includes terms such as, bonded labour and modern slavery. It also includes any labour for which the worker receives less than the government stipulated minimum wage.

2 'Discrimination' refers to unjust or prejudicial treatment of people, especially on the grounds of, but not limited to, caste, creed, gender, race, ethnicity, age, colour, religion, disability, socio-economic status or sexual orientation.

3 Sustainability shall mean to devise a practice & procedure proactively to sustain resources of organisation and society at present levels with reasonable degradation. Sustainable procurement or sourcing is the process of making purchasing decisions that meet an organisation's needs for goods and services in a way that benefits not only the organisation but society, while minimising its impact on the environment. Organisation integrates the sustainability into business model as a resultant of ESG principles. This is achieved by ensuring that the working conditions of its suppliers' employees are decent, the products or services purchased are sustainable, where possible, and that socio- economic issues, such as inequality and poverty, are addressed.

BIDDER

**GENERAL CONDITIONS OF CONTRACT
(GCC-SUPPLY)**

GENERAL CONDITIONS OF CONTRACT (GCC)-SUPPLY

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

1. General Instructions & Applicability

- 1.1. All Bids shall be prepared and submitted strictly in accordance with these instructions. The Bidder shall be solely responsible for all expenses incurred in the preparation and submission of the Bid. Under no circumstances shall the Purchaser be held liable for such costs, regardless of the outcome of the bidding process.
- 1.2. The Purchaser reserves the right to seek clarifications or additional information from any Bidder at any stage of the evaluation process. The Purchaser may, at its discretion, reject any Bid that is incomplete, non-responsive, or fails to meet the requirements stated in the Bid Documents. The decision of the Purchaser regarding the responsiveness or rejection of any Bid shall be final and binding, without any financial or other obligation on its part.
- 1.3. The Bidder shall be deemed to have carefully examined, read, and fully understood all instructions, terms, conditions, and technical requirements specified in the Tender Documents prior to submission of its Bid.

2. Definitions and Interpretations

- 2.1. COMPANY / OWNER / PURCHASER / BUYER / CUSTOMER shall mean BSES Yamuna Power Limited (BYPL), a company incorporated under the Companies Act, 2013, having its registered office at Shakti Kiran Building, Karkardooma, Delhi – 110032. The expression shall include its authorized representatives, agents, successors, and permitted assigns.
- 2.2. BIDDER / BIDDER / SUPPLIER / VENDOR / CONTRACTOR / AGENCY / MANUFACTURER shall mean the entity submitting a quotation or proposal in response to this bid enquiry issued by the Purchaser. The term Bidder refers to the successful Bidder(s) whose bid has been accepted by the Purchaser and on whom the Letter of Acceptance or Letter of Award is issued, and shall include the Bidder's heirs, legal representatives, successors, and permitted assigns, wherever applicable.
- 2.3. OFFER SHEET shall mean the Bidder's formal and firm offer submitted to BYPL in accordance with the specifications set forth in the Bid Documents.
- 2.4. CONTRACT PRICE/RATE shall mean the price specified in the Letter of Intent, Letter of Award, Rate Contract, or Purchase Order, as applicable.
- 2.5. SITE shall mean the location(s) where the Works, Goods, or Services are to be delivered, installed, commissioned, or executed, as specified elsewhere in the Tender Documents.
- 2.6. STORE shall mean the designated area or location where goods and materials are stored, or as otherwise defined in the Contract.
- 2.7. ENGINEER IN CHARGE shall mean the Company's authorized or nominated representative responsible for supervising and administering the execution of the Works under the Contract.
- 2.8. APPLICABLE LAW shall mean the Constitution of India and all laws, rules, regulations, directives, notifications, codes, orders, or instructions having the force of law as issued by any competent legislative or governmental authority, including but not limited to laws relating to taxes, duties, assessments, expropriation, and compulsory acquisition, as amended from time to time. Any resulting implications shall constitute a Change in Law or Change in Permits, as applicable.

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Bidders seal & Signature

- 2.9. OTHER CLEARANCES shall mean all consents, approvals, permits, or authorizations required to be obtained from governmental or local authorities necessary for commencing or completing the work.
- 2.10. DEFECT LIABILITY PERIOD shall mean the period during which the Bidder shall remain responsible for the repair or replacement of any defective part of the Works executed under the Contract, at no additional cost to the Purchaser.
- 2.11. TENDER SPECIFICATION shall mean the technical and commercial requirements, Indian Standard specifications, and description of works detailed in the Tender Documents, including all documents and references expressly or implicitly forming part of the Tender.
- 2.12. SPECIFICATIONS shall collectively mean all stipulations contained in the RFQ, Commercial Terms and Conditions, Instructions to Bidders, Technical Specifications, and any Amendments, Revisions, Deletions, or Additions issued by the Purchaser from time to time.
- 2.13. CODES AND STANDARDS shall mean all applicable codes and standards referred to or implied in the Specifications.
- 2.14. CHANGE OF WORK shall mean any addition, deletion, suspension, or modification to the scope, quality, functionality, or requirements of the Work as defined in the Contract, resulting in a corresponding change to the Technical Specifications and/or completion schedule.
- 2.15. GOOD INDUSTRY PRACTICE shall mean the level of skill, care, diligence, prudence, and foresight reasonably expected from a competent and experienced service provider engaged in similar activities under similar circumstances, in compliance with prevailing laws, regulations, and industry standards.
- 2.16. CONTRACT shall mean the agreement formed by the Letter of Award or Acceptance, Purchase Order or Work Order, Special Conditions of Contract (SCC), General Conditions of Contract (GCC), the Tender and its Annexures, and all addenda, corrigenda, and clarifications issued by the Purchaser.
- 2.17. EFFECTIVE DATE OF CONTRACT shall mean the date of issuance or award of the Contract, which shall also be deemed the Contract Commencement Date.
- 2.18. CONTRACT PERIOD shall mean the total duration agreed upon between the Bidder and Purchaser for execution of the Contract, inclusive of any extended contract period for reason beyond the control of the Bidder and/or Purchaser due to force majeure.
- 2.19. CONTRACT COMMENCEMENT DATE shall mean the date of issuance or award of the Contract, which shall be deemed the Effective Date of Contract.
- 2.20. CONTRACT COMPLETION DATE shall mean the date marking the expiry of the Guarantee or Defect Liability Period, which shall be deemed the Contract Completion Date.
- 2.21. ACCEPTANCE shall mean and deemed to include one or more of the following as will be stipulated in the specification:
- 2.21.1. Written approval by the Purchaser's Inspector authorizing dispatch of material from the Bidder's works.
- 2.21.2. Acceptance of material at Purchaser site stores after its receipt and due inspection/testing and release of material acceptance note.
- 2.21.3. In case of supply and installation contracts, acceptance shall mean issuance of the Equipment/Material Takeover Receipt after successful installation, commissioning, and final acceptance.

3. Contract Documents Priority & Formation

- 3.1. The documents forming the Contract shall be read as mutually explanatory. In case of any ambiguity or discrepancy, the same shall be clarified and resolved by the Purchaser, whose interpretation shall be final. Unless otherwise provided, the order of precedence of Contract documents shall be as follows:
- 3.1.1. Contract Agreement/Purchase Order/Work Order
 - 3.1.2. Letter of Acceptance / Letter of Intent / Letter of Award
 - 3.1.3. Agreed Minutes of the Tender Negotiation Meetings
 - 3.1.4. Agreed Minutes of the Tender Technical Meetings
 - 3.1.5. Priced Bill of Quantities
 - 3.1.6. Technical Specifications, Drawings, and Scope of Work
 - 3.1.7. Tender Document including all Appendices, Addenda, and Corrigenda (latest revisions to take precedence)
 - 3.1.8. Applicable Codes and Standards
- 3.2. In the event of any inconsistency, the interpretation most consistent with achieving the Project's technical, legal, and statutory objectives shall prevail. No oral communication or instruction shall supersede the written Contract documents.

4. Governing Laws & Dispute Resolution

- 4.1. The Contract shall be governed by and interpreted in accordance with the laws of India.
- 4.2. Any dispute, controversy, or claim arising out of or relating to this Contract, or the breach, termination, or invalidity thereof, shall first be sought to be resolved amicably through mutual consultation between the Parties.
- 4.3. In the event that an amicable resolution is not achieved within a reasonable period, the dispute shall be referred to arbitration in accordance with the provisions of the Arbitration and Conciliation Act, 1996, as amended by the Arbitration and Conciliation (Amendment) Act, 2023. The Arbitral Tribunal shall consist of three (3) arbitrators — one to be appointed by each Party, and the third, who shall act as the presiding arbitrator, to be jointly appointed by the two arbitrators so nominated.
- 4.4. The seat and venue of arbitration shall be New Delhi, India, and the language of proceedings shall be English. The arbitral award rendered by the Tribunal shall be final and binding upon both Parties.

5. Change in Law

- 5.1. Change in Law shall mean the occurrence of any of the following events after the Effective Date of the Contract:
- 5.1.1. The enactment or coming into force of any new Applicable Law.
 - 5.1.2. Any amendment, modification, alteration, or repeal of an existing Applicable Law, or the issuance of any new or revised directive, regulation, or order thereunder.
 - 5.1.3. Any change or variation in the rate, nature, or applicability of taxes, duties, levies, or charges payable in connection with this Contract.
- 5.2. In the event of any Change in Law, the impacted Party shall promptly notify the other Party in writing with relevant details.
- 5.3. If such Change in Law results in any increase or decrease in the cost, expense, or liability of the Bidder in performing its obligations under the Contract, an equitable adjustment shall be made to the Contract Price and/or the Schedule of Completion as mutually agreed between the Parties.

5.4. The Parties agree to negotiate in good faith to reasonably compensate or adjust obligations affected by such Change in Law to ensure the fair performance of the Contract.

6. Language, Measurement & Precedence

6.1. The Contract issued by the Company to the Bidder, along with all related correspondence, documents, instructions, and communications, shall be prepared and maintained in the English language. In case of any translation of Contract documents, the English text shall prevail and govern in the event of any conflict or ambiguity.

6.2. All dimensions, units, quantities, and measurements shall be expressed and interpreted strictly in accordance with the Metric System (International System of Units - SI). Any deviation or alternative units must be clearly specified and mutually agreed upon in writing.

7. Scope of Supply - General

7.1. 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.

7.2. Bidder shall have to quote for the Bill of quantities as listed in Volume - II of this RFQ.

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

7.4. All relevant drawings, data and instruction manuals.

8. Specifications, Codes & Standards

8.1. The Bidder shall follow all codes and standards referred in the Contract Document. Codes and standards not specifically mentioned in the Contract Document may be followed by the Bidder with the prior written approval of BYPL, provided materials, supplies and equipment according to the standard are equal to or better than the corresponding standards specified in the Contract.

8.2. Product manufacturer or brand names cited in the Contract Documents serve solely to define the required type and quality of products. The Bidder shall not substitute or alter the specified brands or product qualities without the express prior written consent of BYPL. All products and equipment must be used or installed in full compliance with the original manufacturer's guidelines unless otherwise instructed by BYPL.

8.3. In all cases, the Bidder must comply with relevant codes, standards, and requirements prescribed by any applicable government agencies.

8.4. In the absence of specific BSES standards, the Bidder shall follow the relevant Indian Standards (IS) or International Electrotechnical Commission (IEC) standards as applicable.

9. Representations and Warranties

9.1. The Bidder represents and warrants that it possesses full legal capacity, valid licenses, permits, and approvals required to perform all obligations under this Contract.

9.2. The Bidder warrants that all Goods supplied under this Contract:

9.2.1. Are brand new and free from any defects in design, materials, and workmanship

9.2.2. Fully conform to the Contract specifications and requirements

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Bidders seal & Signature

9.2.3. Are suitable and fit for the intended purpose as specified in the Contract documents

9.3. The Bidder further warrants that all Services performed shall be executed with the highest degree of skill, care, and diligence consistent with Good Industry Practice and prevailing professional standards.

10. Ethics, Integrity & Code of Conduct

10.1. The Bidder shall fully comply with all anti-bribery, anti-corruption, conflict of interest, gifts and gratuities, and integrity policies issued or communicated by the Purchaser. For Contracts exceeding specified thresholds, the Bidder shall be required to execute an Integrity Pact as per the Purchaser's guidelines.

10.2. Any breach of these ethics and integrity obligations by the Bidder may lead to disciplinary actions including, but not limited to, termination of the Contract, forfeiture of performance security deposits, recovery of losses incurred by the Purchaser, debarment from future procurement opportunities, and reporting to relevant regulatory or enforcement authorities.

11. Sustainability, ESG & Legal Compliance

11.1. The Bidder shall implement an Environmental, Social, and Governance (ESG) program appropriate to the scope of work, which shall include but is not limited to:

11.1.1. Compliance with applicable Extended Producer Responsibility (EPR), electronic waste, hazardous waste, plastic waste, and battery waste management regulations;

11.1.2. Adherence to RoHS/REACH standards where applicable;

11.1.3. Design and supply of energy-efficient products meeting prescribed star ratings or efficiency classes;

11.1.4. Take-back and responsible disposal or recycling of packaging and end-of-life equipment where mandated;

11.1.5. Occupational health and safety management systems aligned with IS/ISO 45001;

11.1.6. Social safeguards including prohibition of child labour, forced labour, assurance of fair wages, and provision of safe and dignified workplaces.

11.1.7. Adoption of environmentally responsible practices such as waste minimization, recycling, and strict prohibition of hazardous materials usage, in accordance with relevant laws and regulations.

11.2. The Bidder shall support the Purchaser's Scope-3 greenhouse gas emissions tracking efforts by submitting quarterly reports detailing the embodied carbon content of supplied goods (where available) and associated logistics emissions. The Bidder shall provide reasonable assistance in this regard at no additional cost.

11.3. The Bidder shall prioritize the use of recycled or returnable packaging materials and minimize single-use plastics except where necessary for product protection. All wooden packaging shall be sourced from legally compliant Bidders. Pallets, drums, and similar packaging materials shall be collected and returned for reuse or recycling where feasible.

11.4. The Bidder shall maintain accurate records, documentation, and evidence of compliance with all ESG requirements and shall provide such information to BYPL or relevant authorities as reasonably requested, in the format and frequency specified.

12. Data & Cybersecurity

12.1. For any scope involving software, firmware, or networking components, the Bidder shall:

12.1.1. Provide comprehensive cyber hardening guidelines;

12.1.2. Maintain a vulnerability disclosure window of thirty-six (36) months following delivery;

12.1.3. Deliver timely security patches and firmware updates as they become available;

- 12.1.4. Supply a software bill of materials (SBOM) listing all software components included;
- 12.1.5. Ensure no hard-coded credentials exist in delivered software or devices.
- 12.1.6. Any connection to the Purchaser's network must be authorized in writing prior to implementation.

12.2. The Bidder shall handle any personal data processed in relation to this Contract in full compliance with applicable data protection laws. Appropriate technical and organizational security measures must be implemented, and the Bidder must promptly notify the Purchaser of any data breaches or security incidents impacting Purchaser data.

13. Local Content and Eligibility

13.1. The Bidder shall comply fully with the Public Procurement (Preference to Make in India) Order and related norms. This includes submitting accurate declarations of local content in goods and services, and consenting to verification and audits by the Purchaser or authorized agencies. Any false or misleading declarations shall entitle the Purchaser to disqualify the Bidder, terminate the Contract, and impose debarment as per applicable regulations.

13.2. Bidders originating from countries sharing land borders with India must adhere to the registration and eligibility criteria specified by the Government of India. Failure to comply with these requirements will render the bid ineligible for consideration and may lead to Contract termination if discovered post-award.

14. Manufacturing Approvals & Clearances

14.1. Transmittal approval documents - including Guaranteed Technical Parameters (GTP), drawings, Quality Assurance Plans (QAP), and other relevant documents - shall be submitted within 15 days to the designated BYPL official for review and approval. BYPL shall provide approval or comments within seven (7) calendar days of the initial submission. Should resubmission be required, the Bidder shall complete it within five (5) calendar days. Subsequent approvals or comments from BYPL on such resubmissions will be issued within five (5) calendar days. Repeated resubmissions are discouraged and may impact timelines.

14.2. Manufacturing activities shall commence only after the Bidder receives formal transmittal approval and manufacturing clearance from BYPL.

14.3. All documents submitted for transmittal approval must reflect pre-award discussions and confirmations between BYPL and the Bidder to ensure accuracy and compliance.

14.4. Post Order Transmittal Approval shall be completed within 04 weeks from the date of Rate Contract/Purchase Order. Delays in obtaining transmittal approval shall not be accepted as valid grounds for extension of delivery timelines or waiver of liquidated damages.

15. Errors, Omissions & Discrepancies

15.1. The Bidder shall be solely responsible for all discrepancies, errors, and omissions found in the drawings, documents, or any other information submitted by it, regardless of whether such submissions have been approved, reviewed, or accepted by BYPL. Notwithstanding the foregoing, any design or drawing errors directly resulting from inaccurate or incomplete data or written instructions furnished by BYPL shall not be attributed to the Bidder.

16. Quality Assurance, Inspection, Testing and Test Certificates

16.1. The Bidder shall procure all equipment solely from authentic sources approved by the Company and as per Company specifications.

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- 16.2. The Bidder shall prepare a detailed Quality Assurance Plan (QAP) and test procedures identifying all manufacturing stages, associated quality checks, raw material inspections, and Customer hold points. This document shall include inspection methods, acceptance criteria, and standards. The Bidder must obtain Purchaser approval prior to manufacturing commencement. The Purchaser retains the right to review Bidder's in-house inspection reports and quality checks at stages other than Customer hold points and may issue remarks requiring additional testing, rectification, or rejection, which the Bidder shall comply with.
- 16.3. Witness and Hold points represent critical inspections or tests during manufacturing where the Bidder must notify the Purchaser in advance to enable witnessing. Final inspection is a mandatory hold point. Work shall proceed beyond any hold point only after explicit clearance by the Purchaser or receipt of a witness waiver letter.
- 16.4. The Purchaser's waiver of any quality assurance activity at any stage shall not exempt the Bidder from fulfilling all Contract requirements, codes, and referenced standards, nor preclude the Purchaser from subsequently rejecting non-conforming materials or work.
- 16.5. The Bidder shall submit all test certificates and joint inspection reports related to equipment's/materials, wherever applicable.
- 16.6. Manufacture items shall not be dispatched without prior receipt of a Material Dispatch Clearance Certificate (MDCC) or explicit instructions from the Purchaser.
- 16.7. All in-house testing and inspections shall be conducted at no additional cost. Such inspections shall be overseen by the Purchaser or its authorized third-party inspection agency. Costs of futile or abortive inspection visits shall be deducted from Bidder invoices.
- 16.8. The Purchaser reserves the right to send any supplied material to recognized laboratories for testing at any time, with testing costs borne by the Bidder. If materials fail to meet the specified technical requirements, the Bidder shall bear all associated charges and penalties. To prevent dispute, the Bidder should appoint a representative to witness material sealing at the storage site before dispatch for testing.

17. Inspection & Test Charges

- 17.1. The Goods shall be subjected to inspection by the Purchaser and/or a third-party inspection agency appointed by the Purchaser. Such inspections shall include stage-wise and final inspections as per the mutually agreed Quality Assurance/Quality Control (QA/QC) procedures. Additionally, inspections may be conducted at the Purchaser's site or storage facilities. The Bidder shall repair or replace any damaged or rejected Goods to the satisfaction of the Purchaser at no additional cost.
- 17.2. Inspection charges are included in the total contract value, whereas third-party inspection fees shall be borne by the Purchaser. However, any costs arising from futile or abortive visits by the Purchaser's inspectors to the Bidder's premises shall be deducted from the Bidder's invoices.
- 17.3. No shipment of Goods, whether in whole or in part, shall be made under this Purchase Order until the Bidder has received a written Release for Shipment Notice from the Purchaser or its authorized representative.
- 17.4. Requests for stage-wise or pre-dispatch inspections must be submitted to the Purchaser at least seven (7) days in advance, utilizing the official request format provided by BYPL.

18. Documentation

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18.1. The Bidder shall procure all materials and equipment exclusively from BYPL-approved sources, strictly adhering to BYPL specifications and Transmittal Approvals. The Bidder shall submit copies of all relevant Material and Type Test Certificates, Operation and Maintenance (O&M) Manuals, as well as Approved and As-built drawings for the supplied equipment. Compliance with BYPL's specifications and Field Quality Procedures is mandatory and must be ensured by the Bidder throughout the project.

19. Packing, Handling, and Storage

19.1. Packing: The Bidder shall pack, or cause to be packed, all Commodities in suitable crates, boxes, drums, containers, cartons, or other appropriate packaging to ensure safe shipment by road or rail to BYPL's Delhi/New Delhi stores or site. Packaging shall provide adequate protection to prevent damage during transit. Wherever feasible, biodegradable packaging materials should be used in compliance with prescribed environmental standards.

19.2. Packing List: Each package shall contain a detailed packing list itemizing the contents with exact weight, external dimensions (length, width, and height), Item SAP Code, Purchase Order number, and date. One copy of the packing list must be enclosed inside each package delivered.

19.3. Prior to commencement of supply, the Bidder shall provide the Material Safety Data Sheet (MSDS) and detailed handling and storage instructions or manuals, where applicable. A copy of these documents shall be submitted and maintained at the storage or site location along with the first lot of materials delivered.

20. Delivery Terms & Address

20.1. The Goods shall be delivered to BYPL's designated Store(s) and/or Site(s). All shipments shall be made on a Free on Road (FOR) destination basis, inclusive of any applicable local taxes and duties.

20.2. The Bidder shall be responsible for unloading of the Goods at the respective BYPL Store(s) or Site(s).

20.3. Where applicable, the Bidder shall ensure issuance of all required transit documents, including E Way Bills, necessary for lawful transportation of the Goods. The logistics partner or transporter shall not be held liable for any loss, penalties, or confiscation arising due to improper documentation or mis-declaration.

21. Transportation

21.1. The Bidder shall be responsible for arranging the transportation of Goods from the Bidder's or Sub-Bidder's works or warehouses to the Buyer's designated Store(s) or Site(s).

21.2. All charges related to transportation from the Bidder's works to the Buyer's Store(s) or Site(s) are deemed included in the total order value and shall not be billed separately.

22. Transit Insurance

22.1. The Bidder shall be responsible for arranging Transit Insurance for all materials and Goods.

22.2. In the event of damage or loss of cargo during transit, the Bidder shall coordinate directly with the relevant insurance company to procure insurance coverage, lodge claims, and facilitate settlement. Regardless of the insurance outcome, the Bidder must replace and deliver the damaged or lost Goods to the Purchaser within thirty (30) days of the incident, at the Bidder's sole expense, including all associated costs for replacement and delivery.

23. Acceptance & Rejection of Goods

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- 23.1. Goods shall be accepted only upon receipt of the Material Dispatch Clearance Certificate (MDCC).
- 23.2. The Purchaser shall not accept materials if LR/ RR / Bilty and the Original Tax Invoice (Transporter Copy) are not handed over at store/site. The Bidder shall draw all dispatch documents in favour of Purchaser as Consigned to and billed to.
- 23.3. The materials shall be supplied during working hours from 10AM to 5PM. No delivery shall be effected after this time unless prior intimation is given to the Purchaser.
- 23.4. The Bidder shall take signature of the authorized person at store/site with Purchaser's seal duly receipting the materials and the quantities in the absence of which payment shall not be made by the Purchaser.
- 23.5. The Bidder shall ensure exact quantities are supplied as per MDCC and if the quantities are short-supplied, as per verification at the Bidder's store/site, the same shall be adjusted and net payment shall be made accordingly.
- 23.6. The Purchaser retains the exclusive right to reject any goods that do not comply strictly with the terms and conditions of this Purchase Order.

24. Price Validity

- 24.1. The agreed prices shall remain variable and fixed for the entire duration of the Contract until its completion..

25. Prices/Rates/Taxes

25.1. Price basis for supply of Materials & Services:

25.1.1. The Contract price/rates finalized shall remain variable and fixed for the entire duration of the Contract.

25.1.2. The supply prices shall be inclusive of packing, forwarding, loading at the manufacturer's premises, payment of GST, freight, and all other applicable local charges. Octroi is presently not applicable in Delhi; however, if made applicable, it shall be reimbursed at actuals.

25.1.3. The supply prices shall also include unloading at BYPL Delhi/New Delhi stores/sites.

25.1.4. Transit insurance shall be arranged at no additional cost to the Purchaser.

25.1.5. GST is included in the total Contract price. GST payments shall be processed only upon submission of a valid GST registration certificate and a self-declaration on letterhead confirming compliance with GST provisions and deposit as per applicable laws. The GST registration number shall be provided.

25.1.6. Income Tax (IT) at applicable rates shall be deducted from invoices as Tax Deducted at Source (TDS), as per prevailing laws.

26. Taxes & Duties

- 26.1. All taxes, duties, turnover tax, labour cess, etc. (except GST) levied by State or Central Governments or local bodies shall be borne by the Bidder. Any new taxes and duties levied by the government during the term of this Agreement shall be borne by BYPL. Income tax and TDS will be deducted at source from the Bidder's invoices as applicable. The Bidder must furnish their GST registration number.

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- 26.2. GST on actuals will be paid upon submission of GST registration and a self-declaration on the Bidder's letterhead confirming that the tax has been or will be deposited as per applicable tax laws.
- 26.3. As per Notification No. 39/2021 # Central Tax dated 21st December 2021, effective from 01/01/2022, a registered person (i.e., Recipient/Purchaser) can claim input tax credit only for invoices reflected in GSTR2A or GSTR2B (which requires 100% matching of invoices). Bidders must deposit GST by filing GSTR-1 and GSTR-3B.
- 26.4. If the Bidder/Bidder fails to comply and the Recipient/Purchaser cannot avail input tax credit due to non-filing or non-compliance of GSTR-1 and GSTR-3B for the month/quarter of supply, the Recipient/Purchaser reserves the right to withhold 100% of the GST amount from subsequent payments until the default is rectified.
- 26.5. To release withheld payments under the GST Act, the Bidder/Bidder must submit proof of payment via GST Portal screenshots reflecting the Recipient/Purchaser's name, along with the relevant GSTR-1 and GSTR-3B filings for the applicable period. Payments will not be released until such proof is provided.
- 26.6. Furthermore, the Recipient/Purchaser reserves the right to recover any financial loss incurred (including tax, interest, penalties, and loss of input credit) due to the Bidder/Bidder's non-compliance or non-filing of GSTR-1 and GSTR-3B.
- 26.7. For goods delivered on FORsite basis, the Bidder/Bidder is responsible for complying with all rules regarding the issuance of E-way bills. Any violation may result in penalties and seizure of goods during transit. All penalties and pre-deposits related to such violations shall be borne by the Bidder/Bidder. The Bidder/Bidder is also responsible for ensuring timely release of seized goods. Any supply delay caused by seizure shall attract liquidated damages as per contract provisions.
- 26.8. For goods not covered under GST, applicable Excise Duty (ED), VAT, or CST shall be payable extra at prevailing rates.
- 26.9. BYPL Tax Details:
26.9.1. GSTIN: 07AABCC8569N1Z0
26.9.2. CST No.: 07740254593
26.9.3. TIN No.: 07740254593
26.9.4. PAN No.: AABCC8569N
- 26.10. The Bidder must submit a detailed statement of invoices and amounts to the concerned officer within seven (7) days after the end of each month corresponding to the supply period. Failure to submit shall be taken as no requirement for reconciliation.

27. Variation in Taxes, Duties & Levies

- 27.1. The total order value shall be adjusted for any variations in statutory levies imposed by competent authorities through fresh notifications issued within the stipulated delivery period. In the event of any reduction in taxes, duties, or levies, such benefits shall be passed on to the Buyer.
- 27.2. No other taxes, duties, or levies beyond those specified above shall be payable by the Buyer, except for new levies, taxes, or duties imposed by competent authorities via fresh notifications after the issuance of the purchase order but within the stipulated delivery period.

27.3. Any changes in taxes, duties, or levies shall only apply to the portion of the purchase order remaining unexecuted on the date of such notification. Changes occurring after the scheduled delivery date shall not affect the terms or value of the purchase order.

27.4. The purchase order value shall remain unaffected by any variations in exchange rates.

28. Taxes & Duties on Raw Materials and Bought-Out Components

28.1. Taxes and duties applicable to raw materials and bought-out components shall be included within the total order value and shall not be subject to any escalation or variation for any reason throughout the duration of the contract.

29. Building and Other Construction Workers (BOCW) Act(Applicable for All Civil and Construction Works)

29.1. The Building and Other Construction Workers (BOCW) Act applies to any establishment employing or having employed ten or more building workers at any time during the preceding twelve months in any building or construction work. The Bidder performing such construction work must register with the Registering Officer under Section 7 of the BOCW Act, along with applicable state government rules, and submit the Registration Certificate issued by the Registering Officer of the concerned State Government's Labour Department.

29.2. Under this Act, the Bidder shall pay a cess at the rate of 1% on the cost of construction work, which shall be deducted from each interim bill. The cost of materials, when billed separately as a distinct schedule item, shall be excluded from the cess calculation. The Bidder is required to comply with all applicable provisions of the BOCW Act.

30. Tax Indemnity Clause

30.1. The Bidder (including its affiliates in India or overseas, agents, third-party Bidders, or any other persons appointed by such affiliates for this Agreement) shall bear sole responsibility for compliance with and payment of all taxes—direct or indirect—including but not limited to income tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess, customs duty, excise duty, Research and Development Cess, cesses, interest, penalties, or any other tax/duty/amount/charge/liability arising under laws or regulations applicable in India or overseas, or from demands or recoveries initiated by any revenue authority.

30.2. If any tax liability (including but not limited to income tax, transfer pricing, value added tax, SGST, CGST, IGST, UTGST, GST Compensation Cess, customs duty, excise duty, Research and Development Cess, etc.), cesses, interest, penalties, or other charges become payable by the Purchaser due to the Bidder's or its affiliates' failure to comply with relevant laws or regulations, the Bidder undertakes to indemnify the Purchaser for such amounts.

30.3. Furthermore, the Bidder agrees to indemnify and keep indemnified the Purchaser against all actions, proceedings, claims, losses, damages, costs, and expenses directly or indirectly arising from any failure by the Bidder or its affiliates to comply with applicable legal obligations.

30.4. The parties agree to the following procedure in the event the Purchaser receives any demand or notice relating to non-compliance by the Bidder or its affiliates with tax laws:

30.4.1. The Purchaser shall notify the Bidder in writing within five (5) common working days of receipt of such communication, or as soon as reasonably possible if the response time is shorter.

30.4.2. Upon receipt of notification, the Bidder shall either accept the demand and reimburse the Purchaser within five (5) working days of payment or propose disputing the demand.

- 30.4.3. If the Bidder opts to dispute the demand and the Purchaser agrees, the Purchaser will contest the demand following due legal process, refraining from paying the tax demand during litigation. The Bidder shall reimburse all litigation costs incurred, including counsel fees and filing charges. Should any coercive recovery measures be initiated, the Purchaser may pay the sum and recover it from the Bidder within five (5) working days.
- 30.4.4. If the demand is finally determined by a tribunal or authority and payment was made by the Purchaser, the Bidder shall reimburse the amount within ten (10) days of payment. Conversely, if no amount is payable and a refund arises, the Purchaser shall pass the refund to the Bidder within ten (10) days of receipt.

31. Invoicing Instructions

- 31.1. Invoices shall be prepared in triplicate — (1) Original for the recipient, (2) Duplicate for the transporter, and (3) Triplicate for the Bidder — and delivered to: BSES YAMUNA POWER LIMITED, SHAKTI KIRAN BUILDING, KARKARDOOMA, DELHI-110032. Material Dispatch Clearance Certificates (MDCC) will be issued separately for Capex and Opex, and Bidders must submit invoices accordingly.
- 31.2. The Bidder shall obtain GST registration in the state from which the supply is made. Bidders must possess a valid GST registration number and issue GST tax invoices and supporting documents compliant with the SGST Act, CGST Act, IGST Act, UTGST Act, GST Compensation Cess Act and applicable rules. Failure to submit GST-compliant invoices shall render the tax amounts (SGST, CGST, IGST, UTGST, GST Compensation Cess) subject to withholding during payment.
- 31.3. Invoices must be issued in the name of BSES YAMUNA POWER LIMITED, with the store/site address as specified in the MDCC. Invoices should comply with all GST Invoice, Debit Note, and Credit Note requirements, including Bidder details, GSTIN, HSN codes, item details, tax rates, etc., as outlined in government regulations and the GST INV-01 invoice template.
- 31.4. The Bidder must charge appropriate CGST, SGST, UGST, IGST, and GST Compensation Cess as applicable.
- 31.5. Timely Issuance of Invoices/Debit/Credit Notes:
- 31.5.1. Bidders shall provide invoices and debit/credit notes promptly to allow the Purchaser to claim input tax credit within prescribed deadlines per GST laws. Adjustments (credit notes, purchase returns, debit notes) must be processed within legally mandated timeframes.
- 31.5.2. In case of advance payments, the Bidder agrees to raise a tax invoice. Upon receipt of advance, the Purchaser will issue a payment voucher as per applicable GST rules. Four copies of invoices are required, including the Electronic Reference Number if mandated by law. Persons in charge of conveyance must carry required documents and devices.
- 31.6. Transit Documents and E Way Bills: Where applicable, the Bidder is responsible for issuing transit documents/E Way Bills for goods movement. Logistic partners or transporters shall not be liable for losses or confiscation due to improper documentation or misdeclaration. The Supplier must comply with all E-way bill regulations. Violations may attract penalties and seizure of goods. The Supplier shall bear all penalties and pre-deposits and is responsible for obtaining release of goods from authorities like CGST/SGST. Delays due to seizure shall attract liquidated damages as per contract.
- 31.7. All Suppliers/Service Providers must include the following minimum details in invoices submitted:
- 31.7.1. Invoice/Credit Note number and date
- 31.7.2. Bidder/service provider address and GSTIN
- 31.7.3. Customer name and address as per GST registration and GST registration number

- 31.7.4. 'Shipped to' and 'Billed to' addresses
- 31.7.5. Place of supply
- 31.7.6. Description of goods/services with units of measurement
- 31.7.7. HSN/SAC codes
- 31.7.8. Taxable value (gross and discount detailed separately if applicable)
- 31.7.9. Tax rate and amount for CGST, SGST, and IGST separately
- 31.7.10. Bidder's signature (for e-invoices, a physical signature is not required)
- 31.7.11. Indication of reverse charge applicability

32. Bill Submission Procedure

- 32.1. All monitoring, measurement, billing & payment processes shall be on IT enabled platform of BYPL as per Company's guidelines issued from time to time and bidders to ensure adherence. The company may modify the procedure for the submission of bills. The Bidder shall be obliged to submit its bill as per the procedure stipulated by the company from time to time.
- 32.2. All bills must be uploaded to BYPL portal(BTS - Bill Tracking System) for certification by the Engineer In-Charge or Package Engineer.
- 32.3. Further the Bidder shall also submit original bill (hard copy) along with supporting documents at Vendor Support Cell of BYPL. The bills shall be made in favour of BSES Yamuna Power Ltd, Shakti Kiran Building, Karkardooma, New Delhi - 110032.
- 32.4. Each bill shall be complete in all respects, including compliance with ESI, HR, Quality, HSE, Stores, and Finance requirements. The site follows an established procedure for bill processing. Incomplete bills or invoices will not be processed for payment.

33. Terms of Payment and Billing

- 33.1. **For Supply Of Equipment/Materials**
100% payment shall be made within 45 days from the date of receipt & acceptance of material at store(s)/site(s) on against submission of following documents against dispatch of each consignment at our Vendor Support Cell (VSC):
 - a) Signed copy of accepted Rate Contract / Purchase Order (for first payment)
 - b) PBG equivalent to 1% of RC Value (including GST) valid till RC validity period, as applicable
 - c) LR / RR / BL as applicable
 - d) Challan, as applicable
 - e) One (01) copy of the detailed tax invoice showing commodity description, quantity, unit price, total price, and basis of delivery, covering 100% of the consignment value claimed
 - f) One (01) copy of the transporter's invoice duly receipted by BYPL Store and original certificate issued by BYPL confirming receipt and acceptance of the material at Store/Site as per Contract provisions
 - g) One (01) copy of Packing List / Detailed Packing List
 - h) Approved Test Certificates / Quality Certificates, wherever applicable
 - i) Certificate of Origin, wherever applicable
 - j) Material Dispatch Clearance Certificate (MDCC)
 - k) Warranty / Guarantee Certificate, wherever applicable
 - l) Checklist for bill submission
- 33.2. Purchaser has the right to recover tax loss, interest and penalty suffered due to any non-compliance of tax laws by the Bidder. In the event, Purchaser is not able to avail any tax credit due to any shortcoming on the part of the Bidder (which otherwise should have been available to Purchaser in the normal course), then the Bidder at his own cost and effort will get the shortcoming rectified. If for any reason the same is not possible, then the Bidder will make 'good' the loss suffered by Purchaser due to the tax credit it lost. In such event, any

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amount paid to the Bidders shall be first attributable to the tax (GST) charged in the invoice and the balance shall be considered towards the 'value' of supply of goods/ services.

- 33.3. Purchaser shall deduct "Tax Deducted at Source" wherever applicable and at the rate prescribed under the GST Laws or any other Indian law and remit the same to the Government. Necessary TDS certificates as per law shall be issued by the purchase to the Bidder.
- 33.4. Any liability arising out of dispute on the tax rate, classification under HSN, calculation and payment of tax to the Government will be to the Bidder's account.
- 33.5. Where the supply of Goods is liable to GST under reverse charge mechanism, then the Bidder should clearly mention the category under which it has been registered and also that "the liability of payment of GST is on the Recipient of Supply".

34. Performance Guarantee

34.1. To be submitted within twenty-eight (28) days from the date of issuance of the Letter of Intent/Award/RC. Bidder shall initially submit the performance bank guarantee (PBG) equivalent to 1% of RC Value (including GST) valid till RC validity period plus three months claim period. Upon receipt of the PBG by BYPL against RC, the EMD shall be released. Thereafter bidder shall submit PBG on Purchase Order (PO) basis equivalent to 10% of the PO value (including GST) valid for a period of 30 months from the date of last receipts at site/stores plus 3 months claim period.

34.2. All Bank Guarantees shall be issued in favour of BSES Yamuna Power Ltd. and shall strictly conform to the format prescribed by BYPL.

34.3. Performance Guarantee Forfeiture: Each Performance Bank Guarantee furnished under Clause 34.1 shall contain a provision for automatic and unconditional forfeiture, without recourse, upon presentation by BYPL to the issuing bank along with a simple statement that there has been failure to comply with any term or condition of the Contract.

34.4. The Performance Bank Guarantee shall be liable for automatic and unconditional forfeiture, without recourse, if BYPL, at its sole discretion, determines non-compliance with any term or condition of the Contract.

34.5. Performance Guarantee Release: All Performance Bank Guarantees shall be released without interest within seven (7) days after expiry of the validity period specified under Clause 34.1, except in cases covered under Clause 34.4.

35. Defects Liability Period/Warranty / Guarantee

- 35.1. The bidder is to Guarantee the materials/items supplied against any defect or failure, which arises due to faulty materials, workmanship or design for the entire defects liability period. The Defect liability period shall be 66 months from the date of delivery at store(s)/site(s).
- 35.2. If during the Defects Liability Period any goods are found defective, the Bidder shall promptly replace or rectify them at its own cost, including dismantling and reinstallation, as directed by the Purchaser. If removed from site, the goods must be returned at the Bidder's cost within the agreed schedule from receipt of intimation.
- 35.3. The Bidder shall dispatch service personnel within 48 hours in emergencies and ensure availability of manpower and spares throughout the warranty period.
- 35.4. However, if the situation, in BYPL's sole discretion warrants an emergency restoration, it reserves the right to take immediate action for identifying the fault and restoring the system with available resources & materials or with help from any other third-party agency under

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intimation to the Bidder. All costs of replacement, substitution, shipping, labour and other related expenses including taxes and levies incurred in connection with the restoration of fault plus 15% of expenses incurred as administrative overheads shall be for the account of Bidder. BYPL will charge the Bidder for the costs incurred for fault restoration or may set off such costs against any amounts payable by BYPL to the Bidder or deduct from the PBG submitted by the Bidder. Bidder shall pay BYPL the amount within 30 days.

- 35.5. Fault root cause analysis shall be jointly conducted by BYPL's CES, O&M, OEM teams and the Bidder. If faults arise from reasons other than faulty material, design, or workmanship, the Bidder shall be exempt from further liability or cost.

36. Support beyond the Guarantee Period

- 36.1. The Bidder shall ensure the availability of spare parts and necessary technical support for a minimum period of ten (10) years following the completion of the equipment guarantee period under the contract. The Bidder must notify BYPL at least twelve (12) months in advance of the End of Life Support for the supplied product or technology.

37. Return, Replacement or Substitution

- 37.1. BYPL shall promptly notify the Bidder upon identification of any defective commodity. At its sole discretion, BYPL may return such defective commodities to the Bidder for replacement at no cost to BYPL or reject the commodities and procure the same or similar items from a third party. In the event of such third-party procurement, BYPL shall provide the Bidder with proof of the replacement purchase cost.
- 37.2. All costs associated with replacement, substitution, shipping, labor, and other related expenses incurred in connection with the return and replacement or third-party procurement of the commodity shall be borne by the Bidder. BYPL reserves the right to deduct such costs from any payments due to the Bidder.
- 37.3. Should the cost of the substitute commodity exceed the price quoted in the Bidder's bid, the Bidder shall reimburse BYPL for the difference.
- 37.4. At BYPL's sole discretion, materials or goods rejected and not collected by the Bidder within forty-five (45) days from the date of rejection notification may be disposed of by BYPL.

38. Effective Date of Commencement of Contract

- 38.1. The Contract shall be deemed to commence on the date of issuance of the Letter of Intent, Letter of Acceptance, or Purchase Order, whichever is earlier, and this date shall be considered as the effective commencement date for all contractual obligations.

39. Time - The Essence of Contract

- 39.1. The date specified for completion of the "Project" in the Letter of Acceptance or Purchase Order issued to the Bidder shall be deemed to be of the essence of the Contract. The Bidder is required to complete the Project on or before the stipulated schedule and completion date.

40. Delivery Completion Timelines

- 40.1. The contractual delivery for the Goods or Services shall adhere strictly to the defined schedule.

41. Extension of Time and Time Overrun

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- 41.1. Extension of time may be granted at the Company's discretion if delays are not the Bidder's fault, subject to the Bidder submitting detailed justification within ten (10) days of the delay's occurrence. Such extension does not warrant any increase in contract price and does not prejudice the Company's right to recover liquidated damages.

42. Liquidated Damages

- 42.1. If supply of items/equipments is delayed beyond the supply schedule as stipulated in the purchase order then the Bidder shall be liable to pay to the Purchaser as penalty for delay, a sum of 1% (one percent) of the basic (ex-works) price for every week delay of undelivered units or part thereof for individual milestone deliveries.
- 42.2. The total amount of penalty for delay under the contract will be subject to a maximum of ten percent (10%) of the basic (ex-works) price of total undelivered units.
- 42.3. 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 Bidder or from the Performance Bond or file a claim against the Bidder.
- 42.4. If the Penalty is levied as per the Order terms & conditions; BYPL will raise the Invoice for the penalty amount along with applicable GST rates. Accordingly, after setting off the penalty Invoice amount, net payment shall be made.

43. Recoveries

- 43.1. Whenever any sum is recoverable from the Bidder under this contract, the Purchaser shall be entitled to recover such amount by appropriating, in whole or in part, any sums due or that may become due to the Bidder under this contract. If such sums are insufficient to cover the full amount recoverable, the Bidder shall pay the outstanding balance to the Purchaser upon demand.

44. The Micro, Small and Medium Enterprises (MSME)

- 44.1. If the Bidder's establishment falls under the scope of the Micro, Small and Medium Enterprises Development Act, 2006 and its amendments, the Bidder shall declare this status within the bid. Failure to do so will be deemed as confirmation that the Bidder is a non-MSME unit. The Bidder must also submit a copy of the Udyog Aadhaar (UA) and Udyam Registration Number, along with the PAN number.

45. Transfer and Subcontracting

- 45.1. The Bidder shall not subcontract, transfer, assign, or otherwise part with the Contract or any part thereof, either directly or indirectly, without the prior written approval of the Purchaser.
- 45.2. Notwithstanding any subcontracting, the Bidder shall remain entirely responsible for the execution, completion, and satisfactory performance of the Work, in full compliance with the Purchase Order, specifications, approved drawings, and data sheets. The Bidder shall also be fully accountable for any acts, omissions, defaults, or negligence of any subBidder.

46. Intellectual Property Rights and Royalties

- 46.1. The Bidder shall indemnify the Purchaser and the Purchaser's Representative against all claims and proceedings arising from infringement or alleged infringement of any patent rights, registered designs, copyright, design, trademark, trade name, know-how, or other intellectual property rights (collectively referred to as "Intellectual Property Rights") relating to the Works, Bidder's equipment, machines, methods, plant, materials, or anything required for execution of the Works. In case of infringement, the Bidder shall, at its own

cost, either rectify, modify, or replace the infringing item so that infringement ceases, or procure necessary rights or licenses from the affected third party.

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

47. Vendor Code of Conduct

- 47.1. Bidder acknowledges having reviewed the BYPL policy on legal and ethical code required to be followed by Bidders encapsulated in the "Vendor/Bidder Code of Conduct" displayed on the official website of BYPL (www.bsedelhi.com) also, which shall be treated as a part of the agreement/contract/PO/WO.
- 47.2. Bidder undertakes that he shall adhere to the Bidder Code of Conduct and also agrees that any violation of the Bidder Code of Conduct shall be treated as breach of the agreement/contract/PO/WO.

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- 47.3. In event of any such breach, irrespective of whether it causes any loss/damage, company (BYPL) shall have the right to recover loss/damage including liquidated damages from Bidder.
- 47.4. The Bidder hereby indemnifies and agrees to keep indemnified the company (BYPL) against any claim/litigation/liability/penalty including litigation cost arising out of any violation of Bidder Code of Conduct by the Bidder or its officers, agents & representatives etc.

48. Limitation of Liability

- 48.1. Except in cases of willful misconduct, fraud, or gross negligence, neither Party shall be liable to the other for loss of use of any works, loss of profit, loss of contracts, or any other indirect or consequential damages arising out of or in connection with the Contract. The total liability of the Bidder to the Purchaser under this Contract shall not exceed the Contract Value.
- 48.2. Notwithstanding the above, this clause shall not limit the liability of the Bidder in the following cases:
- 48.2.1. Fraud, willful misconduct, or unlawful acts
 - 48.2.2. Acts or omissions that violate the fundamental rules of diligence that a conscientious Bidder would observe under similar circumstances
 - 48.2.3. Intellectual property infringement
 - 48.2.4. Breach of confidentiality or data security obligations
 - 48.2.5. Tax and statutory dues liabilities
 - 48.2.6. Recovery of liquidated damages
 - 48.2.7. Third-party death or personal injury

49. Liability of Bidders

- 49.1. Subject to the due discharge of its obligations under the Contract and except in case of willful misconduct, fraud, or gross negligence on the part of the Bidder or on the part of any person acting on behalf of the Bidder, with respect to any loss or damage caused by the Bidder to the Purchaser's property or the Site, the Bidder shall not be liable to the Purchaser for the following:
- a) For any indirect or consequential loss or damage; and
 - b) For any direct loss or damage that exceeds:
 - i. The total payments made and expected to be made to the Bidder under the Contract including reimbursements, if any; or
 - ii. The insurance claim proceeds that the Bidder may be entitled to receive from any insurance purchased by the Bidder to cover such a liability, whichever is higher.
- 49.2. This limitation of liability shall not affect the Bidder's liability, if any, for damage to third-party property or injury or death of a person due to negligence of the Bidder or any Person or firm acting on behalf of the Bidder in executing the order.
- 49.3. Notwithstanding anything contained in the Contract, the Bidder shall not be liable for any willful misconduct, fraud, or gross negligence on the part of the Purchaser or any of its affiliates, any Bidder, or any party, other than Bidder and/or, its directors, officers, agents or representatives or its affiliates, or SubBidder, or the Bidder or any third party engaged by it.
- 49.4. Notwithstanding anything contained in the Contract, including but not limited to approval by the Purchaser of any drawings, documents, Bidder list, supply of information or data or the participation of the Purchaser in any meeting and/or discussion or otherwise, shall not absolve the Bidder from any of its liabilities or responsibilities arising in relation to or under the Contract.

50. Indemnification

- 50.1. The Bidder shall indemnify and hold harmless the Company from and against any and all liabilities, claims, damages, losses, or expenses arising out of or resulting from:
- 50.1.1. any breach non-observance or non-performance by Bidder or its employees or agents of any of the provisions of this Work Order.
 - 50.1.2. any act or omission of Bidder or its employees or agents.
 - 50.1.3. any negligence or breach of duty on the part of Bidder, its employees or agents including any wrongful use by it or them of any property or goods belonging to or by COMPANY.
 - 50.1.4. Any damages or loss related to free-issued materials, for which the Bidder shall submit an Indemnity Bond.
- 50.2. The Bidder shall at all times indemnify the Company against all liabilities to third parties, including employees or agents of the Company or the Bidder, for bodily injury, property damage, or any other loss arising out of or in connection with the execution or completion of the Works. This includes all costs, charges, and expenses incurred by the Company due to claims from such persons.

51. Events of Default

- 51.1. Each of the following events or occurrences shall constitute an event of default under the Contract:
- 51.1.1. The Bidder fails or refuses to pay any amounts due under the Contract;
 - 51.1.2. The Bidder 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 valid extension thereof;
 - 51.1.3. The Bidder 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 Bidder's creditors file any petition relating to bankruptcy of Bidder;
 - 51.1.4. The Bidder fails to complete the works in accordance with the approved schedule of works.
 - 51.1.5. The Bidder fails to comply with any reasonable instructions or directions issued by the Company in connection with the execution of the works.
 - 51.1.6. The Bidder 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 Bidder of notice of such failure from BYPL specifying the failure.

52. Consequences of Default

- 52.1. If any Event of Default occurs and continues, BYPL may, by written notice, terminate the Contract forthwith.
- 52.2. Upon occurrence of an Event of Default, BYPL may, without prejudice to any other rights or remedies available under law or the Contract, exercise one or more of the following remedies;
- 52.2.1. Invoke and present the Performance Bond for payment;
 - 52.2.2. Procure the same or equivalent Commodities from any third-party source; and/or
 - 52.2.3. Recover from the Bidder any losses, damages, or additional expenses incurred as a result of the Bidder's default.

53. Force Majeure

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

53.1.1. 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 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.

53.1.2. 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.

53.1.3. Such event is not the direct or indirect result of the failure of such Party to perform any of its obligations under this Contract.

53.1.4. Such Party has given the other Party prompt notice describing such events, the effect thereof and the actions being taken to comply with the above clause.

53.2. Specific Events of Force Majeure

53.2.1. 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:

53.2.1.1. Natural elements or other acts of God, such as storms, floods, earthquakes, lightning, cyclones, landslides, or other natural disasters.

53.2.1.2. Explosions or fires.

53.2.1.3. Epidemics, pandemics, or plagues.

53.2.1.4. Declared war by the Government of India.

53.2.1.5. Dangers of navigation or perils of the sea.

53.2.1.6. Cyber security incidents impacting grid operations.

53.2.1.7. Pandemic-related lockdowns.

53.2.1.8. Climate change events beyond traditional natural disasters.

53.2.1.9. Embargoes.

53.2.1.10. Supply chain or industrial disturbances beyond reasonable control.

53.2.2. Note: Force Majeure shall not apply to financial inability, labor shortages, power failures, strikes, accidents, or subBidder defaults.

53.3. Notice of Events of Force Majeure

53.3.1. If a force majeure event prevents a party from performing any obligations under the Contract in part or in full that party shall:

53.3.1.1. 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

53.3.1.2. 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.

53.3.1.3. Use all reasonable efforts to resume full performance of the obligation as soon as practicable

53.3.1.4. Keep the other party informed of all such efforts to resume full performance of the obligation on a regular basis.

53.3.1.5. Provide prompt notice of the resumption of full performance or obligation to the other party.

53.4. Mitigation of Events of Force Majeure

53.4.1. Each Party shall:

53.4.1.1. 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;

53.4.1.2. 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

53.4.1.3. 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.

53.5. Burden of Proof

53.5.1. 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.

53.6. Termination for Certain Events of Force Majeure

53.6.1. 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.

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

53.6.2.1. Bidder fails to complete the execution of works within the approved schedule of works, terms and conditions.

53.6.2.2. In case the Bidder commits any Act of Insolvency, or is adjudged insolvent

53.6.2.3. Has abandoned the contract

53.6.2.4. Has failed to commence work or has suspended the progress of works

53.6.2.5. Has failed to proceed with the works with due diligence and failed to make such due progress

53.7. Limitation of Force Majeure event

53.7.1. The Bidder shall not be relieved of any obligation under the Contract solely because the cost of performance is increased, whether as a consequence of adverse economic consequences or otherwise.

53.8. Extension of Contract Period due to Force Majeure event

53.8.1. 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.

53.9. Effect of Events of Force Majeure

53.9.1. 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 the failure to perform such obligations shall be due to an event of "Force Majeure".

54. Suspension or Extension

- 54.1. The Purchaser reserves the right to suspend or reinstate execution of the whole or any part of the Works without affecting the validity of the Contract provisions. Any orders for suspension or reinstatement shall be provided to the Bidder in writing. The completion time for the Works will be extended by a period equivalent to the duration of the suspension.
- 54.2. For any aggregate suspension period less than six (6) months, the Bidder shall not be entitled to claim reimbursement. If the suspension of the Works extends beyond six (6) months, the Purchaser will reimburse the Bidder only for necessary and demonstrable direct costs incurred, subject to satisfactory substantiation. Overheads, incidentals, and profit shall not be considered. The Purchaser's decision regarding such claims will be final and binding. The Purchaser shall bear no liability for suspension or delay arising from any default on the part of the Bidder or its sub-Bidders; the Purchaser's decision in this respect shall also be final and binding.

55. Severability

- 55.1. If any provision of this Agreement is found to be invalid, illegal, or unenforceable by a court of competent jurisdiction, such invalidity or unenforceability shall not affect the remaining provisions of the Agreement, which shall continue to be valid and enforceable to the fullest extent permitted by law.

56. Waiver of Rights

- 56.1. No failure or delay by either Party in enforcing any provision of this Agreement shall be deemed a waiver of that provision or of any subsequent breach. Any waiver granted must be expressly made in writing and shall apply only to the specific instance and shall not constitute a waiver of any other rights or breaches occurring thereafter.

57. Patent Rights and Royalty

- 57.1. In the event that the Bidder, during the course of performing its obligations under this GCC, acquires, invents, or develops any proprietary knowledge, information, process, or invention which qualifies, or may qualify, as a trademark, copyright, patent, trade secret, geographical indication, or any other intellectual property right, the Bidder shall promptly disclose such creation to BYPL. All title, interest, and rights to such intellectual property shall vest exclusively in BYPL, and the Bidder shall execute all documents necessary to ensure BYPL's sole ownership without delay.
- 57.2. The Bidder warrants that, in performing its obligations, no intellectual property rights of any third party shall be infringed, whether by violation of statute, passing off, or otherwise. The Bidder shall bear sole responsibility for any infringement claims, and shall fully indemnify and hold BYPL harmless from and against any and all losses, damages, liabilities, costs, or expenses (including reasonable legal fees) incurred as a result of any such infringement. Any compensation, damages, or expenses paid by BYPL to third parties in connection with such infringement shall be recoverable in full from the Bidder.

58. Confidentiality/Secrecy

- 58.1. The Bidder shall not, without the Company's prior written consent, disseminate, publish, or otherwise utilize in any form of advertising, publicity, sales release, or media any photograph, reproduction, or description of the Works under this Contract, nor disclose the site details, dimensions, quantities, or other related information concerning the Works.

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58.2. The Bidder, along with its employees and representatives, shall maintain strict confidentiality regarding all information encountered in the execution of the Contract, as detailed below.

58.2.1. Documents: All maps, plans, drawings, specifications, schemes, and other documents or information related to the Contract/Project, including any material supplied to the Bidder by BYPL for contract execution, shall be treated as confidential and remain the property of BYPL. Such documents shall be used solely for purposes of the Contract and shall not be disclosed or used for any other purpose. Disclosure to third parties is permitted solely where such disclosure is necessary for the execution of the Work, and only upon the third party's execution of a confidentiality agreement acceptable to BYPL, explicitly committing to uphold confidentiality obligations equivalent to those set forth herein.

58.2.2. Geographical Data: Maps, layouts, site photographs, and regional imagery depicting installations of national or BYPL significance shall not be published, disclosed, or exported without BYPL's prior written approval. Any necessary disclosure to third parties shall be subject to confidentiality agreements satisfactory to BYPL, executed prior to disclosure.

58.2.3. Violation: In the event of any breach of these confidentiality provisions, the Bidder shall indemnify and hold the Company harmless from any loss, cost, damage, or claim (including claims asserted by third parties) arising as a result of such breach. Any actual or suspected data breach or cyber incident must be promptly notified to BYPL and investigated at the Bidder's expense.

58.3. Furthermore, the Bidder shall be liable for compensation or damages as determined by the competent authority of BYPL.

59. Progress Reports of Work Execution and Information

59.1. Throughout the manufacturing and erection stages of critical equipment under this Contract, the Bidder shall, at its own expense, submit periodic progress reports as reasonably required by the Purchaser. These reports shall include relevant supplementary materials such as charts, network diagrams, photographs, and test certificates. The format, size, and number of copies of such reports shall be specified by the Purchaser.

59.2. Quantitative progress reports shall refer to the project schedule in sufficient detail to enable the Purchaser to assess performance, schedule witness dates, and evaluate forecasts, including reports on key subcontracts, where applicable. Within seven (7) days after each report submission—and at other times as reasonably requested by the Purchaser—the Bidder and Purchaser shall meet to discuss progress.

59.3. Weekly progress reports shall include but not limited to:

59.3.1. Executive summary

59.3.2. Description of the work and services performed and goods and materials delivered and erected during the preceding week.

59.3.3. Necessary photographs of work done in the manufacturer's shop and erection site which shall be taken when and where indicated by the Purchaser. Photographs shall be approximately 100 x 125 mm in size including a margin of 5 mm side for fixing. Adequate numbers of photographs shall be submitted indicating various stages of manufacture and erection of critical items. Each photograph shall contain the date, the name of the Bidder and the title of the view taken.

59.3.4. Updated project schedule showing progress to the end of the week (as percentages completed of the Bidder's activities broken down into significant elements of the works), and the current schedule of activities and the targets for the next week.

59.3.5. Identification of areas with foreseeable problems which in the opinion of the Bidder may affect the project schedule.

59.3.6. Such other information and supporting documentation as the Purchaser may require satisfying himself about the timely manufacture, delivery and erection of equipment as per contract.

59.4. The Purchaser shall advise the Bidder about the number of copies of progress reports and, where relevant, photographs he has to submit each week together with the names and addresses of persons (Communication Matrix) to whom they are to be sent. Purchaser will also advise the Bidder regarding the format of the Monthly Progress report.

59.5. In addition to the above, the Bidder shall promptly furnish all reports, records, and information as may be requested by the Company, in a form and frequency specified by the Company. The Company retains the right to alter the format and requirements of such submissions, and the Bidder shall be bound to comply with any revised reporting obligations as communicated by the Company

60. Dispute Resolution & Arbitration

60.1. The Parties shall make all reasonable efforts to resolve amicably, through mutual discussions, any disputes or differences arising out of or in connection with this Contract. In the event that such disputes remain unresolved for thirty (30) days from the date either Party notifies the other in writing of the dispute, either Party may refer the matter to arbitration.

60.2. Arbitration shall be conducted by a tribunal comprising two arbitrators - one to be appointed by each Party. The two arbitrators thus appointed shall mutually select a third individual to act as the presiding arbitrator prior to entering upon reference, if and when required. The arbitration proceedings shall be undertaken in accordance with the provisions of the Indian Arbitration and Conciliation Act, 1996 and its 2015 and 2019 amendments. The seat and venue of arbitration shall be New Delhi, India. The language of all proceedings, documents, and communications shall be English. The arbitral process shall be completed within a maximum period of three (3) months from constitution of the arbitral tribunal.

60.3. Reference to negotiation and/or arbitration may proceed regardless of whether the Works have been completed, provided that the contractual obligations of both the Purchaser and the Bidder shall remain unaffected during pendency of arbitration. Under no circumstances shall the Bidder suspend execution of the Works, in whole or in part, on account of ongoing arbitration. Payments due to the Bidder shall continue to be made as per the terms of the Contract.

60.4. All disputes arising out of or in relation to this Contract that require recourse to judicial proceedings shall be subject to the exclusive jurisdiction of the courts at Delhi, India.

61. Termination for convenience of Purchaser

61.1. Purchaser at its sole discretion may terminate the contract by giving 30 days prior notice in writing or through email to the Bidder. Purchaser shall pay the Bidder for all the supplies/ services rendered till the actual date of contract termination against submission of invoice by the Bidder to that effect.

61.2. Payment of such compensation is the sole and exclusive remedy of the Bidder for termination of this Agreement by Purchaser hereunder and the Bidder shall not be entitled to, and hereby waives, claims for lost profits and all other damages and expenses.

61.3. Bidder hereby agrees that substantiation for settlement of any claims submitted by Bidder shall be complete and in sufficient detail to allow Purchaser's evaluation. Terminate all sub-contracts except those that have been/ to be assigned to the Purchaser all rights, titles and benefits of the Bidders/Vendor as the case may be.

62. Entire Agreement& Amendment

62.1. This Agreement constitutes the entire understanding between BYPL and the Bidder regarding the subject matter herein and supersedes all prior agreements, whether written or oral, that relate to such matters. Any modification, amendment, or alteration to this Agreement shall be valid only if documented in writing and duly executed by authorized representatives of both BYPL and the Bidder.

63. Notice & Communication

63.1. Any notice or other formal communication under this Agreement shall be in writing, signed by or on behalf of the party issuing it, and shall be sent by registered post with acknowledgement due (A.D.) to the addresses of the Bidder or BYPL as stated herein, or to such other addresses as may be mutually agreed upon in writing by the Parties from time to time.

63.2. Notices and formal communications may also be transmitted via the official email addresses of the authorized representatives of the Bidder or BYPL. Such electronic communications shall be deemed duly delivered upon successful transmission and acknowledgement by the recipient.

63.3. All communications, correspondence, and documentation pertaining to the Purchase Order shall be directed strictly as specified in this Agreement.

64. Acceptance

64.1. The Bidder hereby acknowledges and confirms review of BYPL's Policy on legal and ethical standards for Bidders, as set forth in the "Vendor/Bidder Code of Conduct" displayed on BYPL's official website (www.bsesdelhi.com). The Bidder agrees that the Bidder Code of Conduct shall form an integral part of the Contract, Purchase Order (PO), or Work Order (WO). The Bidder undertakes to fully comply with the Vendor/Bidder Code of Conduct, and acknowledges that any violation shall constitute a breach of the Contract/PO/WO. In the event of such breach, whether or not it causes any actual loss or damage, BYPL reserves the right to recover any loss or damage from the Bidder. The Bidder shall indemnify and hold harmless BYPL against any claims, litigation, or other consequences arising out of any breach or violation of the Bidder Code of Conduct by the Bidder, its officers, agents, or representatives.

64.2. Acceptance of the Contract includes acceptance of all terms and conditions referenced therein, including technical specifications, drawings, general conditions, detailed scope of work, and any equipment drawings provided to the Bidder.

64.3. The contractual obligations of BYPL and the Bidder are strictly limited to the terms and conditions set forth in the Contract. No amendment, modification, or alteration to the Contract shall be valid unless made in writing and signed by authorized representatives of both Parties.

64.4. All services and supplies under this Contract are expected to be fully aligned with BYPL's Vision, Mission, and Values. These can be reviewed at <https://www.bsesdelhi.com/web/bypl/about-bses>.

QUANTITY AND DELIVERY REQUIREMENTS

SI. No.	BYPL SAP CODE	Item Description	Specification	Total Qty. (Meter)	Tentative Delivery Schedule	Destination
1	2100004702	CBL,PWR,400MM2;3C; 33KV;AL;XLPE (OFC Emebedded)	BSES-TS-09 33CBL-RO & SP-FO48-96-R1)	32,710	10 Km Per Month	Delhi Store(s)/ Site(s)

The delivery schedule shown above is tentative. PO(s) will be released as per the actual requirement. However, the supplier has to deliver the material within the delivery schedule provided. Schemes may be executed in a phased manner.

X II

ANNEXURE – 2.01

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

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

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

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

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

10. This Guarantee shall be a continuing bank guarantee and shall not be discharged by any change in the constitution or composition of the Suppliers, and this Guarantee shall not be affected or discharged by the liquidation, winding-up, bankruptcy, reorganization, dissolution or insolvency of the Suppliers or any of them or any other circumstances whatsoever.
11. This Guarantee shall be in addition to and not in substitution or in derogation of any other security held by the Owner to secure the performance of the obligations of the Suppliers under the Contract.
12. NOTWITHSTANDING anything herein above contained, the liability of the BANK under this Guarantee shall be restricted to _____ *(insert an amount equal to ten percent (10%) of the Contract Value)* and this Guarantee shall be valid and enforceable and expire on _____ *(pl. specify date)* or unless a suit or action to enforce a claim under this Guarantee is filed against the Bank on or before the date of expiry.
13. On termination of this Guarantee, all rights under the said Guarantee shall be forfeited and the Bank shall be relieved and discharged from all liabilities hereunder.
14. The Bank undertakes not to revoke this Guarantee during its validity except with the prior written consent of the Owner and agrees that any change in the constitution of the Bank or the Suppliers shall not discharge our liability hereunder.
15. This Guarantee shall be governed by the laws of India. Any suit, action, or other proceeding arising out of, connected with, or related to this Guarantee or the subject matter hereof shall be subject to the exclusive jurisdiction of the courts of **Delhi**, India.

Dated this day of 20XX at

(Signature)

.....
(Name)

.....
(Designation with Bank Stamp)

Attorney as per

Power of Attorney No.....

Date.....

BYPL BANK DETAIL WITH IFSC CODE:

1. Name of the Bank: Axis Bank Limited
2. Branch Name & Full Address: C-58, Basement & Ground Floor, Preet Vihar, Main Vikas Marg, New Delhi 110092
3. Branch Code: 055
4. Bank Account No: 911030003596085
5. IFSC Code: UTIB0000055
6. Swift Code: AXISINBB055

BIDDER

ANNEXURE – 2.03

FORMAT OF WARRANTY/GUARANTEE CERTIFICATE

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

Ref. Purchase Order No. :

Dear Sir,

We hereby confirm that the.....dispatched to BSES YAMUNA POWER LTD vide invoice no..... DT.....is exactly of the same nature and description as per above mentioned Purchase Order.

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

Vendor Name & Signature

ANNEXURE – 2.04

UNDERTAKING GST

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

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

GCC NIT NO:CMC/BY/25-26/RS/SKS/SV/ASR/35 [RFx Number: 2200000162]	Page 32 of 34	Bidders seal & Signature
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SUMMARY OF COMMERCIAL TERMS AND CONDITIONS

SL NO.	PARTICULARS	CLAUSE AS PER TENDER	BIDDER'S CONFIRMATION
1	Price Validity	120 days from the date of Bid submission.	
2	Rate Contract	The rate contract shall have a validity period of 12 months from the date of LOI/RC issued to the responsive, techno commercially acceptable and evaluated to be the lowest bidder. Purchase Orders (PO) will be placed as per BYPL's requirements. The rate will remain Variable throughout the validity period of the Rate Contract.	
2	Price Basis	"Variable", FOR Delhi store(s)/site(s) basis. Prices shall be inclusive of all taxes & duties, freight up to Delhi store(s)/site(s)	
3	Unloading	Unloading at stores/sites shall be in vendor's scope	
4	Transit Insurance	Transit insurance in Bidder's scope	
5	Payment Terms	100% payment shall be paid within 45 days from the date of receipt and acceptance of GOODS at store/site against submission of documents.	
6	Delivery Schedule	Transmittal Approval Documents (GTP/Drawings/QAP/etc.) are to be submitted within 10 days to the concerned official in BYPL for approval. BYPL shall approve/provide comments on the submitted drawings within 7 days of first submission. In case resubmission is required, it shall be completed by the supplier within next 5 days. The timelines for approval by BYPL shall be 5 days in case of every resubmission. However, repetitive submissions are not desirable. Delivery shall be completed within 10 Weeks from the LOI/PO date or completion as per the PO schedule.	
7	Defect Liability Period	66 months from the date of receipt of each unit at store(s)/site(s), whichever is earlier	
8	Penalty For Delay	1% (One) of the basic value (ex-works value) of undelivered units per week of delay or part thereof, subject to maximum of 10% (Ten) of the total basic value (ex-works value) of undelivered units.	
9	Performance Bank Guarantee	To be submitted within twenty-eight (28) days from the date of issuance of the Letter of Intent/Award/RC. Bidder shall initially submit the performance bank guarantee (PBG) equivalent to 1% of RC Value (including GST) valid till RC validity period plus three months claim period. Upon receipt of the PBG by BYPL against RC/PO, the EMD shall be released. Thereafter bidder shall submit PBG on Purchase Order (PO) basis equivalent to 10% of the PO value (including GST) valid for a period of 30 months from the date of last receipts at site/stores plus 3 months claim period.	
10	Reverse Auction	Acceptance for participation in Reverse Auction event	

Seal of the Bidder:

Signature:

Name:

BIDDER

BIDDER

VOLUME – II

PRICE BID FORMAT

<p>PRICE BID FORMAT NIT NO:CMC/BY/25- 26/RS/SkS/ASR/35[RFx Number: 22000000162]</p>	<p>Page 1 of 3</p>	<p>Bidders seal & Signature</p>
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ALLPRICESININR (₹)

Sl. No.	DESCRIPTION OF GOODS	HSN CODE (8 Digit Mandatory)	UoM	QTY (A)	UNIT BASIC PRICE INCL FREIGHT (₹) (B)	UNIT GST & CESS AS APPLICABLE (CGST & SGST/UTGST or IGST) (₹) (C)		UNIT LANDED RATE (All Inclusive) (₹) (D=B+C)	TOTAL LANDED VALUE (₹) (E=DXA)
						%	AMT		
Price for Supply of Power Cable 33 kV, 3C x 400 sq. mm. (A2XWY) (OFC Emebedded)									
1.	Supply of Power Cable 33 kV, 3C x 400 sq. mm. (A2XWY) (OFC Emebedded)		mtr	32,710					
Total Amount (A)									
Amount in words : Rupees									

NOTE:

- 1) Cost of all tests as per technical specification is to be included. No separate charges will be paid.
- 2) For Unpriced Bid, the Un-priced bid should be marked as "Quoted" and to be submitted for Part B.

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

Date:

Bidders Name:

Place:

Bidders Address:

Signature:

Designation:

Printed Name:

Common Seal:

PRICE BID FORMAT
NIT NO:CMC/BY/25-
26/RS/SkS/ASR/35[RFx Number:
22000000162]

Page 2 of 3

Bidders seal & Signature

VOLUME – III
TECHNICAL SPECIFICATIONS

BIDDER



Technical Specification
for
33 kV 3Cx400 sq mm cable

Specification No: BSES-TS-09-33CBL-R0

Rev:	0	
Date:	8 Apr 2022	
Prepared by	Abhishek Vashistha	<i>Abhishek Vashistha</i>
	Gautam Deka/Pronab Bairagi	<i>Gautam Deka</i> 08/04/22 <i>Pronab Bairagi</i> 08/04/2022
Reviewed by	Puneet Duggal	<i>Puneet Duggal</i>
	Amit Tomar	<i>Amit Tomar</i> 08/04/22
Approved by	Gaurav Sharma	<i>Gaurav Sharma</i>
	K. Sheshadri	<i>K. Sheshadri</i> 08/04/22

Technical Specification for 33 kV 3Cx400 sq mm cable

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 Technical Specification for 33 kV 3Cx400 sq mm cable

General Specification**1.0.0 Codes & Standards**

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

National Standards

IS 7098 Part-2	Cross linked polyethylene (XLPE) insulated PVC sheathed cables for working voltages from 3.3 kV up to and including 33 kV.
IS 5831 : 1984	PVC insulation & sheath of electric cables.
IS 10810 : 1984	Methods of test for cables.
IS 8130 : 1984	Conductors for insulated electric cables and flexible cords.
IS 3975 : 1999	Mild steel wires, formed wires and tapes for armouring of cables.
IS 0462 (Part 1) / 1983	Fictitious Calculation Method for determination of dimensions of protective covering of cables

International Standards

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

2.0.0 Cable Construction Features

This Specification generally covers following types / sizes of XLPE H. T. Cables used in BSES network in Delhi Discom area, mostly under-ground (buried, with chances of flooding by water) or for laying on racks, in ducts, trenches, conduits, and so on.

Technical Specification for 33 kV 3Cx400 sq mm cable

Note: (Ref.: Table stating Cable sizes given below.)

Cable Code:

As per IS, cable designations comprise of following codes / options, as applicable for this Specification:

(N.A. - Not applicable for Specification)

- (with Copper conductor) (N.A.)

A Aluminium conductor

 2X XLPE insulation

W Steel round Wire armour (N.A.)

W W Double steel round Wire armour (N.A.)

Wa Non-magnetic round Wire armour

F Steel formed wire (strip) armour

FF Double steel formed wire (strip) armour (N.A.)

Fa Non-magnetic formed wire (strip) armour (N.A.)

- ("un-armoured" or without armour) (N.A.)

Y PVC outer sheath

Sr. No.	Description	Conductor Material	Cable Code
1.	33 kV, 3C x 400 sq. mm.	Al	A 2X W Y

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

2.1.1	Conductor	a) Electrolytic Grade Stranded Aluminium Conductor b) Grade: H2 as per IS: 8130 / 1984 (For Al) c) Stranded, compacted and circular in shape
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Technical Specification for 33 kV 3Cx400 sq mm cable		
		<p>d) Class 2</p> <p>e) “Longitudinal Water-Blocking Arrangement” (or water-tight construction or water barrier protection) shall be provided within the Conductor by water swelling yarns/tapes in the interstices of the conductor. The fiber/yarn shall turn into jelly/swell, when in contact with water making the conductor water tight as per IEC 60502-2</p> <p>f) Semi-conducting water blocking tapes shall be applied over the conductor, suitable for continuous operating conductor temperature of 90 deg C.</p> <p>g) All detailed constructional features shall be shown in the cross-sectional drawing.</p>
2.1.2	Conductor Screen	<p>Extruded semi-conducting material. (Also refer Cl. 2.1.3.) (Tapes are not acceptable)</p>
2.1.3	Insulation	<p>a) Extruded XLPE (Cross-Linked Poly-Ethylene) Insulation, with water-tree retardant (WTR) property</p> <p>b) The required compound used shall be from BSES-approved sub-vendors and not from any other (refer Annexure – C).</p> <p>c) Uniform thickness of insulation shall be within the permissible values as per IEC Standards; eccentricity check shall be carried out to ensure this.</p> <p>d) Insulation Color : natural</p>
2.1.4	Insulation Screen	<p>a) Freely-strippable semi-conducting screen, which should not require application of heat for its removal.</p>

Technical Specification for 33 kV 3Cx400 sq mm cable		
		<p>(Refer Cl. 2.1.3.)</p> <p>b) Text “Do not Heat - Freely Strippable” to be printed on insulation screen (at every 600 mm interval).</p> <p>c) Round shape over the outer semi-con shall be within the permissible limits as per IEC standards; Ovality check shall be carried out to ensure this.</p> <p>d) Compound used shall be suitable for the operating temperature of the Cable and shall be compatible with the insulation used.</p>
2.1.5	XLPE Process	
2.1.5.1	33 KV	Dry Cure and Dry Cooling process only.
2.1.5.2	Extrusion	The Conductor Screen, Insulation and Insulation Screen shall be extruded simultaneously, in a Single One-Time Process (i.e. as a triple-head extrusion) to ensure homogeneity of layers over the conductor, and absence of voids.
2.1.5.3	Make of Compounds for Insulation and Semi-conducting	Any deviation from Approved Makes mentioned in Annexure-C shall not be acceptable, unless the deviation has been specifically approved by BSES, prior to sourcing the compounds and taking up manufacturing of cable.
2.1.6	Water-Swellable Tape	<p>a) Semi-Conducting Water-Sellable Tape shall be provided, under the copper tape, on each core.</p> <p>b) Nominal thickness : 0.3 mm</p> <p>c) Weight: 118 gm / sq. m apprx.</p> <p>d) Swell height: \geq 12 mm in 1 min.</p> <p>e) Compatible to strippable / non-strippable semi-con, over which it is applied.</p>
2.1.7	Core Identification	a) For 3-core cables, cores shall be identified by coloured strips (Red, Yellow, Blue), applied

Technical Specification for 33 kV 3Cx400 sq mm cable		
		<p>helically / longitudinally below the copper tape.</p> <p>The coloured strips shall carry the name of manufacturer permanently printed at 1 meter intervals; this is to provide additional identification of manufacturer of the cable.</p>
2.1.8	Copper Tape	<p>Copper Tape of minimum thickness 0.1 mm shall be applied helically over the layer formed after application of insulation screen, water-swellaable tape and identification strip.</p> <p>Zero Negative tolerance in thickness of copper tape</p>
2.1.9	Filler	<p>a) All interstices, including center interstices shall be filled by PP filler.</p> <p>b) PP Filler shall be non-hygroscopic, not having any effect on other compounds used, stable at cable temperatures, etc.</p> <p>c) PVC filler is not acceptable.</p> <p>d) Filler is not applicable for single-core cables.</p>
2.1.10	Binder Tape	As per manufacturer's standard
2.1.11	Inner Sheath	Extruded Inner Sheath of Black PVC type ST-2 (IS 5831)
2.1.12	Armour	<p>a) For 3-core Cables :</p> <p>Galvanised Steel round wire armour</p> <p>b) Minimum area of coverage of armouring shall be 90 % (min.). At any time, the gap between any two adjacent armour wires shall not be more than the diameter of wire.</p> <p>c) Zero negative tolerance is for :</p> <ul style="list-style-type: none"> • Diameter of armour wire

Technical Specification for 33 kV 3Cx400 sq mm cable		
2.1.13	Binder Tape	Rubberised cotton tape
2.1.14	Outer Sheath	<p>a) Extruded outer sheath of PVC (ST-2 as per IS 5831) with termite-repellant and anti-rodent properties. Color - Blue (Outer Sheath shall be FRLS-type, if chosen by purchaser.)</p> <p>b) Shape of the cable over the outer sheath shall be circular, when manufactured / completed. Regular Ovality check shall be carried out at factory, to detect any abnormality. Manufacturing quality shall be such that cable will retain its circular shape, even after it is laid at site.</p> <p>c) The Outer Sheath shall be embossed as well as laser printed with following minimum text at a interval of 1 mtr:</p> <ol style="list-style-type: none"> 1. The voltage designation 2. Type of construction / cable code (e.g. A2XWY) 3. Manufacturer's Name and Trade-mark 4. Number of cores and nominal cross-sectional area of conductor 5. Name of buyer / purchaser, 6. Month & Year of manufacturing 7. IS reference, i.e. IS : 7098 8. Batch No. / Lot No. (For traceability purpose, in case of any, in case of any manufacturing defect or otherwise arising in the cable in future.) 9. Purchase Order Number & date 10. Word ' FRLSH ', in case the cable is of FRLSH type. <p>Note:</p> <ul style="list-style-type: none"> ○ Drum no and Progressive length marking

Technical Specification for 33 kV 3Cx400 sq mm cable		
		<p>shall be provided by Laser printing at every meter with proper contrast in colouring</p> <ul style="list-style-type: none"> Progressive (sequential) length marking of cable shall be at every meter, starting from zero for every drum
2.1.15	<p>Pulling-eye Assembly and Sealing-end Cap (for Cables)</p>	<p>a) A cable pulling-eye assembly Drg. No. MISC/E/4-1131/1699 (see Annexure-F) shall be provided at the loose end (outer end) of the cable on each drum. Sealing material shall be filled in inside the spaces / gaps between the pulling-eye assembly and cable outer sheath. Further, a heat-shrinkable sleeve shall be provided over the pulling-eye assembly and outer sheath of cable.</p> <p>b) Other end (inner end) of the cable shall be sealed as per MISC/E/4-1131/1698 (see Annexure-E.) One PVC cap with Polyurethane compound shall be provided as primary sealing and heat-shrink end-cap shall form a secondary sealing over the PVC cap.</p>
3.0.0	(This number not used.)	
4.0.0	Testing & Inspection	Tests shall be carried out in accordance with IS 7098 (Part-2).
	a) Type Tests	<p><u>1) To Qualify in Tender:</u></p> <p>Cables must be of type tested quality. Type Test Reports shall be submitted for the type, size and voltage rating of cable offered in the bid.</p> <p>For participation in the tender Type Test report shall be submitted from CPRI/ERDA only and shall not be more than 5 years old from the date of tender. If the report is more than 5 years and</p>

Technical Specification for 33 kV 3Cx400 sq mm cable		
		<p>but less than 10 years old than bidder to submit undertaking that there is no design changes from the Type test conducted.</p> <p>2) <u>Type Test Required After Award of PO:</u> Type test on one cable drum of each type/rating from any lot shall be conducted at CPRI/ERDA on sample basis as per relevant IS/IEC. Sample shall be sealed by BSES during inspection of cable. This type test is applicable subject to BSES requirement and cost shall be borne by BSES.</p>
	b) BSES QAP (Typical)	In general, all tests mentioned in the BSES QAP (Characteristics – Typical) mentioned in Annexure-G shall be included in the Routine Tests, Type Tests and Acceptance Tests stated above.
	c) Routine Tests	<ol style="list-style-type: none"> 1. Measurement of Electrical Resistance 2. HV Test with power frequency AC voltage 3. PD test 4. “Strippability Test” at both the ends of cable for each drum, to check the freely-strippable property of the Insulation Screen (outer semi-con). 5. Impulse voltage test of one drum 6. Armour coverage measurement 7. Physical test-Dimensions of each and every layer and components. <p>Test results from the above tests must appear in the documents forwarded by the vendor for Inspection call / waiver.</p>
	d) Inspection	<ol style="list-style-type: none"> 1. The Buyer reserves the right to witness all tests specified on completed cables. 2. The Buyer reserves the right to inspect cables at Sellers works at any time prior to dispatch, to verify compliance with the specifications. 3. In-process (stage inspection) and final

Technical Specification for 33 kV 3Cx400 sq mm cable		
		<p>inspection call intimation shall be given sufficiently in advance to the purchaser.</p> <p>4. Minimum lot size of Cables to be offered for inspection shall be mutually agreed between Purchaser and Vendor, before placing the order. Vendor shall raise inspection call only after a minimum lot size is ready and with due factory routine tests already carried out.</p>
	e) Acceptance Tests	<p>Acceptance Tests shall be conducted as per Cl. 18.2 of IS 7098 (Part-2) and the approved Quality Assurance Plan (QAP) in each lot of cables.</p> <p>Following tests shall also be carried out during the Acceptance Tests :</p> <p>a) "Wafer Boil Test" for checking integrity of semi-conducting layers.</p> <p>b) "Void-and-contamination Test" for the Insulation</p> <p>c) "Strippability Test" at both the ends of cable for each drum, to check freely-strippable property of the Insulation Screen (outer semi-con).</p> <p>d) "Water Penetration Test (WPT)", as per applicable IEC standards, to check adequacy of water-blocking arrangement provided inside the conductor.</p> <p>e) Heating cycle test along with potential shall be applicable on sample basis once in a PO. Jointing and Termination kits required for this test shall be in the scope of bidder.</p> <p>f) Impulse voltage test Internal type test shall be carried out once against each tender, on sample basis at manufacturer lab.</p>
	f) Test Certificates (TC)	<p>Three sets of complete Test Certificates (Routine tests and Acceptance tests) shall be submitted along with the delivery of cables.</p> <p>Soft copy of the TCs shall be separately e-mailed to</p>

Technical Specification for 33 kV 3Cx400 sq mm cable		
		<p>the Purchaser.</p> <p>Note :</p> <p>Make/grades of critical materials (such as, for conductor screen, insulation, insulation screen, etc.), actually used during manufacturing of cables for order-on-hand, shall be clearly stated in the TCs forwarded by the Manufacturer, enabling references in future.</p>
5.0.0	Drawing, Data and Manuals	<p>a) Refer Annexure-A regarding Document Submission.</p> <p>b) 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 sheath - i.e. type/size, etc. of the cable, drum no./lot no., sequential marking over every meter, printing text on outer semi-con (“Do Not Heat-Freely Strippable”), font sizes to be used, additional text, if any, etc. Also, drum details, markings to be made on both sides of the drum, and so on.</p>
5.0.1	Documents to be submitted along with bid	<p>The vendor shall submit :</p> <p>a) Cross-sectional drawing</p> <p>b) GTP (all data to appear)</p> <p>c) Type Test certificates</p> <p>d) Dimensional drawing for pulling eye</p> <p>e) Fault Level Calculation for armour and copper tape screen</p> <p>f) Complete Cable Catalogue and Manual</p> <p>g) Armour Coverage Calculation</p>
5.0.2	Documents after award of contract	<p>Within 15 days, the seller has to submit four sets of above-mentioned drawings, along with one soft copy</p>

Technical Specification for 33 kV 3Cx400 sq mm cable		
		for buyer's approval.
5.0.3	Final As-Built Drawings	One soft copy of all documents, including type & routine test certificates.
6.0.0	Drum length & tolerance	Cable length per drum
6.0.1	a) 33 KV, Three core	a) 300 mtr +/- 5 %
6.0.2	Overall tolerance	- 2 % for the total cable length for the entire order.
6.0.3	Short length of cables	<p>Manufacturer shall take prior approval from Purchaser for any supply of short length cables.</p> <p>For 33 KV, cables, minimum acceptable short length cable can be 150 meter In any case, manufacturer shall not put two cable pieces of different short lengths in same cable drum.</p>
7.0.0	Packing, Shipping, Handling & Storage	
	a) Packing	<ol style="list-style-type: none"> 1. Both the ends of the cables shall be properly sealed to prevent any deterioration of the cable, due to ingress of water, etc. 2. Cable inner end (starting end) shall project, outside the completely wound cable, by sufficient length enabling verify cable details, including the initial length marking. 3. Similarly, outer end of the cable shall be saddled / secured to the drum properly to prevent any external damage to the end at any time. 4. Before putting on wooden planks, protective covers (thick plastic sheets, etc.) shall be secured over the wound cable, to avoid any abrasion by wooden planks, over the outer sheath of the cable. Alternatively PP sheets can

Technical Specification for 33 kV 3Cx400 sq mm cable		
		<p>be put as protective covers.</p> <p>5. After providing the protective covers, the cable drums shall be finally closed by wooden planks (with saddles), without leaving any gaps between the planks; i.e. 100 % covering shall be ensured.</p>
	<p>b) Drum Identification Markings:</p>	<p>Direct marking (i.e. text painting through stencils, etc.) shall be done on the drums, instead of attaching labels, which may be misplaced/lost over a period of time.</p> <ol style="list-style-type: none"> 1. Drum identification number 2. Cable voltage grade 3. Cable code (e.g. A2XWY, etc.) 4. Number of cores and cross sectional area 5. Cable quantity, i.e. cable length (metre) 6. Purchase order number & date 7. SAP item code 8. Total weight of cable and drum (kg) 9. Manufacturer's Name 10. Buyer's name 11. Month & Year of Manufacturing 12. Direction of rotation of drum 13. Cable length final end-markings (i.e., reading at the inner end and reading at the outer end, just before packing, shall be marked on the drum.)
	c) Shipping information	The seller shall give complete shipping information concerning the weight, size of each package
	d) Transit damage	The seller shall be responsible for any transit damage due to improper packing.
	e) Type of Drum	<p>Non Returnable Steel drums, as per relevant IS / IEC.</p> <p>(Steel drums shall be with M.S. spindle plate with nut-bolts)</p>
	f) Cable Drum handling	The drums shall be with M.S. spindle plate (with nut-

Technical Specification for 33 kV 3Cx400 sq mm cable		
		bolts) of adequate size to suit the spindle rods, normally required for handling the drums, according to expected weight of the cable drums.
8.0.0	Quality Assurance Plan (QAP)	
8.0.1	Vendor's QAP	Manufacturer shall submit QAP in line with BSES QAP format (Annexure-G) for purchaser's approval.
8.0.2	Inspection Points	To be mutually identified and agreed upon in QAP.
9.0.0	Progress Reporting	
9.0.1	Outline Document	To be submitted for purchaser's approval for outline of programmes for production, stage-inspection, testing, final inspection, packing, dispatch and documentation.
9.0.2	Detailed Progress Report	To be submitted to Purchaser once a month containing: <ul style="list-style-type: none"> i) Progress on material procurement ii) Progress on fabrication (as applicable) iii) Progress on assembly (as applicable) iv) Progress on internal stage-inspection v) Reason for any delay in total programme vi) Details of test failures, if any, during manufacturing stages. vii) Progress on final box-up Constraints / Forward Path
10.0.0	Deviation	<p>a) Deviations from this specification are only acceptable, where the Seller has listed in his quotation the requirements he cannot, or does not, wish to comply with, and the Buyer has accepted, in writing, the deviations before the order is placed.</p> <p>b) In the absence of any list of deviation, it will be</p>

Technical Specification for 33 kV 3Cx400 sq mm cable

		<p>assumed by the Buyer that the Seller complies fully with this specification.</p> <p>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 with BSES acceptance, will not be considered as a deviation from this tech spec at any stage of contract.</p>
--	--	---

Technical Specification for 33 kV 3Cx400 sq mm cable

Annexure – A**Scope, Documentation and Delivery schedule**

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

Technical Specification for 33 kV 3Cx400 sq mm cable

Annexure - B**GUARANTEED TECHNICAL PARTICULARS
(GTP)****Note:**

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

Sr. No.	Description	Buyer's requirement	Unit	Seller's Data
1.0	Purchase Req. No.	-		
2.0	Guarantee Period (Min.)	60 Months (from date of commissioning) / 66 Months (from date of receipt at purchaser's store) whichever is earlier		
3.0	Applicable IS / IEC Standard followed by vendor	IS 7098 Part-2 / IEC 60502-2		
4.0	Make	-		
5.0	Type			
	a) 33 kV, 3c x 400 sq. mm.	A2XWY		
6.0	Voltage Grade			
	a) 33 kV, 3c	19 / 33	kV	
7.0	Maximum Conductor temperature			
A	Continuous	90	deg. C	
B	Short time	250	deg. C	
8.0	Conductor			
A	Material and Grade	As per Cl. 2.1.1		
B	Size	As shown under 5.0 above		
C	Wires in each conductor	As per Table 2 of IS 8130	Nos.	
D	Conductor Shape	As per Cl. 2.1.1		

Technical Specification for 33 kV 3Cx400 sq mm cable				
E	Dia. of wires in each conductor before compaction	Manufacturer Standard	mm	
F	Diameter over conductor		mm	
G	Maximum Conductor resistance at 20 ° C			
	c) 33 kV, 3c x 400 sq. mm.	0.0778	ohm/km	
H	Longitudinal Water Blocking Arrangement within conductor	Is it provided and shown in the cross-sectional drawing? (Yes / No)		
I	Semiconducting water blocking tape over conductor	Yes/No		
J	Short circuit current-carrying capacity of conductor		kA for 1 sec.	
9.0	Conductor Screen (inner semi-con)			
A	Material & type	As per Cl. 2.1.2		
B	Thickness (min)	0.50	mm	
C	Diameter over conductor screen		mm	
D	Make and grade of semi-conducting compound			
10.0	Insulation			
A	Insulation Material	As per Cl. 2.1.3		
B	Nominal thickness			
	33 kV, 3c	8.8	mm	
C	Minimum thickness			
	b) 33 kV, 3c	7.82	mm	
D	Diameter over Insulation (Approx.)		mm	
E	Make and grade of Insulation compound			
F	Eccentricity	As per IEC standards	%	
G	Water-tree retardant property	Required		
11A.	Insulation Screen (outer semi-con)			
a.	i) Thickness of freely strippable Semi conducting screen	0.50	mm	
	ii) Make and grade of semi-conducting compound			
	iii) Printing	As per Cl. No. 2.1.4 (Yes / No)		
	iv) Ovality of the core	As per IEC Standards	%	

Technical Specification for 33 kV 3Cx400 sq mm cable				
b.	Diameter over Insulation Screen (apprx.)		mm	
11B.	Water-Swellable Tape (if required by Purchaser)			
	a) Thickness b) Weight c) Swell height d) Compatible to strippable / non-strippable semi-con, over which it is applied. e) Make & Grade f) Pre-slitted packed tapes from sub-vendors approved by BSES	a) 0.3 mm b) 118 gm / sq. m c) ≥ 12 mm in 1 min. d) Yes / No e) Pl. state f) Yes / No		
11C.	Cable Core identification a) By coloured strips over cores applied helically / longitudinally b) Manufacturer's name shall be permanently printed on the strips, at close intervals.			
11D.	Copper Tape			
	i) Dimensions	a) Thickness : 0.1 +/- 5 % b) Width : 50 mm C) Overlap: 20% d) No Negative tolerance on thickness of copper tape	Mm	
	ii) Fault current-carrying capacity of copper tape	Manufacturer's Standard (Calculation sheet shall be attached)	... kA for ... sec.	
11E.	Diameter over laid up core (apprx.)		mm	
12.0	Filler (Material and type)	As per Cl. 2.1.9 (Specify no. & size of filler at center & core interstices)		

Technical Specification for 33 kV 3Cx400 sq mm cable				
	a) 33 kV, 3c x 400 sq. mm.			
12A.0	Binder Tape	over laid-up cores		
13.0	Inner Sheath			
A	Material and type	As per Cl. 2.1.11		
B	Minimum thickness			
	a) 33 kV, 3c x 400 sq. mm.	0.7	mm	
C	Approx. dia. over inner sheath		mm	
14.0	Armour			
A	Material			
	33 kV, 3Cx400	G. I. Round wire	No.	
B	Armour – GI round wire			
	a) Minimum Dia of wire	a) 4.00 (zero negative tolerance)	mm	
	b) Number of wire (min.)	b) As per manufacturer calculation	nos.	
C	Approx. Equivalent Area		sq. mm.	
D	Area covered by armour	Min. 90 % Calculation shall be attached.	%	
E	Dia. over armour - apprx.		Mm	
F	Fault current carrying capacity of armour	Calculation sheet shall be attached.	... kA for ... sec.	
15.0	Outer Sheath			
A	Material and type	As per Cl. 2.1.14		
B	Thickness (min.)	** As per Table-5 of IS 7098 Part-2		
	a) 33 kV, 3c x 400 sq. mm.	**	mm	
C	Color	Blue		
D	Embossing (details as per Cl. 2.1.14)	Yes / No		
E	FRLS Properties	As per customer's requirement		
16.0	Approx. overall diameter		mm	
17.0	Standard drum length with tolerance			
	a) 33 kV, 3c x 400 sq. mm.	300 +/- 5%	meters	
17A	Overall order tolerance	- 2 % for the total		

Technical Specification for 33 kV 3Cx400 sq mm cable				
		cable length for the entire order.		
18.0	Cable Drum			
a.	Type of drum	Steel (Specify the relevant IS / IEC followed for drum design)		
b.	Markings on the drum (as per Cl. 7.0.0)	On both faces		
18A.0	Cross-Sectional Drawing (ref. Cl. 5.0.0)	Is drawing submitted, showing every feature of constructions? (Yes / No)		
19.0	a. Sealing-end Cap (provided at both ends)	Yes/No Is manufacturer's / Sub-Vendor's drawing submitted? (Yes / No)		
	b. Cable pulling eye at one end and Sealing end cap at other end	Yes/No Is manufacturer's / Sub-Vendor's drawing submitted? (Yes / No)		
20.0	Weights			
	a) Net weight of cable (apprx.)		kg / km	
	b) Weight of empty drum	300 mtr	Kg	
	c) Weight of Cable with drum	300 mtr	kg	
	d) Drum size	300 mtr	mm	
	e) Drawing of Drum	Required	--	
21.0	Continuous current rating for standard I. S. condition laid Direct			
	a) In ground 30° C		Amp	
	b) In duct 30° C		Amp	
	c) In air 40° C		Amp	
22.0	(not used)			
23.0	Electrical Parameters at Maximum Operating temperature:			
A	AC Resistance		ohm / km	
B	Reactance at 50 c/s		ohm / km	
C	Impedance		ohm / km	
D	Zero sequence impedance		ohm / km	
E	Positive sequence		ohm / km	

Technical Specification for 33 kV 3Cx400 sq mm cable				
	impedance			
F	Negative sequence impedance		ohm / km	
G	Capacitance		micro-farad / km	
H	Conductance		Amperes per volts	
I	Inductive susceptance		mho	
J	Capacitive susceptance		ohms	
24.0	Recommended minimum bending radius	15 x O. D.	mm	
25.0	De-rating factor for following Ambient Temperatures :	Ground / Air		
	a) At 30° C			
	b) At 35° C			
	c) At 40° C			
	d) At 45° C			
	e) At 50° C			
26.0	Group factor for following numbers of cables laid :	Touching Trefoil		
	a) 3 Nos.			
	b) 4 Nos.			
	c) 5 Nos.			
	d) 6 Nos.			
27.0	Recommended pressure for laying cable using power winch	30 N / mm ²	N / sq. mm.	
28.0	Process of Cross-linking of Polyethylene			
	a) 33 kV, 3c x400	Dry Cure and Dry Cooling process only		
29.0	Type test (TTR - Type Test Report)	Is copy of latest valid TTR for respective sizes enclosed? (Yes / No)		
30.0	Quality Assurance Plan (QAP)	Is QAP Format (Annexure-F), duly filled in and enclosed? (Yes / No)		

Technical Specification for 33 kV 3Cx400 sq mm cable

31.0	List of Sub-Vendors for construction items (Annexure-C)	Is this list enclosed for BSES approval? (Yes / No)		
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Technical Specification for 33 kV 3Cx400 sq mm cable

Annexure - C**List of Sub-Vendors
for critical items**

Vendor to state sub-vendors' names for other items, wherever approved names are not mentioned, for purchaser's approval during pre-order / post-order stages.

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

Technical Specification for 33 kV 3Cx400 sq mm cable

6.	Copper Tape	1	Aggarwal Metal
		2	Indian Smelting
		3	Luvata Swedan
		4	Outokumpu Copper Strip AB, Swedan
7	Galvanized Steel Wires / Strips	1	Tata
		2	Balaji
		3	Systematic
		4	Mica Wires Pvt Ltd.
		5	Bansal Industries
8	PVC Compound	1	Kalpana
		2	Universal
		3	SCJ Plastic
		4	Sriram Polytech
		5	Shri Ram Vinyl, Kota
9	P. P. Fillers	1	Vijoy Polymers
		2	Yash Polymers
		3	AVSL Industries
10	Core Identification Tape	1	AVSL Industries
		2	Yash Polymer
		3	Vijoy Polymers
11	PE Compound	1	Borealis
		2	Shakun
		3	Kalpana

Technical Specification for 33 kV 3Cx400 sq mm cable

Annexure - D**Service Conditions**

(Atmospheric / Soil conditions at Site)

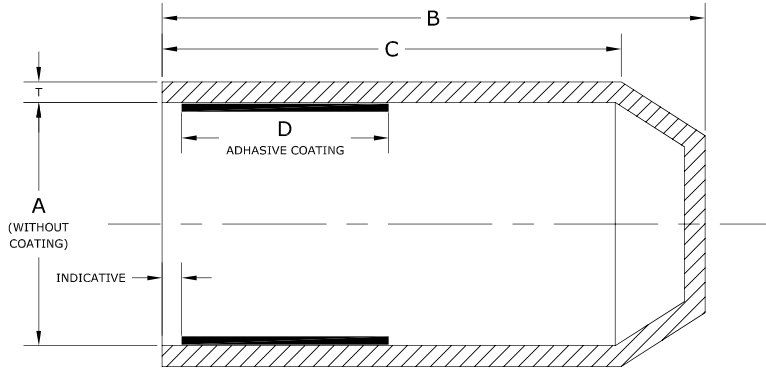
A. Delhi		
a)	Average grade atmospheric condition	Heavily polluted, dry
b)	Average grade soil condition	
c)	Maximum altitude above sea level	1000 M
d)	Air temperature Ambient	i) Highest : 50 deg C ii) Average : 40 deg C iii) Minimum : 0 deg C
e)	Relative Humidity	100 % max
f)	Thermal Resistivity of Soil	150 deg. C . cm / W max.
g)	Seismic Zone	4
h)	Rainfall	750 mm concentrated in four months

ANNEXURE E

DIMENSIONS

SIZE	A EXP.(Min.)	A REC.(Max.)	B EXP.(Min.)	C EXP.(Min.)	D EXP.(Min.)	LC %	T (WALL REC. ± 20 %)
EC 120/150	75	34	120	105	50	± 10	4.2
EC 240/300	100	62	130	110	70	± 10	3.5
EC 400	145	75	155	120	70	± 10	4.6

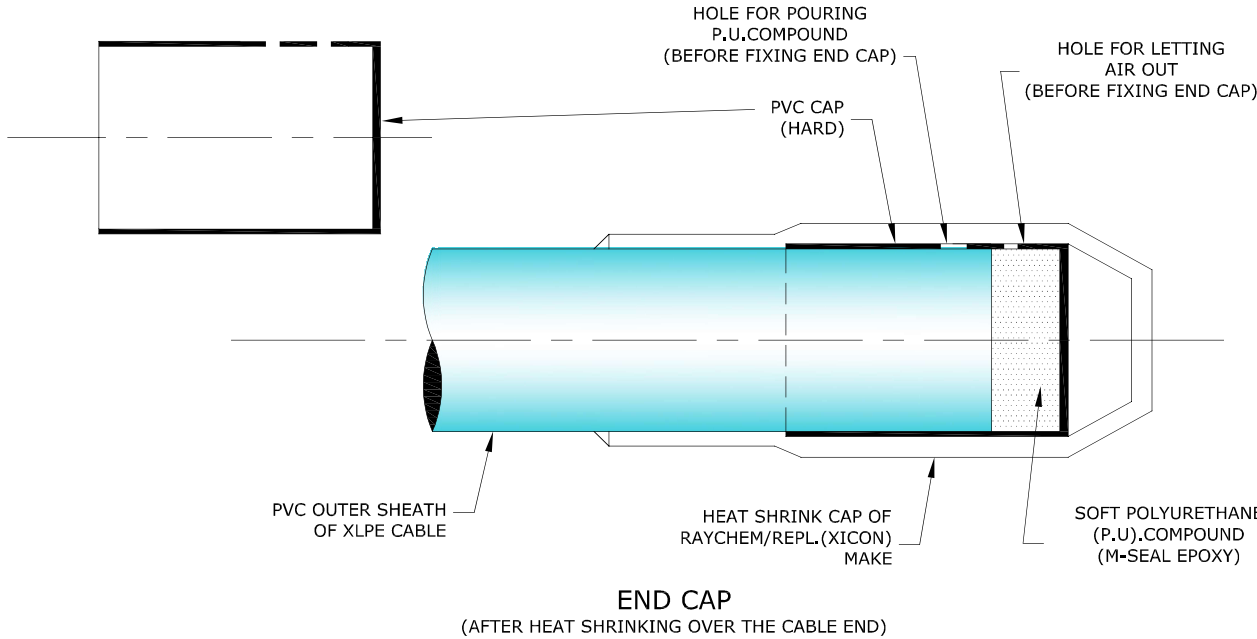
EXP - Expanded (as supplied), REC - Recovered freely, LC - Longitudinal Change, T - Wall Thickness, EC - End Cap



END CAP
(AS SUPPLIED)
SECTIONAL VIEW

MATERIAL SPECIFICATIONS

Characteristics	Test Class	Value	Test Method
A Physical Properties			
1 Specific Gravity	Type	1.05 ± 0.2	ASTM D-1505
2 Water Absorption	Type	1 % (max)	ASTM D-570 / ISO 62
3 Tensile Strength	Routine	10 N/sqmm (min)	ASTM D-412 / ISO 37
4 Ultimate Elongation	Routine	300% (min)	ASTM D-412 / ISO 37
5 Hardness	Type	45 shore D ± 3	ASTM D-2240
6 Thermal Test			
B Thermal Ageing (120°C for 500 hrs)			
1 Tensile Strength	Type	8 N/sqmm (min)	ASTM D-412 / ISO 37
2 Ultimate Elongation	Type	200% (min)	ASTM D-412 / ISO 37
C Electrical Properties			
1 Volume Resistivity	Type	10 ¹² ohm-cm. (min)	ASTM D-257 / IEC 93
2 Dielectrical Strength	Type	10 kV/mm. (min)	ASTM D-149 / IEC 243
3 Dielectric Constant	Type	5 (max)	ASTM D-150 / IEC 250



END CAP
(AFTER HEAT SHRINKING OVER THE CABLE END)

- Note : 1) All dimension in mm
2) Colour Black
3) Size as mentioned in the table shall be stencilled on respective item

BSES

DRAWING No. MISC/E/4-1131/1698

SCALE :NOT TO SCALE

DATE: 09-05-2011

END SEALING CAP
(FOR XLPE CABLE)

DRAWN BY:

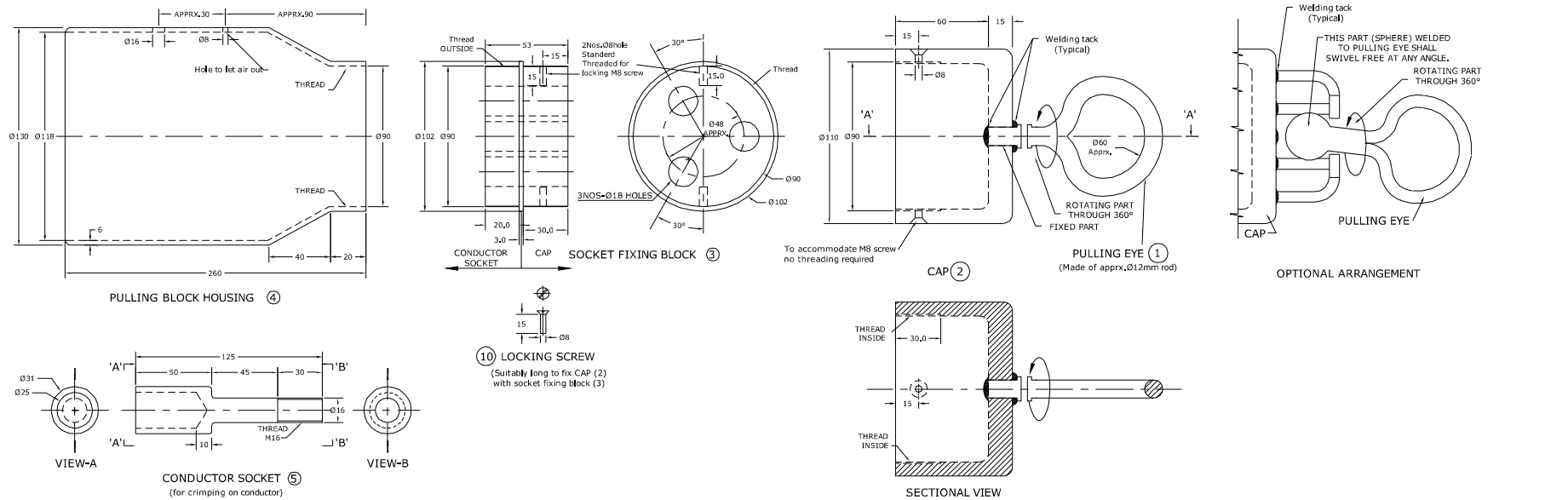
CHECKED BY:

APPROVED BY:

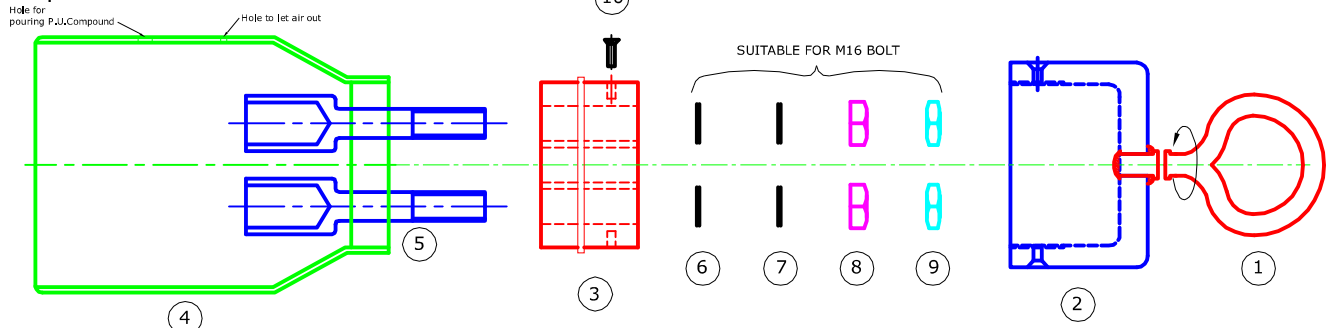
REVISIONS

Addl V.P.

ANNEXURE F



Exploded View



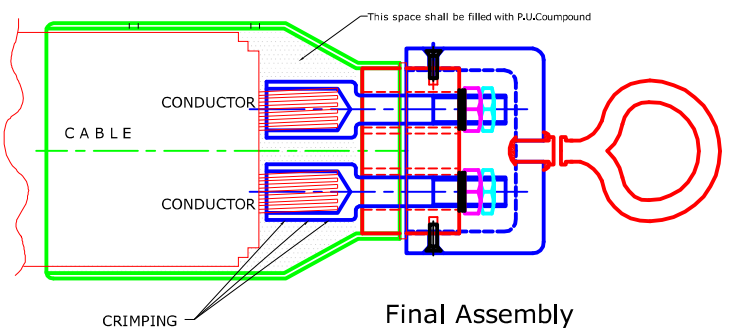
NO.	DISCRIPTION	QTY.	MATERIAL
10	LOCKING SCREW	2	M.S.Zinc-Plated
9	LOCK NUT	3	M.S.Zinc-Plated
8	NUT	3	M.S.Zinc-Plated
7	SPRING. WASHER	3	M.S.Zinc-Plated
6	PLAIN WASHER	3	M.S.Zinc-Plated
5	CONDUCTOR SOCKET	3	AL.
4	PULLING BLOCK HOUSING	1	M.S.Zinc-Plated
3	SOCKET FIXING BLOCK	1	M.S.Zinc-Plated
2	CAP	1	M.S.Zinc-Plated
1	PULLING EYE	1	M.S.Zinc-Plated

BSES

DRAWING No. MISC/E/4-1133/1699
 SCALE :NOT TO SCALE DATE: 09-05-2011

CABLE PULLING EYE ASSEMBLY (TYPICAL)

DRAWN BY:	CHECKED BY:	APPROVED BY:
REVISIONS		
Addl. V.P.		



- EXAMPLE:**
- 1) For cable size 33kV, 3/C X 400sq mm Al XLPE.
 - 2) Diameter over conductor : 23.8mm approx.
 Overall diameter : 108±3mm approx.
 Pulling force applicable on the cable : 30 N/sq mm
 Pulling eye shall withstand total force of : 36000N+Safety margin
- NOTE:**
- 1) All Dimensions are in mm, unless otherwise stated.
 - 2) This drawing is typical / indicative. Separate dimensioned drawing for cable pulling eye assembly, suitable for required size & rating of cables, shall be submitted for approval, prior to manufacturing.
 - 3) After fixing cable pulling eye, P.U. (Poly-Urethane) Compound shall be poured to occupy inner spaces to avoid ingress of Water / Moisture.
 - 4) After P.U. Compound oozes/flows out from the cable side, the same edge shall be sealed with suitable sleeve/Tape.



ANNEXURE G: QUALITY ASSURANCE PLAN (QAP)

FOR 33 & 66 kV EHV CABLES

S. NO.	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			Remark
									SV	MFR	BSES	
1	2	3	4	5	6	7	8	9	10	11	12	13
Legend : SV : Sub-Vendor of Cable Manufacturer, MFR : Cable Manufacturer, MPS : Material Purchase Specification, P : Perform, W : Witness, V : Verification												
A RAW MATERIAL												
1	Aluminium/Copper Rod	a) Tensile strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		b) Resistivity	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Diameter	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Chemical composition	Major	Chemical	Sample	MPS	MPS	Test certificate	P	V	V	
		e) Surface finish	Major	Visual	Sample			-	P	P	-	
2	PVC Compound	a) Tensile Strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		b) Elongation at break	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Thermal stability	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
3	TR-XLPE Compound (Borealis/Dow chemical/ Hanwa)	a) Packing	Minor	Visual	100%	MPS	MPS	-	P	V	-	
		b) Tensile Strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Elongation at break	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Hot set test	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		e) Volume Resistivity	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		f) Cure Curve (Max. Torque)	Major	Physical	Sample	MPS	MPS	Reg./Sheet	-	P	V	
		g) Density	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
4	Semi-conducting Compound (Borealis/Dow chemical/ Hanwa)	a) Packing	Minor	Visual	100%	MPS	MPS	-	P	V	-	
		b) Volume Resistivity	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Tensile Strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Elongation at break	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		e) Cure Curve (Max. Torque)	Major	Physical	Sample	MPS	MPS	Reg./Sheet	-	P	V	
		f) Density	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
5	Copper tape	a) Thickness & width	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		b) Tensile Strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Elongation at break	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Resistivity	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
6.	Armour wires/strips (Galvanised steel)	a) Dimensions	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		b) Surface condition/finish	Major	Visual	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Tensile Strength	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Elongation at break	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		e) Torsion test for round wire	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		f) Wrapping test	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		g) Mass of zinc coating	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		h) Uniformity of zinc coating	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		i) Adhesion test	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		j) Resistivity test	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
7	Water Swellable	a) Dimensions	Minor	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	



ANNEXURE G: QUALITY ASSURANCE PLAN (QAP)

FOR 33 & 66 kV EHV CABLES

S. NO.	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			Remark
									SV	MFR	BSES	
1	2	3	4	5	6	7	8	9	10	11	12	13
Legend : SV : Sub-Vendor of Cable Manufacturer, MFR : Cable Manufacturer, MPS : Material Purchase Specification, P : Perform, W : Witness, V : Verification												
	tape	b) Swelling height	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		c) Resistivity	Major	Electrical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
		d) Weight	Major	Physical	Sample	MPS	MPS	Reg./Sheet	P	P/V	V	
8	Steel Drum	a) Dimension	Major	Meas.	1 sample per size	IS 10418 / Purchase order		-	P	P	-	
		b) Finish & workman ship	Minor	Visual	1 sample per size	Compliance to standard Engineering norms & free from surface defects		-	P	P	-	
9	Binder tape	a) Dimensions & material	Minor	Physical	Sample	MPS	MPS	-	P	P	-	
10	Polypropylene filler	a) Size	Minor	Physical	Sample	Purchase order	Purchase order	-	P	P	-	
11	Heat shrinkable end cap	a) Bore diameter	Major	Physical	1 sample per size	--	--	-	-	P	-	
		b) Length of end cap	Minor	Physical	1 sample per size	--	--	-	-	P	-	
B PROCESS INSPECTION												
1	Wire Drawing	a) Diameter	Major	Physical	Sample			Reg./Sheet	-	P	V	
		b) Surface finish	Major	Visual	100 %	Smooth & free from defects		--	-	P	-	
		c) Tensile test (for Al)	Major	Physical	Sample	IS: 8130/84	IS: 8130/84	Reg./Sheet	-	P	V	
		d) Elongation test (for Cu)	Major	Physical	Sample	IS: 8130/84	IS: 8130/84	Reg./Sheet	-	-	V	
		e) Wrapping test (for Al)	Major	Physical	Sample	IS: 8130/84	IS: 8130/84	Reg./Sheet	-	P	V	
2	Stranding	a) No. of wires/strands	Major	Physical	At the time of m/c setting			Reg./Sheet	-	P	V	
		b) Lay length & Lay direction	Major	Physical	-do-			-	-	P	V	
		c) Dia of conductor	Major	Physical	During setting & once in each shift			Reg./Sheet	-	P	V	
		d) Surface finish	Major	Visual	100 %	No surface defects and free from sharp edges, scratches, grease, oil etc.		-	-	P	-	
3	Core extrusion (Conductor screen, Insulation & insulation screen)	a) Compound Make/Grade	Major	Visual	During m/c setting			-	-	P	-	Insulation screen shall be freely strippable, without application of heat.
		b) Thickness of insulation & extruded S.C. layers	Major	Physical	During m/c setting after stabilisation	Tech. Data Sheet / IS 7098/II/2011	Tech. Data Sheet / IS 7098/II/2011	Reg./Sheet	-	P	V	
		c) Surface finish	Minor	Visual	100 %	Smooth & free from defects		-	-	P	-	
		d) Printing on outer semi- conducting layer	Major	Visual	100 %	"DO NOT HEAT, FREELY STRIPPABLE"		-	-	P	-	
		e) Tensile Strength	Major	Physical	Sample	IS 7098/II/2011	IS 7098/II/2011	Reg./Sheet	-	P	V	
		f) Elongation at break	Major	Physical	Sample	IS 7098/II/2011	IS 7098/II/2011	Reg./Sheet	-	P	V	
		g) Hot set test	Major	Physical	Sample	IS 7098/II/2011	IS 7098/II/2011	Reg./Sheet	-	P	V	
		g1) Ovality of core	Minor	Physical	Sample	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	



ANNEXURE G: QUALITY ASSURANCE PLAN (QAP)

FOR 33 & 66 kV EHV CABLES

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									SV	MFR	BSES	
1	2	3	4	5	6	7	8	9	10	11	12	13
Legend : SV : Sub-Vendor of Cable Manufacturer, MFR : Cable Manufacturer, MPS : Material Purchase Specification, P : Perform, W : Witness, V : Verification												
		h) Eccentricity of insulation	Minor	Physical	Sample	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		i) Core diameter	Minor	Physical	Sample	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		j) Void & contamination test for insulation (Silicon Oil test)	Major	Physical	Sample			-	-	P	V	
		k) Wafer boil test for extruded semi-conducting layers	Major	Physical	1 sample/lot	BIS draft Specn	BIS draft Specn	Reg./Sheet	-	P	V	
4	Taping - water Swellable semi-conducting	a) Dimensions	Minor	Physical	Sample	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	
		b) Tape Application (Overlap)	Minor	Visual	During m/c setting	Suitable overlap	Suitable overlap	-	-	P	-	
5	Taping - Copper tape	a) Width & Thickness of tape	Major	Physical	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		b) Number of tapes	Major	Visual	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		c) Tape application (Overlap)	Minor	Visual	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	
6	Laying up	a) Identification of cores	Major	Visual	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	Cores shall be laidup with PP fillers & suitable tape binder shall be provided over laid up assembly
		b) Direction of lay, core Sequence & Lay length	Major	Visual	During m/c setting	IS 7098/II/2011, PIL-W-02	IS 7098/II/2011, PIL-W-02	-	-	P	-	
		c) Application of binder tape	Minor	Visual	During m/c setting	Tech. Data Sheet		-	-	P	-	
		d) Shape of laid up assembly	Minor	Visual	100%	Reasonably circular	Reasonably circular	-	-	P	-	
7	Inner sheath	a) Material & type	Major	Visual	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	
		b) Thickness	Major	Physical	During m/c setting & drum change	Tech. Data Sheet & IS 7098/II/2011	ech. Data Sheet & IS 7098/II/2011	Reg./Sheet	-	P	V	
		c) Surface finish	Minor	Visual	100 %	Surface shall be smooth & free from defects		-	-	P	-	
		d) Colour of inner sheath	Major	Visual	100 %	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	
8	Armouring	a) Dimension of armour wires/strips	Major	Physical	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	No negative tol. on strip thickness/wire diameter
		b) No. of armour strip/wire	Major	Counting	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		c) Armour coverage	Minor	Visual	During m/c setting	IS 7098/II/2011	IS 7098/II/2011	-	-	P	-	
		d) Direction of lay	Major	Visual	During m/c setting	IS 7098/II/2011	IS 7098/II/2011	-	-	P	-	
		e) Lay length/Gear setting	Minor	Visual	During m/c setting			-	-	P	-	
		f) Surface finish	Major	Visual	100 %	No cross over/over riding of wire/strip		-	-	P	-	
9	Outer sheath/Rewinding	a) Material & type	Major	Visual	During m/c setting	Tech. Data Sheet	Tech. Data Sheet	-	-	P	-	
		b) Anti rodent & termite additives	Major	Visual	Each loading			Reg./Sheet	-	P	V	



ANNEXURE G: QUALITY ASSURANCE PLAN (QAP)

FOR 33 & 66 kV EHV CABLES

S. NO.	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			Remark
									SV	MFR	BSES	
1	2	3	4	5	6	7	8	9	10	11	12	13
Legend : SV : Sub-Vendor of Cable Manufacturer, MFR : Cable Manufacturer, MPS : Material Purchase Specification, P : Perform, W : Witness, V : Verification												
		b) Thickness	Major	Physical	Each length	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		c) Overall diameter	Major	Physical	Each length	Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	V	
		d) Surface finish & colour of sheath	Major	Visual	100 %	Surface smooth & free from defects. Colour as per Tech. Data Sheet		-	-	P	-	
		e) Cable length verification	Major	Visual	Each length	Manufacturing Plan	Manufacturing Plan	-	-	P	-	
		f) Marking	Major	Visual	Each length	As per approved GTP/cross sectiona drawing		Reg./Sheet	-	P	V	
C FINAL INSPECTION												
1	Routine tests	a) High Voltage	Critical	Electrical	100 %	IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	V	
		b) Conductor Resistance	Critical	Electrical	100 %	IS 8130/84	IS 8130/84	Test Report	-	P	V	
		c) Partial Discharge	Critical	Electrical	100 %	IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	V	
		d) Impulse	Critical	Electrical	One sample per lot			Test Report		P	V	
		e) Armour Coverage	Critical	Physical	One sample per lot			Test Report		P	V	
		f) Physiacal Dimensions	Critical	Physical	One sample per lot			Test Report		P	V	
		g) Freely Strippable insulation screen (Strippability Test)	Major	Physical	One sample per lot	Factory Standard	Factory Standard	Test Report	-	P	V	
2	Stage Inspection	Wire Drawing	Major	Visual	100 %	Tech. Data Sheet	IS/IEC	Test Report	-	P	W	Stage Inspection shall be conducted subject to BSES requirement
		Extrusion process	Major	Visual	100 %	Tech. Data Sheet	IS/IEC	Test Report	-	P	W	
		Raw maerial inspection at factory	Major	Physical	100 %	Tech. Data Sheet	IS/IEC	Test Report	-	P	W	
		Wrapping of Aluminium	Major	Physical	100 %	Tech. Data Sheet	IS/IEC	Test Report	-	P	W	
		Tensile test for Aluminium	Major	Physical	100 %	Tech. Data Sheet	IS/IEC	Test Report	-	P	W	
		a) Annealing test for copper	Major	Physical	Appendix A to IS 7098/II/2011, each lot sample basis	IS 8130/84	IS 8130/84	-	-	P	V	Verification of process records.
		b) Tensile test for aluminium	Major	Physical		IS 8130/84	IS 8130/84	-	-	P	V	
		c) Wrapping test for aluminium	Major	Physical		IS 8130/84	IS 8130/84	-	-	P	V	Tests N/A on finished conductor.
		d) Conductor resistance test	Major	Electrical	Appendix A to IS 7098/II/2011, each lot sample basis	IS 8130/84	IS 8130/84	Test Report	-	P	W	
		e) Test for thickness of insulation & sheath	Major	Physical		IS 7098/II/2011 & Tech. Data sheet	IS 7098/II/2011 & Tech. Data sheet	Test Report	-	P	W	
		f) Hot set test for insulation	Major	Physical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	



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FOR 33 & 66 kV EHV CABLES

S. NO.	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			Remark
									SV	MFR	BSES	
1	2	3	4	5	6	7	8	9	10	11	12	13
Legend : SV : Sub-Vendor of Cable Manufacturer, MFR : Cable Manufacturer, MPS : Material Purchase Specification, P : Perform, W : Witness, V : Verification												
3	Acceptance tests	g) Tensile strength & Elongation at break of insulation & outer sheath	Major	Physical	Each Lot Sample Basis	IS 7098/II/2011 & IS 5831/84	IS 7098/II/2011 & IS 5831/84	Test Report	-	P	W	
		h) Partial discharge test	Critical	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		i) High voltage test	Critical	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		j) Insulation resistance (Volume resistivity) test	Major	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		k) Tests for dimension of armour wires/strips	Major	Physical		IS 3975, IS 10810 Pt. 36 & Tech. Data sheet		Test Report	-	P	W	
		l) Test for anti termite & anti rodent property of outer sheath	Major	Physical		Tech. Data Sheet	Tech. Data Sheet	Reg./Sheet	-	P	W	
		m) Rewinding of cable on drum	Major	Visual		To check cable appearance, drum appearance, cable winding, packing, embossing/printing/sequential marking		Reg./Sheet	-	P	W	
		n) Void & contamination test for insulation (Silicon Oil test)	Major	Physical				Reg./Sheet	-	P	W	
		o) Wafer boil test for extruded semi-conducting layers	Major	Physical				Reg./Sheet	-	P	W	
		p) Freely Strippable insulation screen	Major	Physical		Factory Standard	Factory Standard	Test Report	-	P	W	
		q) Water Penetration test (WPT) on core (i.e. Logitudinal Water Blocking Test)	Major	Physical		IEC:60502	IEC:60502	Test Report	-	P	W	Test shall be conducted for leakage of water through conductor.
		r) Armour coverage	Major	Physical		As per data sheet & FS	As per data sheet & FS	Test Report	-	P	W	
		s) Ovality	Major	Physical		As per data sheet	As per data sheet	Test Report	-	P	W	
		t) Eccentricity	Major	Physical		As per data sheet	As per data sheet	Test Report	-	P	W	
		u) Mass & uniformity & zinc coating on armour	Major	Physical		As per data sheet & FS	As per data sheet & FS	Test Report	-	P	W	
		v) Resistivity of Strip armour	Major	Electrical		As per data sheet & FS	As per data sheet & FS	Test Report	-	P	W	
		w) Swelling height of water swellable tape	Major	Physical		As per data sheet & FS	As per data sheet & FS	Test Report	-	P	W	
		x) Flammability test	Major	Physical		As per IS-78098/II/2011	As per IS-78098/II/2011	Test Report	-	P	W	
y) Impulse withstand test	Critical	Electrical	IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W				



ANNEXURE G: QUALITY ASSURANCE PLAN (QAP)

FOR 33 & 66 kV EHV CABLES

S. NO.	COMPONENT & OPERATION	CHARACTERISTICS	CLASS	TYPE OF CHECK	QUANTUM OF CHECK	REFERENCE DOCUMENT	ACCEPTANCE NORMS	FORMAT OF RECORD	AGENCY			Remark	
									SV	MFR	BSES		
1	2	3	4	5	6	7	8	9	10	11	12	13	
Legend : SV : Sub-Vendor of Cable Manufacturer, MFR : Cable Manufacturer, MPS : Material Purchase Specification, P : Perform, W : Witness, V : Verification													
		z) Ageing & Water absorption test(Gravimetric) on Insulation & Outer sheath	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W		
		z1) Heating Cycle with Potential	Critical	Electrical	sample basis, once per PO			Test Report	-	P	W		
		z2) Raw Material Verification in all aspects	Major	Physical	Each Lot					P	W		
		Z3) OFC Continuty Test and verification of outer sheath marking with continuous 15mm red strip for OFC embedded identification	Major	Physical	Each Lot					P	W		
4	Type tests at vendor's works	a) Tests on conductor											
		i) Annealing test for copper	Major	Physical		IS 8130/84	IS 8130/84	-	-	P	V	Verification of process records. Tests N/A on finished conductor.	
		ii) Tensile test for aluminium	Major	Physical		IS 8130/84	IS 8130/84	-	-	P	V		
		iii) Wrapping test for aluminium	Major	Physical		IS 8130/84	IS 8130/84	-	-	P	V		
		iv) Conductor resistance test	Major	Electrical		IS 8130/84	IS 8130/84	Test Report	-	P	V		
		b) Tests for armouring wires/strips											
		i) Dimensions of wire/strip	Major	Physical			IS 3975, IS 10810 Pt. 36 & Tech. Data sheet	Test Report	-	P	W		
		ii) Tensile strength & Elongation at break	Major	Physical			IS 3975	IS 3975	Test Report	-	P	W	Only for Steel wires/strips
		iii) Torsion test for wire	Major	Physical			IS 3975	IS 3975	Test Report	-	P	W	
		iv) Winding test for strip	Major	Physical			IS 3975	IS 3975	Test Report	-	P	W	
		v) Uniformity of zinc coating	Major	Chemical			IS 3975	IS 3975	Test Report	-	P	W	
		vi) Mass of zinc coating	Major	Chemical			IS 3975	IS 3975	Test Report	-	P	W	
		vii) Resistivity of wire/strip	Major	Electrical			IS 3975	IS 3975	Test Report	-	P	W	
		c) Test for thickness of insulation & sheath	Major	Physical			IS 7098/II/2011 & Tech. Data sheet	IS 7098/II/2011 & Tech. Data sheet	Test Report	-	P	W	
		d) Physical tests for insulation											W
		i) Tensile strength & Elongation test	Major	Physical			IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		ii) Ageing in air oven	Major	Physical			IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		iii) Hot set test	Major	Physical			IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		iv) Shrinkage test	Major	Physical			IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		v) Water absorption (gravimetric)	Major	Physical			IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
e) Physical tests for outer sheath											W		

One sample per Tender



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FOR 33 & 66 kV EHV CABLES

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									SV	MFR	BSES	
1	2	3	4	5	6	7	8	9	10	11	12	13
Legend : SV : Sub-Vendor of Cable Manufacturer, MFR : Cable Manufacturer, MPS : Material Purchase Specification, P : Perform, W : Witness, V : Verification												
		i) Tensile strength & Elongation test at break	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W	
		ii) Ageing in air oven	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W	
		iii) Shrinkage test	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W	
		iv) Hot deformation test	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W	
		v) Loss of mass in air oven	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W	
		v) Heat shock test	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W	
		vi) Thermal stability test	Major	Physical		IS 5831/84	IS 5831/84	Test Report	-	P	W	
		f) Electrical tests in sequence									W	
		i) Partial discharge test	Critical	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		ii) Bending test	Major	Physical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		iii) Partial discharge test	Critical	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		iv) Dielectric power factor as a function of voltage	Major	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		v) Dielectric power factor as a function of temperature	Major	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		vi) Heating cycle test	Major	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		vii) Dielectric power factor as a function of voltage	Major	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		viii) Partial discharge test	Critical	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		ix) Impulse withstand test	Critical	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		x) High voltage test	Critical	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		g) Insulation resistance (Volume resistivity test)	Major	Electrical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
		h) Flammability test	Major	Physical		IS 7098/II/2011	IS 7098/II/2011	Test Report	-	P	W	
D PACKING & MARKING												
1	Packing & Marking	a) Cable end sealing	Major	Visual	100 %	IS 7098/II/2011/ Agreement	IS 7098/II/2011/ Agreement	-	-	P	W/V	BSES representative may verify these characteristics on randomly selected drums.
		b) Pulling eye at leading end- removed from vendor scope, end cap shall be provided at both the end of cable	Major	Visual	100 %	As per agreement	As per agreement	-	-	P	W/V	
		b) Stencilling/Marking on drum	Minor	Visual	100 %	IS 7098(Part 2):2011/ Agreement	IS 7098(Part 2):2011/ Agreement	-	-	P	V	



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FOR 33 & 66 kV EHV CABLES

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									SV	MFR	BSES	
1	2	3	4	5	6	7	8	9	10	11	12	13
Legend : SV : Sub-Vendor of Cable Manufacturer, MFR : Cable Manufacturer, MPS : Material Purchase Specification,												
P : Perform, W : Witness, V : Verification												
Note		<ol style="list-style-type: none">1. Checks specified above for Raw Material, In-Process and Final Inspection shall be as relevant to the specific cable construction.2. Number of samples shall be selected as per Factory Standard/Agreement wherever 'sample' is indicated for extent of check.3. Plant standards shall be followed in case Technical Data Sheet does not include requirements for characteristics to be checked.4. BSES may witness Raw material and in process inspection in addition to Routine/Acceptance tests at any time/stage of manufacturing.5. BSES's Inspector may randomly select a cable drum for type testing at vendor's works.6. For each of the offered lot for inspection, BSES may randomly select one cable drum for testing of end cap "Destructive testing" to verify adhesion of sealing cap to cable outer sheath. .7. All factory Type Tests shall be Witnessed by BSES										

 Technical Specification for 33 kV 3Cx400 sq mm cable

Annexure- H**Testing and manufacturing process requirements w. r. t. TR- XLPE insulation**

All cables made with TR-XLPE Insulation should be tested and/or certified to meet the following performance parameters as per ANSI /ICEA S-94-649 after one year AWTT.

Property	Units	Requirements Values
Min. Avg. Electrical Breakdown Strength(qual. test)	Kv/mm	≥ 25
Impulse Strength	Kv/mm	≥ 83
Water Tree Length	Mm	0.25
Max. Bowtie Tree Density	(Number per 16.4 cu. cm)	Maximum 15 (0.12-0.25 mm range)

Manufacturing processes to produce high-quality cables with the following characteristics:

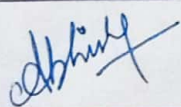
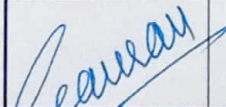

- Cure consistency with hot set/creep less than 100%
- No voids larger than 75 microns per 16.4 cubic cm
- No ambers larger than 250 microns per 16.4 cubic cm
- No contaminants larger than 125 microns and less than 5 between 50-125 microns per cubic 16.4 cubic cm tested.
- Neutral indent on cable is less than 375 microns
- Cable insulation concentricity greater than 90% tested
- No protrusions greater than 75 microns at the conductor shield and 125 microns at the insulation shield

Annexure-I: Deviation Format

Sl. No.	Document Name	Clause No.	Deviation	Reason	Merit to BSES

Technical Specification of Fiber optical cable & Joint with 48 strands for Line Differential Relay and suitable Permanently Lubricated HDPE Pipe

**Technical Specification of Fiber optical cable &
Joint with 48 strands for Line Differential Relay
and
suitable Permanently Lubricated HDPE Pipe
Specification No. – SP-FO48-96-R1**

Prepared by	Reviewed by	Approved by	Rev	00
			Date	7 th May 2019
AV	GS	AA	Page	1 of 9

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1.0. SCOPE

This specification covers manufacturing and supply of Fiber optical cable with 48 strands, its joint and suitable PLB HDPE Pipe.

2.0. SERVICE CONDITIONS

Optical Fiber cable to be supplied against this specification shall be suitable for satisfactory operation under the following conditions-

2.1	Average grade atmosphere	Heavily polluted, Dry
2.2	Maximum altitude above sea level	1000M
2.3	Relative Humidity	100%
2.4	Ambient air temperature	Highest 50 Deg C Average 40 Deg C Minimum 0 Deg C
2.5	Operating temperature	0 Deg C - 50 Deg C
2.6	Rainfall	750mm concentrated in four months

3.0. CONSTRUCTIONAL FEATURES OF OPTICAL FIBER CABLE

S No	Parameter	Units	Guaranteed Value
3.1	No. of fibers in the cable		48
3.2	Type of fibers		Single mode,G652D
3.3	Cable diameter - Nominal - Tolerance	mm mm	
3.4	Cable weight	Kg/ km	
3.5	Max Tensile Strength	KN	3500
3.6	Max pulling tension - During installation - During Service	KN KN	6000 3500
3.7	Minimum bending radius - During installation - During service	mm mm	
3.8	Continuous length	Km	2000+/-10%

Technical Specification of Fiber optical cable & Joint with 48 strands for Line Differential Relay and suitable PLB HDPE Pipe

3.9	Temperature range for Operation, Installation, Shipping, Storage	°C	-20deg to +70deg
3.10	Crush strength	KN/M2	
3.11	Impact resistance	Nm	
3.12	Torsion resistance		180 deg
3.13	Outer jacket thickness - Nominal - Tolerance	mm mm	1.6mm +/-0.2
3.14	Outer jacket material		HDPE
3.15	Description of outer jacket coatings/ additives		Anti Termite & Anti Rodent
3.16	Inner jacket material		HDPE Black
3.17	Inner jacket thickness		1.2mm
3.18	Description of Inner jacket coatings/ additives		Anti Termite
3.19	Cable core binding arrangement - Lay length - Lay Direction	mm S/Z	
3.20	Central strength members - Material - Diameter - Shape	mm	FRP 2.0mm Round
3.21	Peripheral strength member		Glass Yarns
3.22	Central Fiber optic unit:	Y/N	N
3.23	Loose tube dia & material		1.9mm +/- 0.1 with PBTP
3.24	Loose tube lay direction		
3.25	No of fibers per tube		4

Technical Specification of Fiber optical cable & Joint with 48 strands for Line Differential Relay and suitable PLB HDPE Pipe

3.26	Total no. of tubes and number of empty tubes		
3.27	Identification / numbering of individual tubes		
3.28	Filling compound within tube		Thixotropic Tube Filling Jelly
3.29	Filling compound in cable core interstices		Thixotropic Flooding Jelly
3.30	Rip cord (s) provided ?	Y/N	Y
3.31	Cable design life	Years	Min 25Years
3.32	Describe cable termite proofing measures		Anti Termite additives
3.33	Describe cable anti-rodent measures		Equally distributed Glass Yarns over Inner Sheath

4.0. CONSTRUCTIONAL FEATURES OF JOINT FOR OPTICAL FIBER CABLE

Construction of the optical fiber cable joint Box shall be as following:

4.1 Main Box:

The main box shall be sturdy & durable having a base and dome shaped body. The domed shaped body shall cover the entire junction while the base shall enable the entries of the optical fiber cable. The base and dome shall be made of Thermoplastic /High density polypropylene material. The Joint Box should be suitable for opening and reentry frequently without impairing its properties. The body may have ribs as strength member if required.

4.2 Cable organizer (Strength member and cable termination)

Cable organizer shall be suitable to secure extra length of fiber tubes with safe bending radius. It should not cause any strain or tension on the fiber. It shall be possible to fix the strength member(s) and the optical fiber cable firmly so that the cable arrangement will not shift or move laterally inside the Joint box. The Internal structure shall be metallic (made of stainless steel) to support and hold the cables and strength members etc. The metallic parts for making connections shall be made of Brass or Nickle Chromium plated steel and the total assembly shall be corrosion proof.

4.3 Fiber organizer/ Fiber Splice trays

Fiber organiser shall be non-metallic made of ABS material having following characteristic.

i.	Specific Gravity	1.01-1.21 gm/cc	ASTM-D-792
ii.	Tensile Strength	0.002 kg/sqmm – 0.005 kg/sqmm	ASTM-D-638
iii.	Elongation	<50%	ASTM-D-638
iv.	Water absorption	0.3-0.4	ASTM-D-57-59
v.	Rock well hardness	R81-R111	ASTM-D785A

Test certificates in conformity to the above parameters of the ABS Material shall be furnished. Fiber organizer cassettes shall be provided on which the fiber splice and service loops of fibers may be placed by making fiber coils. Slots on the splice tray for fixing splice protection sleeve shall be in such a way that they will not cause any stress or strain on sleeve or fiber and shall not shift, loose or move inside the tray or come into conflict with the fiber coils once fixed. It shall be possible to fix a minimum of 4 secondary tubes at the entry port of each tray. No PVC or any other type of adhesive tape is permitted to hold fibers and loose tube inside the tray. All fibers of a tube shall be spliced in a single tray for better tube identity and fiber looping. The fiber organiser shall be fixed inside the Joint box in such a way that this shall not loosen once fixed or to shift or move in any way.

4.4 Holding Arrangements

The box shall provide the following:

- i. Holding arrangement and framework for properly securing cable organizers with splice trays.
- ii. Securing arrangement for holding fibers.
- iii. Holding device to hold strength member of fiber optic cable securely.
- iv. Any other extra component required for providing strength and reliability to the Joint Box.

4.4 Compatibility

All the component and parts used shall be compatible with the optical fiber cable, fiber splices and cable components. Their use for long should not result in increase in transmission loss or deterioration in other properties.

4.5 Marking on body of the Joint box

Following information by marking indelibly on Joint box shall be provided:

- i. Manufacturer's name & date
- ii. Type of Joint box
- iii. Number of Splice organizer cassettes
- iv. Number of splices per cassette
- v. Batch number and serial number.
- vi. Name of Purchaser i.e. BSES Yamuna Power Ltd
- vii. Purchase order number & Date

5.0. CONSTRUCTIONAL FEATURES OF HDPE PIPE FOR OPTICAL FIBER CABLE

S No	Parameter	Units	Guaranteed Value
PLB HDPE Pipe Parameters			
5.1	Manufacturer's Name		
5.2	Pipe diameter - Nominal - Tolerance	mm %	40 +1% & -0%
5.3	Wall Thickness - Nominal - Tolerance	mm %	3.5 +1% & -0%
5.4	Standard Length - Nominal - Tolerance	meter &	500 +/- 5%
5.5	Weight	Kg/meter	
5.6	Pipe construction type		Two concentric layers
5.7	Thickness of permanent lubricant	mm	3.85 mm
5.8	Construction material of outer layer		HDPE
5.8	Construction material of inner layer		HDPE with silicon
5.9	Base HDPE Resin - Density at 27 deg C - Melt flow rate at 190 deg C & 5 kg load	Kg/m ³ g/10 minutes	940 to 958 0.2 to 1.1
5.10	Service life span	years	>25
5.11	Maximum outside diameter of fiber optic cable that can be installed by blowing technique		16 mm
5.12	Suitable for underground cable installation by- - Blowing - Pulling		Yes Yes

Technical Specification of Fiber optical cable & Joint with 48 strands for Line Differential Relay and suitable PLB HDPE Pipe

5.13	Tensile Strength	N/mm ²	Min. 20
5.14	Elongation at break	%	Min 350
5.15	Internal coefficient of friction		>0.06
5.16	Description of coatings/ additives		Anti Termite & Anti Rodent
PLB HDPE Pipe Accessories			
5.17	Coupler Type		Push Fit
2.18	Coupler Material		PP
5.19	Coupler strength		15 Kgf/cm ²
5.20	End cap material		PP

BSES

BSES-TS-158-RMHC-R0

APPROVED LIST FOR DIFFERENT TYPES OF CABLE RAW MATERIALS & VENDOR NAMES

BSES

APPROVED LIST

FOR

DIFFERENT TYPES OF CABLE RAW MATERIALS &

VENDOR NAMES

Specification No.- BSES-TS-158-RMHC-R0

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Date:	16.05.2024		
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	Gopal Nariya	<i>[Signature]</i>	

Raw materials Manufacturer details :

SL.NO.	RAW MATERIALS	SL.NO.	NAME OF MAKE
01	Aluminium Rod (For conductor & armour)	A	Bharat Aluminium Co.Ltd. (BALCO)
		B	Hindustan Aluminium Co.Ltd. (HINDALCO)
		C	National Aluminium Co.Ltd.(NALCO)
		D	Vedanta (Sesa Sterlite)
02	Water-Swellable Tapes (Pre-slitted)	A	Lantor
		B	GECA TAPES
		C	Scapa
		D	Sneham International
		E	Indore Tapes
03	Semi-Conducting Compound	A	Dow Chemical, U.S.A.
		B	Borealis, Sweden
		C	Hanwha, South Korea
04	XLPE Compound	A	Dow Chemical, U.S.A.
		B	Borealis, Sweden
		C	Hanwha, South Korea
05	Water-Blocking Tapes / Yarn	A	Lantor
		B	Geca Tapes
		C	Scapa
		D	Sneham International
		E	Indore Tapes
06	Copper Tape	A	Aggarwal Metal
		B	Neosym Industry
		C	Luvata , Swedan
07	Core Identification	A	AVSL Industries
		B	Yash Polymer

APPROVED LIST FOR DIFFERENT TYPES OF CABLE RAW MATERIALS & VENDOR NAMES

	Tape	C	Vijay Polymers
08	P. P. Fillers	A	AVSL Industries
		B	Yash Polymer
		C	Vijay Polymers
09	PVC Compound	A	Ddev Plastiks Industries Ltd.
		B	Universal
		C	SCJ Plastic
		D	Sriram Polytech
		E	Shri Ram Vinyl, Kota
		F	Bansal Polyplast Pvt.Ltd.
		G	KEI Industries Ltd.
		H	KEC International Ltd.
10	Galvanized Steel Wires / Strips	A	TATA
		B	Balaji
		C	Systematic
		D	Mica Wires Pvt.Ltd
		E	Bansal Industries
11	PE Compound	A	Borealis
		B	Shakun
		C	Ddev Plastiks Industries Ltd.

Note:

- A. Listed make in this documents shall be followed by manufacturer strictly.
- B. Deviation shall not be given for raw material make at any stage of manufacturing.