

NOTICE INVITING TENDER (NIT)
FOR
SUPPLY
OF
LV PANELS INCLUDING INTEGRATION WITH
SCADA SYSTEM AS PER SPECIFICATION

NIT NO: CMC/BY/22-23/RS/SV/39

Due Date for Submission: 10.10.2022, 14:00 HRS

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

This document is a property of BYPL. This document is meant for the exclusive purpose of bidding against this NIT Number /Specification and shall not be transferred, reproduced, or otherwise used for purposes other than that for which it is specifically issued.

INDEX

S NO	DOCUMENT DESCRIPTION	PAGE NO
VOLUME – I		
1	INFORMATION TO BIDDER (ITB)	1 To 16
1.0	APPENDIX I	1 To 9
1.1	FORMAT FOR EMD BANK GUARANTEE	
1.2	BID FORM	
1.3	ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT	
1.4	SCHEDULE OF CLARIFICATIONS/DEVIATIONS	
1.5	TECHNICAL BID SUBMISSION CHECK LIST	
1.6	VENDOR CODE OF CONDUCT	
2	GENERAL CONDITION OF CONTRACT-SUPPLY	1 To 17
2.0	APPENDIX II	1 To 6
2.1	FORMAT FOR PERFORMANCE BANK GUARANTEE	
2.2	BENEFICIARY'S BANK DETAIL WITH IFSC CODE	
2.3	FORMAT OF WARRANTY/GUARANTEE CERTIFICATE	
2.4	SUMMARY OF COMMERCIAL TERMS AND CONDITIONS	
VOLUME – II - PRICE BID FORMAT		1 To 2
VOLUME – III – TECHNICAL SPECIFICATIONS		1 To 31

VOLUME – I: INFORMATION TO BIDDER (ITB)

SECTION – I: REQUEST FOR QUOTATION

1.00 EVENT INFORMATION

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

Sl. No.	Item Description	Estimated Cost (₹)	Cost of EMD (₹)	Delivery at
1	LV PANELS INCLUDING INTEGRATION WITH SCADA SYSTEM AS PER SPECIFICATION	3.95 Crore	7.90 Lakh	Delhi Store(s)/Site(s)

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

All envelopes shall be duly super scribed "**BID FOR LV PANELS INCLUDING INTEGRATION WITH SCADA SYSTEM AS PER SPECIFICATION**" "NIT NO: CMC/BY/22-23/RS/SV/39 DUE ON 10.10.2022, 14:00 Hr."

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

Part A – Techno Commercial Bid

Part B – Price Bid

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

- 1.2. Bids will be received up to **10.10.2022, 14:00 Hr.** at the address given below.
Part A of the Bid shall be opened on **11.10.2022, 14:00 Hr.**

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

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

- 1.3 BSES Yamuna Power Ltd reserves the right to accept/reject any or all tenders without assigning any reason thereof in the event of following:
- Tender is received after due date and time.
 - Tender fee of requisite value is not submitted.
 - Earnest Money Deposit (EMD) of requisite value & validity is not deposited in shape of Bank Guarantee drawn in favor of BSES Yamuna Power Ltd, payable at Delhi or Online transfer of requisite amount through NEFT/RTGS.
 - Price Bid as per the Price Schedule mentioned in Annexure-I is not submitted.

- e) Incomplete Bids.
- f) Necessary documents against compliance to Qualification Requirements mentioned at Section 1 Clause 2.0 of this Tender Document.
- g) Complete Technical details are not enclosed as per the Technical Bid Submission Checklist.
- h) Filled in Schedule of Deviations as per Annexure.

2.00 QUALIFICATION CRITERIA

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

2.01 Technical Criteria:

SI No.	Criteria	Documents to be submitted by bidder
1	The bidder should have own manufacturing facility in India for LV Panels since last 3 years.	manufacturing and factory incorporation certificate / Undertaking The details of manufacturing units, locations and works from where supply against this tender shall be proposed to be furnished.
2	The Bidder should have supplied minimum 100 nos. LV Panels of rating 2000A or higher in last 5 years from the date of bid opening to any utilities/ SEB's/ PSU's/ reputed company wherein the end user shall be utilities/ SEB's/ PSU's.	i. Summary list of executed Purchase orders ii. Purchase order copies iii Material delivery clearance certificate copy or Delivery completion certificates or Invoice Copies
3	Performance certificate for minimum 1 year satisfactory performance for LV Panels of rating 2000A or higher supplied in last 5 years from the date of bid opening from at least two utilities/ SEB's/ PSU's/ reputed company 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
4	The bidder should have servicing , repairing, testing & refurbishment facility in INDIA with necessary spares and testing equipment's for providing prompt after sales service for LV Panel	Relevant Details/certificates/Undertaking (Details of the set-up available shall be brought out in the offer. the bidder shall also submit undertaking along with the bid confirming the

		infrastructure details submitted)
5	The bidder should have manufacturing capacity of minimum 15 nos. LV Panels per month.	Installed Capacity Certificate
6	The Bidder must possess valid ISO 9001:2015 certification.	Valid copy of Certification

2.02 Commercial Criteria:

SI No.	Criteria	Documents to be submitted by bidder
1	Bidder should have Average Annual Sales Turnover of Rs 20 Crores or more in last three (3) Financial Years (i.e., FY 2019-20, 2020-21 & 2021-22).	Balance Sheet and Duly certified CA certificate to be submitted
2	The Bidder shall submit an undertaking that "No Litigation" is pending with the BYPL or its Group/Associates Companies.	Undertaking
3	An undertaking (self-certificate) that the bidder has not been blacklisted/debarred by any central/state government institution/Electricity utilities	Undertaking
4	The bidder must have valid PAN No., GST Registration Number, in addition to other statutory compliances. The bidder must submit the copy of registrations and submit an undertaking that the bidder shall comply all the statutory compliances as per the laws/rules etc. before the start of the supply/work.	Relevant Statutory Documents Copy/ Undertaking

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

3.00 BIDDING AND AWARD PROCESS

Bidders are requested to submit their offer strictly in line with this tender document. Normally, the deviations to tender terms are not admissible and the bids with deviation 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 same shall be submitted as a part of the Technical Bid.

3.01 BID SUBMISSION

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

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

The bids and the outer envelope shall be addressed to:

Head of Department

Contracts & Materials Deptt.

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

Kindly Note:

INFORMATION TO BIDDER (ITB) NIT NO: CMC/BY/22-23/RS/SV/39	Page 4 of 16	Bidders seal & Signature
--	--------------	--------------------------

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

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

Sr. No	Descriptions	Type of Documents
Commercial :		
1	Tender Fee - Demand Draft (Rs.1180/-) (Incl GST)	Non-refundable demand draft for Rs 1180/- in case the forms are downloaded from website
2	EMD	In prescribed stamp paper & format
3	Power-of-Attorney	In prescribed stamp paper & format
4	PQR Compliances	Documentary evidence in support of qualifying criteria like: <ol style="list-style-type: none"> 1. Details of constitution of the company (Proprietary/Limited/etc along with the details), Memorandum of Association of the company 2. Bidders shall submit the certified annual Balance sheets for the last completed three (3) financial years 3. Supportive document on Positive Net worth. Credit rating/solvency certificate from competent authority. 4. Copies of Orders, Execution /Performance Certificate & Other Documents to support qualification Criteria
5	Signed Tender document	Original Tender documents duly stamped & signed on each page as token of acceptance
6	Black listing undertaking	Bidder should submit a Self-undertaking signed by its Authorized Signatories that the Bidder or any of their sub-contractor has not been blacklisted/barred by any Govt. Organization or Regulatory Agencies in India or abroad.
7	Commercial Terms and Conditions	Acceptance on Commercial Terms and Conditions viz Delivery schedule/period, Payment terms, PBG etc.
8	Acceptance on Reverse Auction	Duly signed Acceptance Form For Participation In Reverse Auction Event as per attached format
9	Bid Form (Unpriced) Duly Signed	Duly Signed Bid Form as per attached format
10	Un price Bid Duly Signed	Duly Signed Un price Bid as per attached format
Technical:		

Sr. No	Descriptions	Type of Documents
11	Technical Details/ Filled in GTP/Drawings	Bidder shall submit duly filled GTP with all Technical documents and Drawings.
12	Type Test Reports	Bidders shall submit the copy of type test reports in their technical bids in support of technical specifications
13	Testing Facilities	Bidder shall submit the details of testing facilities available at their works/factory.
14	Organization Chart & Manpower Details.	Bidder shall submit the details of Organization & Manpower with qualification and experience.

- PART B :: FINANCIAL BID** comprising of (01 original only)
- Price strictly in the Format enclosed indicating Break up of basic price, taxes & duties, transportation etc

3.02 TIME SCHEDULE

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

S. No.	Events	Due date & Time
1	Date of sale/ availability of tender documents from BYPL Website	upto 10.10.2022, 14:00 Hours
2	Date & Time of Pre-Bid Meeting Pre-Bid Meeting will be done online, Register in advance for this meeting, Zoom Meeting link: https://zoom.us/join/zoom/register/tJMpduigrT0jHt1En95khU-WBDIzyIfV5KZh After registering, you will receive a confirmation email containing information about joining the meeting.	27.09.2022, 10:00 Hours
3	Last Date of receipt of pre-bid queries, if any (Queries to be submitted via e-mail)	28.09.2022 up to 17:00 Hours
4	Last Date of replies to all the pre-bid queries as received	04.10.2022 up to 18:00 Hours
5	Last date and time of receipt of Complete Bids (Tender Fees, EMD, Part A & Part B)	10.10.2022, 14:00HRS
6	Date & Time of Opening of PART A – EMD and Technical Bid	11.10.2022, 14:00HRS
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 last date specified for submission of bids and date of opening of bids is declared as a closed holiday for BSES office, the last date of submission of bids and date of opening of bids will be the following working day at appointed times.

This is a two part bid process. Bidders are to submit the bids in 2(Two) parts

INFORMATION TO BIDDER (ITB) NIT NO: CMC/BY/22-23/RS/SV/39	Page 6 of 16	Bidders seal & Signature
--	----------------------------	--------------------------

Both these parts should be furnished in separate sealed covers super scribing NIT no. DUE DATE OF SUBMISSION, with particulars as **PART-A TECHNICAL BID & COMMERCIAL TERMS & CONDITIONS** and **Part-B FINANCIAL BID** and these sealed envelopes should again be placed in another sealed cover which shall be submitted before the due date & time specified.

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

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

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

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

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

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

4.00 AWARD DECISION

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

5.00 MARKET INTEGRITY

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

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

6.00 SUPPLIER CONFIDENTIALITY

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

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

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

7.00 CONTACT INFORMATION

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

Address	Name/ Designation	E-mail Address
Technical		
CES Dept. 3 rd Floor, B-Block, BSES Yamuna Power Ltd Shaktikiran Building, Karkardooma, Delhi 110032	Jeena Borana DGM (CES)	Jeena.Borana@relianceada.com
	Srinivas Gopu GM (CES)	srinivas.gopu@relianceada.com
	Gaurav Sharma AVP (HOD-CES)	gaurav.a.sharma@relianceada.com
Commercial		
C&M Dept. 3 rd Floor, A-Block, BSES Yamuna Power Ltd Shaktikiran Building, Karkardooma, Delhi 110032	Sumit Verma GM (C&M)	sumit.ra.verma@relianceada.com
	Santosh Singh Addl. VP (Head-Procurement)	santosh.kum.singh@relianceada.com
	Robin Sebastian VP (HOD-C&M)	robin.sebastian@relianceada.com

SECTION – II: INSTRUCTION TO BIDDERS

A. GENERAL

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

2.00 SCOPE OF WORK

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

3.0 DISCLAIMER

- 3.01 This Document includes statements, which reflect various assumptions, which may or may not be correct. Each Bidder/Bidding Consortium should conduct its own estimation and analysis and should check the accuracy, reliability and completeness of the information in this Document and obtain independent advice from appropriate sources in their own interest.
- 3.02 Neither Purchaser nor its employees will have any liability whatsoever to any Bidder or any other person under the law or contract, the principles of restitution or unjust enrichment or otherwise for any loss, expense or damage whatsoever which may arise from or be incurred or suffered in connection with anything contained in this Document, any matter deemed to form part of this Document, provision of Services and any other information supplied by or on behalf of Purchaser or its employees, or otherwise arising in any way from the selection process for the Supply.
- 3.03 Though adequate care has been taken while issuing the Bid document, the Bidder should satisfy itself that Documents are complete in all respects. Intimation of any discrepancy shall be given to this office immediately.
- 3.04 This Document and the information contained herein are Strictly Confidential and are for the use of only the person(s) to whom it is issued. It may not be copied or distributed by the recipient to third parties (other than in confidence to the recipient’s professional advisors).

4 COST OF BIDDING

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

B. BIDDING DOCUMENTS

- 5.01 The Scope of Work, Bidding Procedures and Contract Terms are described in the Bidding Documents. In addition to the covering letter accompanying Bidding Documents, the Bidding Documents include:
- (a) Request for Quotation (RFQ)
 - (b) Instructions to Bidders
 - (c) General Terms & Conditions of Contract (T&C)

- (d) Delivery schedule
- (e) Price Formats & Summary T&C
- (f) Bid Form
- (g) Acceptance Format – RA
- (h) EMD BG Format
- (i) Vendor code of conduct
- (j) Appendix
- (k) Technical Specifications (TS)

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

6.0 **AMENDMENT OF BIDDING DOCUMENTS**

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

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

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

6.04 Purchaser shall reserve the rights to following:

- a) extend due date of submission,
- b) modify tender document in part/whole,
- c) cancel the entire tender

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

C. **PREPARATION OF BIDS**

7.0 **LANGUAGE OF BID**

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

8.0 **DOCUMENTS COMPRISING THE BID**

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

- (a) Bid Form, Price & other Schedules (STRICTLY AS PER FORMAT) and Technical Data Sheets completed in accordance with Technical Specification.
- (b) All the Bids must be accompanied with the required EMD as mentioned in the Section-I against

each tender.

(c) Tender documents duly stamped and signed on each page by authorized signatory.

9.0 **BID FORM**

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

9.02 **EMD**

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

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

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

The EMD may be forfeited in case of:

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

or

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

- (i) Accept the Purchase Order, or
- (ii) Furnish the required performance security BG.

10.0 **BID PRICES**

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

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

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

11.0 **BID CURRENCIES**

11.01 Prices shall be quoted in Indian Rupees Only.

12.0 **PERIOD OF VALIDITY OF BIDS**

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

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

13.0 **ALTERNATIVE BIDS**

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

14.0 **FORMAT AND SIGNING OF BID**

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

D. SUBMISSION OF BIDS

15.0 **SEALING AND MARKING OF BIDS**

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

16.0 DEADLINE FOR SUBMISSION OF BIDS

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

17.0 ONE BID PER BIDDER

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

18.0 LATE BIDS

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

19.0 MODIFICATIONS AND WITHDRAWAL OF BIDS

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

E. EVALUATION OF BID

20.0 PROCESS TO BE CONFIDENTIAL

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

21.0 CLARIFICATION OF BIDS

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

22.0 PRELIMINARY EXAMINATION OF BIDS / RESPONSIVENESS

- 22.01 Purchaser will examine the Bids to determine whether they are complete, whether any computational errors have been made, whether required sureties have been furnished, whether the documents have been properly signed, and whether the Bids are generally in order. Purchaser may ask for submission of original documents in order to verify the documents submitted in support of qualification criteria.
- 22.02 Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price per item that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price per item will be corrected. If there is a discrepancy between the Total Amount and the sum of the total price per item, the sum of the total price per

item shall prevail and the Total Amount will be corrected.

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

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

23.0 EVALUATION AND COMPARISON OF BIDS

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

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

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

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

(a) Delivery Schedule

(b) Conformance to Qualifying Criteria

(c) Deviations from Bidding Documents

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

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

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

F. AWARD OF CONTRACT

24.0 CONTACTING THE PURCHASER

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

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

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

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

26.0 AWARD OF CONTRACT

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

27.0 THE PURCHASER'S RIGHT TO VARY QUANTITIES

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

28.0 LETTER OF INTENT/ NOTIFICATION OF AWARD

The letter of intent/ Notification of Award shall be issued to the successful Bidder whose bids have been considered responsive, techno-commercially acceptable and evaluated to be the lowest (L1). The successful Bidder shall be required to furnish a letter of acceptance within 7 days of issue of the letter of intent /Notification of Award by Purchaser.

29.0 PERFORMANCE BANK GAURANTEEE

Within 15 days of the receipt of Notification of Award/ Letter of Intent from the Purchaser, the successful Bidder shall furnish the Performance Bank Guarantee for an amount of 10% (Ten percent) of the Contract Price. The Performance Bond shall be valid for a period of 30 months from the date of last receipt plus 3 months claim period. Upon submission of the performance security, the EMD shall be released.

30.0 CORRUPT OR FRADULENT PRACTICES

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

- (a) Defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "Corrupt practice" means behavior on the part of officials in the public or private sectors by which they improperly and unlawfully enrich themselves and/or those close to them, or induce others to do so, by misusing the position in which they are placed, and it includes the offering, giving, receiving, or soliciting of anything of value to influence the action of any such official in the procurement process or in contract execution; and
 - (ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Purchaser, and includes collusive practice among Bidders (prior to or after Bid submission) designed to establish Bid prices at artificial non -competitive levels and to deprive the Purchaser of the benefits of free and open competition.

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

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

BIDDERS

APPENDIX I

(FORMAT FOR EMD BANK GUARANTEE)

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

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

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

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

The conditions of this obligation are:

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

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

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

(Stamp & signature of the bank)

Signature of the witness

BID FORM

To

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

Sir,

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

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

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

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

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

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

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

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

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

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

Signature..... In the capacity of

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

(IN BLOCK CAPITALS)

APPENDIX I NIT NO: CMC/BY/22-23/RS/SV/39	Page 2 of 9	Bidders seal & Signature
---	-------------	--------------------------

ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed and stamped by the bidder)

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

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

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

Signature & seal of the Bidder

ANNEXURE - SCHEDULE OF DEVIATIONS

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

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

Technical Deviations:-

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

Commercial Deviations:-

SL No.	Clause No.	NIT Page 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 to all the terms and conditions, technical specifications, scope of work etc. as mentioned in the standard document except those as mentioned above.

Seal of the Bidder:

Signature:

Name:

APPENDIX I NIT NO: CMC/BY/22-23/RS/SV/39	Page 4 of 9	Bidders seal & Signature
---	---------------------------	--------------------------

Technical Bid Submission Check List

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

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

VENDOR CODE OF CONDUCT

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

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

I. Labour and Human Rights

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

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

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

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

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

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

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

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

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

II. Health and Safety

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

The health and safety standards are:

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

III. Environmental

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

The environmental standards are:

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

IV. Ethics

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

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

V. Management System

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

The management system should contain the following elements:

APPENDIX I NIT NO: CMC/BY/22-23/RS/SV/39	Page 8 of 9	Bidders seal & Signature
---	---------------------------	--------------------------

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

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

GENERAL CONDITIONS OF CONTRACT (GCC-SUPPLY)

GENERAL CONDITIONS OF CONTRACT (GCC)-SUPPLY

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

1.0 General Instructions

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

2.0 Definition of Terms

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

- 2.08** "Offer Sheet" shall mean Bidder's firm offer submitted to BYPL in accordance with the specification.
- 2.09** "Contract" shall mean the "Letter of Acceptance/Purchase Order" issued by the Purchaser.
- 2.10** "Contract Price" shall mean the price referred to in the "Letter of Acceptance/Purchase Order".
- 2.11** "Contract Period" shall mean the period during which the "Contract" shall be executed as agreed between the Supplier and the Purchaser in the Contract inclusive of extended contract period for reason beyond the control of the Supplier and/or Purchaser due to force majeure.
- 2.12** "Acceptance" shall mean and deemed to include one or more of the following as will be stipulated in the specification:
- a) The written acceptance of material by the inspector at suppliers works to ship the materials.
 - b) Acceptance of material at Purchaser site stores after its receipt and due inspection/ testing and release of material acceptance voucher.
 - c) Where the scope of the contract includes supply, acceptance shall mean issue of necessary equipment / material takeover receipt after installation & commissioning and final acceptance.

3.0 Contract Documents & Priority

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

4.0 Scope of Supply -General

- 4.01** The "Scope of Supply" shall be on the basis of Bidder's responsibility, completely covering the obligations, responsibility and supplies provided in this Bid enquiry whether implicit or explicit.
- 4.02** Bidder shall have to quote for the Bill of quantities as listed in Section – IV of this RFQ.
- 4.03** Quantity variation and additional requirement if any shall be communicated to successful bidder during project execution.
- 4.04** All relevant drawings, data and instruction manuals.

5.0 Quality Assurance and Inspection

- 5.01** Immediately on award of contract, the bidder shall prepare detailed quality assurance plan / test procedure identifying the various stages of manufacture, quality checks performed at each stage, raw material inspection and the Customer hold points. The document shall also furnish details of method of checking, inspection and acceptance standards / values and get the approval of Purchaser before proceeding with manufacturing. However, Purchaser shall have right to review the inspection reports, quality checks and results of suppliers in house inspection department which are not Customer hold points and the supplier shall comply with the remarks made by purchaser or his representative on such reviews with regards to further testing, rectification or rejection, etc.
- 5.02** Witness and Hold points are critical steps in manufacturing, inspection and testing where the supplier is obliged to notify the Purchaser in advance so that it may be witnessed by the Purchaser. Final inspection is a mandatory hold point. The supplier to proceed with the work past a hold point only after clearance by purchaser or a witness waiver letter from BYPL.
- 5.03** The performance of waiver of QA activity by Purchaser at any stage of manufacturing does not relieve the supplier of any obligation to perform in accordance with and meet all the requirements

of the procurement documents and also all the codes & reference documents mentioned in the procurement document nor shall it preclude subsequent rejection by the purchaser.

5.04 On completion of manufacturing the items can only be dispatched after receipt of dispatch Instructions issued by the Purchaser.

5.05 All in-house testing and inspection shall be done with out any extra cost. The in-house inspection shall be carried out in presence of BSES/BSES authorized third party inspection agency. Cost of Futile/abortive visit(s) shall be debited from the invoices.

5.06 Purchaser reserves the right to send any material being supplied to any recognized laboratory for testing, wherever necessary and the cost of testing shall be borne by the Bidder. In case the material is found not in order with the technical requirement / specification, the charges along with any other penalty which may be levied is to be borne by the bidder. To avoid any complaint the supplier is advised to send his representative to the stores to see that the material sent for testing is being sealed in the presence of bidder's representative.

6.0 Inspection & Test Charges

6.01 GOODS shall be inspected by BUYER and/or third party inspection agency nominated by BUYER. Inspection shall carry out stage wise/final inspection as per agreed QA /QC procedure. In addition, inspection of GOODS shall be carried out at our Site/stores. SELLER shall, however, repair/replace the damaged/rejected GOODS to the satisfaction of BUYER at no extra cost.

6.02 Inspection charges are included in total order value, however BUYER will bear third party inspection charges. In case of futile/abortive visit of BUYER's inspector at SELLER'S works, the cost towards the same shall be debited from the SELLER's invoices.

6.03 GOODS covered by this PURCHASE ORDER shall not be dispatched in whole or in part until SELLER has received a written Release for Shipment Notice from BUYER or their designated representative.

6.04 Inspection call shall be raised minimum 15(fifteen) days in advance from delivery schedule mentioned in PO and duly filled Format issued by BYPL

7.0 Handling and Storage

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

8.0 Packing, Packing List & Marking

8.01 **Packing:** Supplier shall pack or shall cause to be packed all Commodities in crates/boxes/drums/containers/cartons and otherwise in such a manner as shall be reasonably suitable for shipment by road or rail to BYPL, Delhi/New Delhi stores/site without undue risk of damage in transit. All the packaging materials as prescribed shall be supplied preferably with bio-degradable packing- materials.

8.02 **Packing List:** The contents of each package shall be itemized on a detailed list showing the exact weight, extreme outside dimensions (length, width & weight) of each container/box/drum/carton, Item SAP Code, PO No & date. One copy of the packing list shall be enclosed in each package delivered.

9.0 Prices/Rates/Taxes

9.01 Price basis for supply of materials

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

10.0 Taxes & Duties

- 10.01 Prices for Goods are on Ex- Works basis. For the Goods covered under the GST laws, all taxes that are applicable under CGST, SGST, UGST, IGST and GST Compensation Cess shall be payable extra.
- 10.02 For the Goods not covered in the GST laws, the applicable ED, VAT / CST shall be payable extra at applicable rates.
- 10.03 GSTIN of BSES YAMUNA POWER LTD - 07AABCC8569N1Z0
CST No of BSES YAMUNA POWER LTD -07740254593
TIN NO of BSES YAMUNA POWER LTD - 07740254593
PAN NO of BSES YAMUNA POWER LTD - AABCC8569N
TAN NO of BSES YAMUNA POWER LTD - DELB05956G
- 10.04 At the end of each month, the SELLER must submit their detail of invoices and amount thereof to the concerned officer in charge, within 07 days after the close of the respective month of which supply relates. Non submission of the said request would be treated as good as that the SELLER has no requirement of reconciliation.

11.0 Invoicing Instructions

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

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

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

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

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

11.06 E Way Bills / transit documents for movement of Goods:

Wherever applicable, the Vendor shall be responsible to issue required transit documents / E Way Bills for movement of Goods and the logistic partner / transporter shall not be liable for any loss arising due to confiscation of goods by government agencies on account of lack of proper documents or any mis-declaration. The Supplier is responsible to comply with rules applicable for E-way bill. Any violation in provision of E-way Bill will attract penalty and seizure of Transit Material. Any Penalty and Pre-Deposit due to violation of rules/provision shall be paid and borne by Supplier. Also, Supplier is responsible for releasing of goods from Authority whether CGST/SGST. Delay in supply from the contractual date due to seizure of goods shall also attract liquidated damages.

12.0 Terms of payment and billing

12.01 For Supply of Equipment's:

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

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

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

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

13.0 Tax Indemnity Clause

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

13.04.2 Pursuant to receiving communication from Purchaser, Vendor shall suggest to accept the communication and pay the demand amount to the competent authority. In such an event, Vendor shall reimburse such amount paid to Purchaser within 5 working days from the date of payment by Purchaser to the competent authority.

13.04.3 If Vendor advises in writing and Purchaser agrees to dispute the demand, then Purchaser shall dispute the matter with competent authority as per due process prescribed under the regulations and Purchaser shall not pay the Tax Demand. In such scenario, cost of litigation including but not limited to Counsel cost, filing fees, other related charges, should be reimbursed by Vendor to Purchaser. Additionally, If any coercive steps of recovery are initiated by the department, then Purchaser would pay such amount (including by way of adjustment of refunds due to it) and the same would be reimbursed by Vendor within 5 working days from date of such recovery from Purchaser. Purchaser will take all necessary steps to avoid such recovery measures.

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

14.0 The Micro, Small and Medium Enterprises (MSME)

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

15.0 Price Validity

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

16.0 Performance Guarantee

16.01 To be submitted within fifteen (15) days from the date of issuance of the Letter of Award/PO, supplier shall establish a performance bond in favor of BYPL in an amount not less than ten percent (10%) of the total price of the Contract (the "Performance Bond"). The Performance Bond shall be valid for a period of 30 months from the date of last receipt plus 3 months claim period.

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

17.0 Forfeiture

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

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

18.0 Release

- 18.01 All Performance Bonds will be released without interest within seven (7) days from the last date up to which the Performance Bond has to be kept valid (as defined in Clause 16.0) except for the case set forth in Clause 22.0.

19.0 Defects Liability Period/Guarantee/Warranty

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

20.0 Return, Replacement or Substitution

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

21.0 Effective Date of Commencement of Contract

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

22.0 Time – The Essence Of Contract

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

23.0 The Laws and Jurisdiction of Contract:

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

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

24.0 Events of Default

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

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

25.0 Consequences of Default.

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

26.0 Penalty for Delay

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

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

27.0 Variation in Taxes, Duties & Levies

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

28.0 Taxes & Duties on raw materials & bought out components

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

29.0 Force Majeure

29.01 General

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

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

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

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

29.07 Limitation of Force Majeure event. The Supplier shall not be relieved of any obligation under the Contract solely because cost of performance is increased, whether as a consequence of adverse economic consequences or otherwise.

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

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

29.10 Severability

If any provision of this Agreement is or becomes invalid or unenforceable by the courts of any jurisdiction to which it is subject, such invalidity or unenforceability shall not prejudice the remaining provisions of this Agreement, which shall continue in full force and effect.

30.0 Transfer and Sub-Letting

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

31.0 Recoveries

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

32.0 Waiver

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

33.0 Indemnification

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

34.00 Termination for convenience of Purchaser

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

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

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

35.00 Documentation

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

36.0 Transit Insurance

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

37.0 Limitation of Liability

- 37.01 Except as provided otherwise in the Contract and except for willful misconduct or gross negligence, neither Party shall be liable to the other Party for loss of use of any Works, loss of profit, loss of any contract or any other indirect or consequential loss or damage which may be suffered by the other Party in connection with the Contract. The total liability of the Supplier to the Purchaser under the Contract shall not exceed the Contract Value. Except that this Clause shall not limit the liability of the Supplier:
- (a) In cases of fraud, willful misconduct or illegal or unlawful acts, or
 - (b) In cases of acts or omissions of the Supplier which are contrary to the most elementary rules of diligence which a conscientious Supplier would have followed in similar circumstances.

38.0 Liability of Suppliers

- 38.1 Subject to the due discharge of its obligations under the Contract and except in case of gross negligence or willful misconduct on the part of the Supplier or on the part of any person acting on behalf of the Supplier, with respect to any loss or damage caused by the Supplier to the Purchaser's property or the Site, the Supplier shall not be liable to the Purchaser for the following:
- (a) For any indirect or consequential loss or damage; and
 - (b) For any direct loss or damage that exceeds:
 - (i) The total payments made and expected to be made to the Supplier under the Contract including reimbursements, if any; or
 - (ii) The insurance claim proceeds which the Supplier may be entitled to receive from any insurance purchased by the Supplier to cover such a liability, whichever is higher.
- 38.2 This limitation of liability shall not affect the Supplier's liability, if any, for damage to any third party, caused by the Supplier or any Person or firm acting on behalf of the Supplier in executing the Works.
- 38.3 Notwithstanding anything contained in the Contract, the Supplier shall not be liable for any gross

negligence or willful misconduct on the part of the Purchaser or any of its affiliates, any vendor, or any party, other than Supplier and/or, its directors, officers, agents or representatives or its affiliates, or SubSupplier, or the vendor or any third party engaged by it.

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

39.0 Intellectual Property Rights and Royalties

- 39.1 The Supplier shall indemnify the Purchaser and the Purchaser's Representative from and against all claims and proceedings on account of infringement (or alleged infringement) of any patent rights, registered designs, copyright, design, trademark, trade name, know-how or other intellectual property rights (hereinafter collectively referred to as "**Intellectual Property Rights**") in respect of the Works, Supplier's Equipment, machines, Works method, Plant, Materials, or anything whatsoever required for the execution of the Works and from and against all claims, demands, proceedings, damages, costs, charges and expenses whatsoever in respect thereof or in relation thereto. In the event of infringement of any Intellectual Property Rights of any third party as a result of the execution of the Works (or any part thereof) by the Supplier, the Supplier shall rectify, modify or replace, at its own cost, the Works, Plant or Materials or anything whatsoever required for the Works so that infringement ceases to exist or, in the alternative, the Supplier shall procure necessary rights/ licenses from the affected third party so that there is no infringement of Intellectual Property Rights.
- 39.2 The Supplier shall be promptly notified of any claim made against the Purchaser. The Supplier shall, at its cost, conduct negotiations for the settlement of such claim, and any litigation or arbitration that may arise from it. The Purchaser or the Purchaser's Representative shall not make any admission which might be prejudicial to the Supplier, unless the Supplier has failed to take over the conduct of the negotiations, litigation or arbitration within a reasonable time after having been so requested. In the event of Supplier failing to act at the Purchaser's Representative's notice, the Purchaser shall be at full liberty to deduct any such amount of pending claim from any amount due to the Supplier under the Contract or any other contract and the balance portion of claim shall be treated as debt due from the Supplier.
- 39.3 All Intellectual Property Rights in respect of any Plant, Materials, Drawings and Designs, plans, documents, specifications, data, materials, know how, charts, information, etc., provided to the Supplier by the Purchaser pursuant to this Contract for the execution of the Works, belongs to and shall continue to belong to the Purchaser and the Supplier shall not have any rights in the same other than the limited right for its use for the purpose of execution of the Works.
- 39.4 Intellectual Property Rights in respect of any Plant, Materials, Drawings and Designs, plans, calculations, drawings, documents, know-how and information relating to the Works which are proprietary to the Supplier and/ or its third party licensors ("**Supplier's IPR**") shall continue to vest with the Supplier and/ or its third party licensors and the Supplier shall grant and/ or procure from its third party licensors, at its own cost, a worldwide, perpetual, royalty free, non-exclusive license (along with the right to sub-license) to use and reproduce such Supplier's IPR for the use, operation, maintenance and repair of the Works.
- 39.5 If any patent, trademark, trade name, registered design or software is developed by the Supplier or its SubSupplier specifically for the execution of the Works, then all Intellectual Property Rights in respect of such design, trademark, trade name or software shall be the absolute property of the Purchaser and shall not be utilized or retained by the Supplier (or its SubSuppliers) for any purpose other than with the prior written consent of the Purchaser.
- 39.6 If the Supplier uses proprietary software (whether customized or off the shelf) for the purpose of

storing or utilizing records in relation to the Works, the Supplier shall obtain at its own expense, the grant of a worldwide, royalty-free, perpetual licence or sublicense (including the right to sublicense) to use such software, in favour of the Purchaser provided that the use of such software under the licence or the sublicense may be restricted to use any such software only for the design, construction, reconstruction, manufacture, installation, completion, reinstatement, extension, repair and operation of the Works or any part thereof.

- 39.7 If any software is used by the Supplier for the execution of the Works over which the Supplier or a third party holds pre-existing title or other rights, the Supplier shall obtain for the Purchaser, a worldwide, royalty free, perpetual license for the right to use and apply that software (together with any modifications, improvements and developments thereof).

40.0 Acceptance

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

QUANTITY AND DELIVERY REQUIREMENTS

Sl. No.	BYPL SAP Code	Item Description	Specification	Total Qty. (Nos)	Tentative Delivery Schedule	Destination
1	-	LV Panel Type-22	BSES-TS-116-LVP-R0	1	Delivery shall be completed within 03 Month from the LOI/PO date.	BYPL Stores Delhi
2	-	LV Panel Type-19		4		
3	-	LV Panel Type-18		2		
4	-	LV Panel Type-17		3		
5	-	LV Panel Type-16		5		
6	-	LV Panel Type-12		2		
7	-	LV Panel Type-5		1		
8	-	LV Panel Type-4		1		

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

Schemes may be executed in the phased manner.

APPENDIX II

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

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

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

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

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

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

BSE

FORMAT OF WARRANTY/GUARANTEE CERTIFICATE

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

Ref. Purchase Order No. :

Dear Sir,

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

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

Vendors Name & Signature

UNDERTAKING GST

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

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

SUMMARY OF COMMERCIAL TERMS AND CONDITIONS

SI No	Item Description	AS PER BYPL	BIDDER'S CONFIRMATION
1	Validity	120 days from the date of submission of bid	
2	Price basis	a) "Firm" , FOR Delhi store(s)/site(s) basis. Prices shall be inclusive of all taxes & duties, freight upto Delhi store(s)/site(s). b) Unloading at store(s)/site(s) shall be in vendor's scope c) Transit insurance in Bidders scope	
3	Payment terms	100% payment shall be made within 45 days from the date of receipt & acceptance of material at store(s)/site(s) against submission of documents.	
4	Delivery schedule	GTP/Drawings/QAP/etc to be submitted within 10 days to the concern official in BYPL for Transmittal approval. BYPL shall approve/ provide comments on the submitted drawings within 7 days of first submission. Delivery shall be completed within 03 Month from the LOI/PO date.	
5	Defect Liability period	66 months from the date of delivery.	
6	Penalty for delay	1% (One) of the basic value (ex-works value) of undelivered units per week of delay or part thereof, subject to maximum of 10% (Ten) of the total basic value (ex-works value) of undelivered units.	
7	Performance Bank Guarantee	To be submitted within fifteen (15) days from the date of issuance of the Letter of Award/PO, supplier shall establish a performance bond in favor of BYPL in an amount not less than 10% of the PO value valid for a period of 30 months from the date of last receipt plus 3 months claim period.	

VOLUME – II

PRICE BID FORMAT

ALL PRICES IN INR (₹)

S. No.	DESCRIPTION OF GOODS & SERVICES	UoM	QTY (A)	UNIT BASIC PRICE OF EQUIPMENT INCL FREIGHT (₹) (B)	UNIT BASIC PRICE OF SCADA INTEGRATION COST FOR LV PANEL AS PER SOW (₹) (C)	TOTAL UNIT BASIC PRICE OF SUPPLY & SUPERVISION (₹) (D=B+C)	UNIT GST & CESS AS APPLICABLE (CGST & SGST/UTGST or IGST) (₹) (E)		UNIT LANDED COST (All Inclusive) (₹) (F = D+E)	TOTAL LANDED VALUE (₹) (G = FXA)
							%	AMT		
1	LV Panel Type-22	Nos	1							
2	LV Panel Type-19	Nos	4							
3	LV Panel Type-18	Nos	2							
4	LV Panel Type-17	Nos	3							
5	LV Panel Type-16	Nos	5							
6	LV Panel Type-12	Nos	2							
7	LV Panel Type-5	Nos	1							
8	LV Panel Type-4	Nos	1							
GRAND TOTAL LANDED VALUE (₹)										
In words										

NOTE: Cost of all tests as per technical specification is to be included. No separate charges will be paid.

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

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

Date:

Bidders Name:

Place:

Bidders Address:

Signature:

Designation:

Printed Name:

Common Seal:




VOLUME – III

TECHNICAL SPECIFICATIONS



TECHNICAL SPECIFICATION OF LV PANEL

Specification no – BSES-TS-116-LVP-R0

Rev:		0
Date:		31.08.2022
Pages		31
Prepared by	Jeena Borana	 b8b1c444-d6e3-4459-b793-d46d1e00a2fc
Reviewed by	Srinivas Gopu	 5d32525e-ed3a-4f41-b1c7-b8a5e77d1519
Approved by	Gaurav Sharma	 23dc2de2-95de-4472-99a7-dea873f472b6

TECHNICAL SPECIFICATION OF LV PANEL**INDEX**

Record of Revision	3
1.0 SCOPE OF WORK	4
2.0 STANDARDS & CODES	4
3.0 SERVICE CONDITIONS	4
4.0 LV PANEL CONFIGURATION	5
5.0 CONSTRUCTION	6
6.0 AIR CIRCUIT BREAKER (ACB)	10
7.0 MOULDED CASE CIRCUIT BREAKER (MCCB)	13
8.0 SCADA COMMUNICATION	15
9.0 BUSBAR	10
10.0 TERMINALS AND WIRING	15
11.0 INDICATIONS AND PUSH BUTTONS	16
12.0 NAME PLATES & MARKINGS	25
13.0 FINISHING	25
14.0 APPROVED MAKE OF COMPONENTS	26
15.0 INSPECTION AND TESTING	26
16.0 PACKING, SHIPPING, HANDLING & SITE SUPPORT	27
17.0 DEVIATIONS	27
18.0 DOCUMENTS SUBMISSION MATRIX	28
Annexure A- Communication Architecture	29
Annexure B- Reference Layout of LV Panel	30
Annexure C- Top View of LV Panel	31



BSES-TS-116-LVP-R0

TECHNICAL SPECIFICATION OF LV PANEL

Record of Revision

S.No.	Revision No	Item / clause no.	Nature of Change	Approved By

TECHNICAL SPECIFICATION OF LV PANEL**1.0 SCOPE**

- 1.1 This specification covers design, engineering, manufacture, assembly and testing at manufacturer's works and supply of LV panel along with all hardware and accessories required for installation and operation.
- 1.2 The scope also covers the interfacing/ inter-connecting of ACB, MCCB, TCP converter, FRTU and Modem. Integration of all status monitoring, measuring parameters of ACB and MCCB with our SCADA control center shall be in bidder scope.

2.0 STANDARDS & CODES

2.1	IS:61439	Low-Voltage Switchgear And Controlgear Assemblies
2.2	IS 60947	Part 1: Specification for Low-voltage Switchgear and Controlgear - Part 2 : Circuit Breakers
2.3	IS:10118	Code of practice for selection, installation and maintenance of switchgear and control gear
2.4	IS:3231	Electrical relays for power system protection
2.5	IS:1248	Electrical Indicating instruments
2.6	IS:4794	Switches and push buttons
2.7	IS:6005	Code of practice of phosphating iron and steel
2.8	IS:5082	Wrought aluminum and aluminum alloys for electrical purposes
2.9	IS 3043	Code of practice for Earthing
2.10	IS 5	Colors for ready mixed paints and enamels
2.11	IEC 60529	Degree of protection provided by enclosure (IP code)

3.0 SERVICE CONDITIONS

3.1	System Configuration	3 Phase 4 Wire with neutral solidly grounded
3.2	Supply Voltage	415 volt +/- 10%
3.3	Supply frequency	50Hz
3.4	Location	Outdoor/Indoor
3.5	Average grade atmosphere	Heavily polluted, Dry
3.6	Maximum altitude above sea level	1000M
3.7	Ambient air temperature	Highest 50Deg C Average 40Deg C
3.8	Minimum ambient air temperature	0 Deg C

TECHNICAL SPECIFICATION OF LV PANEL

3.9	Relative Humidity	100%
3.10	Maximum Rainfall (mm)	1450
3.11	Wind Pressure (Kg/Sq.m)	195
3.12	Seismic Zone	Zone IV as per IS : 1893

4.0 LV PANEL CONFIGURATION

S. No.		Incomer (ACB)		Buscoupler (ACB)		Outgoing (MCCB)		Dimensions (mm)		
	Type	Rating(A)	Qty	Rating(A)	Qty	Rating(A)	Qty	Length	Depth	Height
1	Type-1	630	1	-	-	400	2	800	1000	2250
2	Type-2	1250	1	-	-	400	2	800	1000	2250
3	Type-3	1250	1	-	-	630	4	1200	1000	2250
4	Type-4	2000	1	-	-	630	4	1200	1000	2250
5	Type-5	2000	1	-	-	630	6	1600	1000	2250
6	Type-6	2000	1	-	-	630	8	2000	1000	2250
7	Type-7	3200	1	-	-	630	10	2400	1000	2250
8	Type-8	3200	1	-	-	630	12	2800	1000	2250
9	Type-9	1250	1	1250	1	630	4	2000	1000	2250
10	Type-10	2000	1	2000	1	630	4	2000	1000	2250
11	Type-11	2000	1	2000	1	630	6	2400	1000	2250
12	Type-12	2000	1	2000	1	630	8	2800	1000	2250
13	Type-13	3200	1	3200	1	630	8	2800	1000	2250
14	Type-14	3200	1	3200	1	630	10	3200	1000	2250
15	Type-15	3200	1	3200	1	630	12	3600	1000	2250
16	Type-16	1250	2	1250	1	630	8	3200	1000	2250
17	Type-17	2000	2	2000	1	630	8	3200	1000	2250
18	Type-18	2000	2	2000	1	630	10	3600	1000	2250
19	Type-19	2000	2	2000	1	630	12	4000	1000	2250
20	Type-20	2000	2	2000	1	630	16	4800	1000	2250
21	Type-21	3200	2	3200	1	630	16	4800	1000	2250
22	Type-22	3200	2	3200	1	630	20	5600	1000	2250
23	Type-23	3200	2	3200	1	630	24	6400	1000	2250

Note: Dimensions may be optimized by 10% (both positive and negative tolerance allowed) during detailed engineering to meet operational requirements and ensure compliance with relevant standards subject to BYPL approval.

TECHNICAL SPECIFICATION OF LV PANEL**5.0 CONSTRUCTION**

5.1	General construction	<p>a. Panel shall be of modular construction with separate metal enclosed compartment for the following:</p> <ul style="list-style-type: none">• Each Incomer - Switchgear• Each Incomer - Cable Termination• Buscoupler - Switchgear• Each Outgoing - Switchgear• Each Outgoing - Cable Termination• Busbar• SCADA interface equipment• Removable bolted Base frame <p>b. Each compartment shall be such that the fault in one compartment does not impact the functioning of adjacent compartments.</p> <p>c. It shall be free-standing type comprising dust-tight and vermin-proof sheet steel cabinets suitable for both Indoor and Outdoor installation.</p>
5.2	Incomer/Buscoupler – Switchgear Compartment	<p>a. It should be provided on the front and top of the panel.</p> <p>b. ACB/MCCB shall be mounted on the base plate in such a manner that they can be easily replaced at site.</p> <p>c. ACB/MCCB shall be operable from front of the panel.</p> <p>d. Front cover shall be provided over each compartment such that it is possible to operate the ACB/MCCB with front cover in place.</p> <p>e. Switchgear operating handles shall be totally flushed with the compartment cover. MCCB shall have rotary type handles for ON/OFF positions. Mechanical interlocking to be provided such that switchgear door cover shall not open unless MCCB is in 'OFF' position.</p> <p>f. All indications and instruments shall be mounted on the front cover and fully wired through terminal blocks of appropriate size.</p> <p>g. Operation height for switchgear and instruments shall not be more than 1600mm</p> <p>h. Each compartment shall have adequate space for carrying out the required operation and maintenance work.</p>
5.3	Incomer - Cable Termination Compartment	<p>a. It should be provided on the rear side of the panel</p> <p>b. Front Cover shall be provided on the compartment</p> <p>c. Cable entry should be from bottom</p> <p>d. Detachable 5mm aluminum gland plate with appropriate arrangement for sealing unused cable entries</p> <p>e. Phase barriers should be provided between all</p>

TECHNICAL SPECIFICATION OF LV PANEL

		<p>phases and neutral</p> <p>f. Droppers of 150 mm (minimum) shall be provided for the cable termination in each phase and neutral</p> <p>g. Appropriate clamping arrangement for cable to avoid any stress on the switchgear assembly. Shape and material of cable clamps shall be such that clamping should not damage the outer sheath of cable.</p> <p>h. Cable termination height should be min 450 mm from gland plate of compartment</p>
5.3.1	Cable Termination Provision for 800A ACB/MCCB	2R x 1C x 630sqmm per Phase.& Neutral
5.3.2	Cable Termination Provision for 1250A ACB/MCCB	2R x 1C x 630sqmm per Phase.& Neutral
5.3.3	Cable Termination Provision for 2000A ACB/MCCB	3R x 1C x 630sqmm per Phase. & Neutral
5.3.4	Cable Termination Provision for 3200A ACB/MCCB	6R x 1C x 630sqmm per Phase. & Neutral
5.4	Outgoing – Switchgear Compartment	<p>a. Outgoing compartment should be provided on the front of the panel.</p> <p>b. Outgoing compartment may be provided in two rows i.e. top row and bottom row to optimize the size of LV panel</p> <p>c. ACB/MCCB shall be mounted on the base plate in such a manner that they can be easily replaced at site.</p> <p>d. ACB/MCCB shall be operable from front of the panel.</p> <p>e. Front cover shall be provided over each compartment such that it is possible to operate the ACB/MCCB with front cover in place.</p> <p>f. Switchgear operating handles shall be totally flushed with the compartment cover. MCCB shall have rotary type handles for ON/OFF positions. Mechanical interlocking to be provided such that switchgear door cover shall not open unless MCCB is in 'OFF' position.</p> <p>g. All indications and instruments shall be mounted on the front cover and fully wired through terminal blocks of appropriate size.</p> <p>h. Operation height for switchgear and instruments shall not be more than 1600mm</p> <p>i. Compartment shall have adequate space for carrying out the required operation and maintenance work.</p>
5.4	Outgoing – Cable Termination Compartment	<p>a. Cable Termination should be provided on front side of the panel for bottom row of outgoing compartments and rear side for top row of outgoing compartments.</p> <p>b. Cable entry should be from bottom</p> <p>c. Detachable 3mm MS gland plate with appropriate arrangement for sealing unused cable entries</p>

TECHNICAL SPECIFICATION OF LV PANEL

		<ul style="list-style-type: none">d. Phase barriers should be provided between all phases and neutrale. Front Cover shall be provided on the compartmentf. Droppers of 100 mm (minimum) shall be provided for the cable termination in each phase and neutralg. Appropriate clamping arrangement shall be in base frame for all incoming and outgoing cables to avoid any stress on the switchgear assembly. Shape and material of cable clamps shall be such that clamping should not damage the outer sheath of cable.h. Cable termination height should be min 350 mm from gland plate of the compartment
5.4.1	Cable Termination Provision for 400A MCCB	4C x 400sqmm per Phase. & Neutral
5.4.2	Cable Termination Provision for 630A MCCB	4C x 400sqmm per Phase. & Neutral
5.5	Busbar Compartment	<ul style="list-style-type: none">a. Busbars shall be housed in totally enclosed busbar chambers.b. Incoming connections from the busbar to various feeders shall be designed so as not to disturb cable connections.c. Busbar arrangement should ensure safety of the operation/maintenance personnel and facilitate working on any outgoing module without the need for switching off in-feed to the adjacent modules, as far as possible.
5.6	SCADA Interface equipment compartment	All communication and SCADA interface equipment shall be housed in this compartment. This includes battery, battery charger, modem, converters etc.
5.7	Base Frame	<ul style="list-style-type: none">a. Base frame shall be bolted removable type.b. The LV panel shall be mounted on the galvanized ISMC Base frame of size 100mm*50mm*6mm.c. Base frame shall have bolted cover on all four sides to give uniform look to the panel.d. Height of the base frame shall be 450 mme. Holes of size 20mm shall be provided on all four sides for grouting of high tensile bolts size M18*100mm.f. All nuts/bolts and hardware required for complete mounting of panel shall be provided with each panel.
5.8	Doors	<ul style="list-style-type: none">a. Doors shall be provided on front and rear of the panel. This is in addition to the cover provided on individual compartments. Switchgear should be accessible for operation only after opening the front door of the panel.b. Width of each door shall not exceed 600mm.c. All panel doors shall open by 180 degrees.

TECHNICAL SPECIFICATION OF LV PANEL

		<ul style="list-style-type: none">d. The doors shall be fitted with double lipped gaskets.e. Doors shall be lockable with padlocking facility/ 3 pin locking arrangement.f. All doors shall have antitheft hinges such that it is not possible to remove the door from outside in closed position
5.9	Ingress Protection	<ul style="list-style-type: none">a. Complete panel shall be IP54b. Louvers may be provided subject to compliance with IP requirementc. Canopy of appropriate size shall be provided at both front and rear of the panel.
5.10	Enclosure Sheet material and thickness	<ul style="list-style-type: none">a. Minimum 3 mm GI sheet (120 GSM minimum) for load bearing membersb. Minimum 2.5 mm GI sheet (120 GSM minimum) for doors and coversc. Minimum 2.5 mm GI sheet (120 GSM minimum) for compartment wallsd. No welds, rivets, hinges or bolts shall be visible from outside.
5.11	Minimum clearances	25mm between phases and phase to earth for the entire run of horizontal and vertical bus bars
5.12	Earthing and Earth Busbar	<ul style="list-style-type: none">a. The earth bus of 50X6 mm Aluminum shall run throughout the length of the panel.b. All non-current carrying metal work of the distribution board shall be effectively bonded to the earth bus.c. Hinged doors shall be earthed through flexible earthing braid.d. Two earthing terminals shall be provided on the panel for connection with substation earthing. One terminal should be provided on each side of the panel.e. Provision for connection of earthing braids of all incoming and outgoing cables shall be made.
5.13	Panel height	<ul style="list-style-type: none">a. Including Base Frame – 2250 mmb. Excluding Base Frame - 1800 mm
5.14	Extensibility	<ul style="list-style-type: none">a. Panel should have provision for adding feeders in future on both sides.b. Coupling for extension should be possible at site with ease, without any welding/alteration in existing panel maintaining the IP. suitable for outdoor.
5.15	Temperature Rise of Panel	As per IS 61439
5.16	Lifting hooks	<ul style="list-style-type: none">a. Suitable lifting hooks and pads shall be provided on each panel for ease of lifting of panel.b. All lifting hooks shall be of heavy duty only.c. Lifting hooks shall be so placed that there shall be no damage to powder coating during transportation.d. Wherever lifting hooks are provided and welded with the sheet, the sheet shall have plates welded to

TECHNICAL SPECIFICATION OF LV PANEL

prevent any wrapping.

6.0 BUSBAR

6.1	Material	High conductivity electrolytic grade aluminum
6.2	Main Bus bar	a. Suitable for carrying rated continuous current depending upon the incomer rating. Current density should be 1A per sqmm. Busbars shall be continuous throughout the panel. b. Size of neutral busbar should be same as phase busbar.
6.3	Vertical/Dropper Busbar	a. Busbar rating should be same as the rating of respective ACB/MCCB. Current density should be 1A per sqmm. b. Size of neutral busbar should be same as phase busbar. c. Bus bars shall be color coded with heat resistant color tapes.
6.4	Busbar Joints	a. Shall be silver plated. Adequate contact pressure shall be ensured b. Bimetallic connectors shall be provided, as necessary c. Length of overlap shall be more than the width of Busbar
6.5	Temperature Rise	As per IS 61439
6.6	Insulation	a. Bus bar shall be provided with color coded PVC insulating heat shrinkable sleeves rated for maximum operating voltage b. Insulating shroud should be provided on all joints
6.7	Bus insulator	Non-hygroscopic, Flame retardant, Track resistant type with high creepage surface (25mm/kV), epoxy resin insulators
6.8	Phase sequence shall be RYB	a. Left to Right, when viewing from Front b. Top to bottom c. Front to rear

7.0 AIR CIRCUIT BREAKER (ACB)

7.1	Rated Current	Rating of ACB as per configuration table. No De-rating upto 50 deg C
7.2	General Features	
7.2.1	Number of Phases	Three Phase & neutral
7.2.2	No. of Poles	4 pole ACB
7.2.3	ACB mounting	Fixed type
7.2.4	Line-Load Reversibility	Required
7.2.5	Terminals	Suitable for connection with aluminum busbars with phase barriers & shrouds
7.2.6	Operating mechanism	Manual spring charging, stored energy type
7.2.7	Operation counter	4 digit minimum, non-reversible
7.2.8	Operating handle	Required for manual spring charging

TECHNICAL SPECIFICATION OF LV PANEL

7.2.9	Local control	ON / OFF push buttons or lever with transparent shutter & locking facility
7.2.10	Closing coil	Continuous rated Closing coil shall operate correctly at all values of voltage between 85% & 110% of the rated voltage.
7.2.11	Tripping coil	Continuous Shunt trip coil shall operate correctly at all values of supply voltage between 70% & 110% of rated voltage.
7.2.12	ACB auxiliary contacts	6 NO + 6 NC minimum
7.2.13	ACB operating knob sealing	Possible in OFF condition
7.2.14	CT Requirement	All phase and neutral
7.2.15	Access to releases, coils & add on type replaceable parts to ACB	From front only
7.2.16	ACB indications	a. Separate ON / OFF / TRIP b. Spring charge status
7.2.17	ACB ingress protection (without enclosure)	IP2X minimum
7.2.18	Pollution degree as per IS 60947/IEC 60664-1	Degree 4 : The pollution generates persistent conductivity caused
7.2.19	ACB temperature rise limits	As per table 2 & 3 of IS/IEC 60947-1
7.3	Operation Features	
7.3.1	Rated Operational Voltage(V)	415V
7.3.2	Rated Insulation Voltage (V)	1000V
7.3.3	Rated Impulse Voltage	8 kV for main circuit
7.3.4	Category of utilization	B
7.3.5	Rated Ultimate breaking capacity at rated voltage	a. Icu = 50kA minimum (up to 2000A rating ACB) b. Icu = 65kA minimum (above 2000A rating ACB)
7.3.6	Rated Service breaking capacity at rated voltage Ics	Ics = 100% Icu
7.3.7	Rated short term withstand current for 1 sec at rated voltage - Icw	Icw = 100% Icu
7.3.8	Rated making current capacity - Icm	Icm = 220% Icu
7.3.9	Number of operating cycles at rated current (open + close) without changing arcing contact	Min 5000
7.3.10	Number of mechanical operating cycles (open + close)	Min 20000

TECHNICAL SPECIFICATION OF LV PANEL

7.3.11	Product Information marking on ACB	As per clause 5 of IS/IEC 60947 Part-I. In addition name of purchaser shall be marked on front of device
7.4	Measurement and Protection Requirement	
7.4.1	Microprocessor release	a. Microprocessor based release with true RMS based sensing. b. Self powered, tapped from incoming side of supply, setting panel with locking arrangement
7.4.2	Protections Required	Overload, short-circuit, Instantaneous & earth fault
7.4.3	Tripping characteristic	Inverse definite minimum time characteristics for Short circuit and earth fault protection
7.4.4	Overload setting	40% -100% I_n , steps of 10%.
7.4.5	Overload setting time delay	2.5 s to 40 s minimum three settings
7.4.6	Short Circuit Setting	60% - 800% of I_n , steps of 10%.
7.4.7	Short Circuit Setting time delay	50 ms - 400 ms in steps of 50ms
7.4.8	Instantaneous setting	200% - 1500% of I_n & OFF
7.4.9	Earth fault setting	20- 100 % of I_n , steps of 10%
7.4.10	Earth fault setting time delay	50ms - 400ms in steps of 50ms
7.4.11	Neutral unbalance	Earth fault function should not operate during neutral unbalance. Same will be verified during inspection.
7.4.12	Measurements required in release	a. Phase wise current and neutral current b. Phase wise voltage c. Frequency d. Power factor e. Instantaneous Power: Active, Reactive and apparent power f. Energy: Active, Reactive and apparent Energy g. Maximum current demand with date and time (configurable in 5/15/30 minutes duration) h. Max Power Demand (configurable in 5/15/30 minutes duration) i. Fault record
7.4.13	Metering measurement accuracy	a. 1.5% for current b. 0.5% for voltage c. 2% for Power and energy
7.4.14	Other release requirements	a. Release should have digital LCD display. b. Release should be plug-in type and easily replaceable in field. c. Separate fault indication shall be provided for each protection stage i.e overload, short circuit and earth fault and internal fault d. Release should store 10 fault records on FIFO basis with date and time stamp.

TECHNICAL SPECIFICATION OF LV PANEL

		<ul style="list-style-type: none">e. Release should have 2 Digital Inputs. CB On and Off status shall be wired to DIs through auxiliary switch.f. Release should have Modbus communication as per architecture given in Annexure A.g. ACB release data shall also be available on inbuilt pages directly by breaker or ethernet module.h. Remote time synchronization through SCADA should be possible.
--	--	--

8.0 MOULDED CASE CIRCUIT BREAKER (MCCB)

8.1	Rated Current	Rating of ACB as per configuration table. No De-rating upto 50 deg C
8.2	General Features	
8.2.1	Construction	All the parts shall be enclosed in a moulded insulating material housing
8.2.2	Poles	The MCCBs shall comprise of Four poles in a single construction.
8.2.3	Type	The MCCBs shall be trip free type with quick make and double-break type
8.2.4	Terminals	Suitable for connection with aluminum busbars with phase barriers & shrouds
8.2.5	MCCB auxiliary contacts	2 N/O + 2 N/C minimum
8.2.6	CT Requirement	All phase and neutral
8.2.7	Access to releases, coils & add on type replaceable parts to MCCB	From front only
8.2.8	Indications	MCCBs shall be provided with mechanical position indicator with shrouded terminals. MCCB's shall have ON/OFF/trip indications.
8.2.9	Operating handle	Extended rotary type
8.2.10	MCCB ingress protection (without enclosure)	IP2X minimum
8.2.11	Pollution degree as per IS 60947/IEC 60664-1	Degree 4 : The pollution generates persistent conductivity caused
8.2.12	MCCB temperature rise limits	As per table 2 & 3 of IS/IEC 60947-1
8.3	Operation Features	
8.3.1	Number of phases	Three phase & neutral

TECHNICAL SPECIFICATION OF LV PANEL

8.3.2	Rated Operational Voltage(V)	415V
8.3.3	Rated Insulation Voltage (V)	1000V
8.3.4	Rated Impulse Voltage	8 kV for main circuit
8.3.5	Category of utilization	A
8.3.6	Rated Ultimate breaking capacity at rated voltage	Icu = 50kA minimum
8.3.7	Rated Service breaking capacity at rated voltage Ics	Ics = 100% Icu
8.3.8	Rated short term withstand current for 1 sec at rated voltage - Icw	Icw = 100% Icu
8.3.9	Rated making current capacity -Icm	Icm = 220% Icu
8.3.10	Number of operating cycles at rated current (open + close) without changing arcing contact	5000
8.3.11	Number of mechanical operating cycles (open + close)	20000
8.3.12	Product Information marking on MCCB	As per clause 5 of IS: 13947 Part-I. In addition name of purchaser shall be marked on front of device
8.4	Measurement and Protection Requirement	
8.4.1	Microprocessor release	a. Microprocessor based release with true RMS based sensing. b. Self powered, tapped from incoming side of supply, setting panel with locking arrangement
8.4.2	Protection	Overload, short-circuit, Instantaneous & earth fault
8.4.3	Tripping characteristic	Inverse definite minimum time characteristics for Short circuit and earth fault protection
8.4.4	Overload setting	40% - 100% I _n , steps of 10%.
8.4.5	Overload setting time delay	2.5 s to 40 s minimum three settings
8.4.6	Short Circuit Setting	60% - 800% of I _n , steps of 10%.
8.4.7	Short Circuit Setting time delay	50 ms - 400 ms in steps of 50ms
8.4.8	Instantaneous setting	200% - 1500% of I _n & OFF
8.4.9	Earth fault setting	20- 100 % of I _n , steps of 10%
8.4.10	Earth fault setting time delay	50ms - 400 ms in steps of 50ms
8.4.11	Neutral unbalance	Earth fault function should not operate during neutral unbalance. Same will be verified during inspection.

TECHNICAL SPECIFICATION OF LV PANEL

8.4.12	Measurements required in release and available on communication	<ul style="list-style-type: none">a. Phase wise currentb. Phase wise voltagec. Power factord. Frequencye. Maximum current with date and time (configurable in 5/15/30 minutes duration)f. Max Power Demand (configurable in 5/15/30 minutes duration)g. Instantaneous Power: Active, Reactive and apparent powerh. Energy: Active, Reactive and apparent Energyi. Fault record
8.4.13	Metering accuracy measurement	<ul style="list-style-type: none">a. 1.5% for currentb. 0.5% for voltagec. 2% for Power and energy
8.4.14	Other release requirements	<ul style="list-style-type: none">a. Release should have digital LCD display.b. Release should be plug-in type and easily replaceable in field.c. Separate fault indication shall be provided for each protection stage i.e overload, short circuit and earthfault on release display.d. Release should store 10 fault records on FIFO basis with date and time stamp.e. Release should have 2DIs for MCCB On and Off status shall be wired to DIs through auxiliary switch.f. Release should have Modbus communication as per architecture given in Annexure A.g. Remote time synchronization through SCADA should be possible

9.0 TERMINALS AND WIRING

9.1	Secondary Wiring	
9.1.1	Grade and type	1100 V grade, PVC insulated, FRLS type stranded flexible copper wire.
9.1.2	Ferruling	Each wire shall bear an identifying ferrule or tag at each end or connecting point.
9.1.3	Size	2.5sqmm copper (mimumum)
9.2	Terminals	Terminals of appropriate size shall be provided inside each cabinet for incoming and outgoing cables.
9.2.1	Grade	1100 V grade, moulded piece terminals complete with insulated barriers, washers, nuts and lock nuts.
9.2.2	Power Terminals type	Stud type, nut driver operated
9.2.3	Control terminals type	<ul style="list-style-type: none">a. Screw type/Stud typeb. Terminal Blocksize be one size higher than the size of

TECHNICAL SPECIFICATION OF LV PANEL

		conductor terminated on it.
9.2.4	Spare terminals	20% spare terminals should be provided in each terminal block.
9.2.5	Accessibility	Placement of terminals shall enable proper cable termination. Terminals shall be readily accessible for inspection and maintenance.
9.2.6	Marking	The terminals shall be serially numbered to facilitate installation and maintenance.

10.0 INDICATIONS AND PUSH BUTTONS

10.1	Indicating lamps	Indicating lamps shall be of low wattage cluster LED type.
10.1.1	Incomer/ Outgoing On	Red
10.1.2	Incomer/ Outgoing Off	Green
10.1.3	Incomer/ Outgoing Trip	Amber
10.2	Push buttons	For manual operation of incomer ACBs

11.0 SCADA COMMUNICATION

11.1	Communication Architecture	Communication Architecture shall be as per Annexure A.
11.2	Modbus TCP converter	To be provided, for conversion of all Modbus RTU signal to Modbus TCP.
11.3	Field Remote Terminal Unit (FRTU)	
11.3.1	Communication Ports	a. RS 485- 01 no (Modbus RTU) b. Ethernet port- 01 no (Modbus TCP) c. Ethernet port- 01 no (Master station, IEC 60870-5-104) d. System should have the capability to increase TCP/ IP Ethernet and serial ports for communication by addition of communication modules.
11.3.2	FRTU DI/DO/AI	
11.3.2.1	Digital Input	8 DI
11.3.2.2	Digital Output	4 DO
11.3.3	FRTU Functionalities	a. It should be capable of handling minimum 250 DP(data point) respectively. b. FRTU shall have One serial port, configurable RS485/RS232 for MODBUS serial protocol communication. c. FRTU shall have One TCP/IP port for Modbus TCP/IP communication. d. Ethernet ports for interfacing with IEC 60870-5-104 protocol to communicate with MCC and BCC. e. Ethernet port should be configured for IEC 60870-

TECHNICAL SPECIFICATION OF LV PANEL

		<p>5-104 protocol as a slave.</p> <ul style="list-style-type: none">f. Built in optical couplers to isolate the field signals and field communication channels.g. FRTU shall support event storage capacity as measured events (500), system events (50), alarms (50) and normal events (250). Events should be stored on the basis of FIFO.h. Local viewing of all events shall be possible.i. FRTU DI/ DO and AI communication channel capacity should be such that it can fulfill automation of complete substation system.j. FRTU shall support web based monitoring from remote as well as local.k. All DI/DO communication channels should have individual LED indications.l. FRTU shall support feature of remote configuration as well as diagnosis.m. FRTU system shall support communication with 4 Nos. master stations simultaneously.n. As the SCADA/ DMS system will use public domain such as RF/ GPRS etc., therefore it is mandatory to guard the data/equipment from intrusion/ damage/ breach of security & shall have SSL VPN based security.o. FRTU shall support SNMP (Simple Network Management Protocol).p. Capability of time synchronization with GPS receiver and SCADA MCC/ BCC.q. FRTU system should be modular and expandable.r. FRTU should be capable to store the configuration program in detachable flash memory card.s. FRTU shall have console port with console cable.
11.3.4	CPU Module	<ul style="list-style-type: none">a. 32 bit ARM core CPU, operating @ minimum 64 MHz.b. Internal memory minimum 128MB and RAM 64MB, suitable for handling the LV panel data acquisitionc. Real Time Clock (RTC)d. Display to show the error code and status of the processor.
11.3.5	MCC/ BCC Communication Protocol	<ul style="list-style-type: none">a. FRTU system shall be configured to communicate with MCC and BCC simultaneously on IEC 60870-5-104 protocol.b. FRTU shall support periodic reporting of analog data that shall be configurable upto 1 hour polling delay.c. Digital status data shall have higher priorities as

TECHNICAL SPECIFICATION OF LV PANEL

		<p>compared to the analog data.</p> <p>d. Dead band for reporting analog values shall be programmable for the full scale value.</p>
11.3.6	Digital Input Module	<p>a. The sensing voltage of input module should be 24V DC.</p> <p>b. The FRTU shall accept two types of status input: Single point and double point.</p> <p>c. Single point status input represented by 1 Bit in the protocol message whereas double point status input represented by 2 Bits in the protocol message.</p> <p>d. FRTU configuration software shall have the capability to invert the DI signal value required in the configuration.</p> <p>e. There shall be channel wise visual indication on all DI module installed in the FRTU panel for troubleshooting problems.</p> <p>f. Digital Input module should have hot swap compliance.</p>
11.3.7	Digital Output Module	<p>a. FRTU shall provide the capability for master station to select and change the state of Digital output points.</p> <p>b. There shall be channel wise visual indication of DOs available in FRTU panel and command issued for any digital channel for troubleshooting the problem.</p> <p>c. DO modules should have the capability to configure for a single as well as double command output.</p> <p>d. Digital Output module should have hot swap compliance.</p>
11.3.9	Troubleshooting	<p>a. FRTU should be configurable using web based configuration and maintenance tool.</p> <p>b. FRTU shall have proper diagnosis tool for troubleshooting the failures related to the following from remotely as well as locally. Supplier shall consider all required configuration and diagnosis cable and software with each supplied FRTU with license if any.</p> <p>c. Communication of FRTU with master</p> <p>d. Communication of ACB/MCCB release with FRTU</p> <p>e. Communication of DI/ DO</p> <p>f. Communication with Protection Relay</p>
11.3.10	Programmable Logic Control (PLC)	<p>a. FRTU shall be provided with the PLC license.</p> <p>b. FRTU should have the functionality of logic development and perform the task using its own</p>

TECHNICAL SPECIFICATION OF LV PANEL

		<p>CPU.</p> <p>c. FRTU should have the capability to run more than one PLC tasks at a time.</p>
11.3.11	Cyber Security	<p>Controller should have cyber security compliant against malicious S/W & unauthorized access: IEC62351, IEC62443, CEA, NPIIC and Certain guidelines/ regulation for cyber security.</p> <p>FRTU should have following features:</p> <ul style="list-style-type: none">a. User level configurationb. User wise authentication like system admin, configuration admin, control, operator.c. Disabling the DNSd. Disabling, enabling & configuration of TCP/ IP and UDP ports.
11.3.12	FRTU Power Supply	<ul style="list-style-type: none">a. Power supply for FRTU shall be on 24V DC system which would be made wired from Battery Charger/batteries housed in FRTU cabinet.b. The main DC circuits shall be protected by incoming circuit breakers. Each circuit shall be tapped through single pole MCBs so as to provide an individual DC feed to each of the I/O modules, modems and protocol converters. Contractor shall provide maximum power consumption data of each of the type of FRTU. To protect the batteries from the theft the battery in LV compartment should have separate pad lock arrangement.c. Power supply system should have redundant battery charger to provide the supply to FRTU system as well as to charge the battery.
11.3.12.1	Surge protection device	<ul style="list-style-type: none">a. Pluggable Surge Protection Device in accordance with IEC 61643 with KEMA & UL approval must be installed at the incoming power supply of FRTU.b. DIN Rail Mounted Suitable Surge Protection must be installed on all communication lines (i.e on Ethernet/RS 485 lines)
11.3.13	Software / Firmware	<p>The term software is used in this Technical Specification to mean software or software implemented through firmware. All software shall be implemented according to the Contractor's latest established design and coding standards. Complete and comprehensive documentation shall be provided for all software. Contractor should provide windows based software as it is preferred for its user</p>

TECHNICAL SPECIFICATION OF LV PANEL

		friendliness.
11.3.13.1	General	<ul style="list-style-type: none">a. A real-time non-proprietary operating system that is capable of managing the FRTU applications shall be provided.b. This software shall provide automatic restart of the FRTU upon power restoration, memory parity errors, hardware failures, and manual request. The software shall initialize the FRTU and begin execution of the FRTU functions without intervention by the SCADA/DMS master station. All restarts shall be reported to the SCADA/DMS.c. The software shall be prepared in a high level language and shall be documented in detail. No separate licensing charges or agreements shall attach to the FRTU software or its underlying operating system.d. In order to easily support the system under continuously changing site conditions all protocol, configuration, and application data must be contained in easily programmable non-volatile memory such as Flash EPROM.e. The FRTU design shall be independent of any communication protocol that would impose restrictions on the flexibility or functionality of the FRTU. Protocol changes shall be accomplished by software/firmware changes only.
11.3.13.2	Diagnostic Software	<ul style="list-style-type: none">a. Software shall be provided to continuously monitor operation of the FRTU and report FRTU hardware errors to the SCADA/DMS. The software shall check for memory, processor, and input/output errors and failures. It is desirable that internal diagnostics be sufficiently detailed to detect malfunctions to the level of the smallest replaceable component.b. The FRTU shall facilitate isolation and correction of all failures and shall include features that promote rapid fault isolation and component replacement. All functional module nodes shall be designed with integrated on-line diagnostic functions. The results of these diagnostics shall be reported to the central processing module. The central module shall store this information and report it to the SCADA/DMS as permitted by the protocol. FRTU shall be able to access from remote (BCC/MCC) for down loading configuration
11.3.15	Trainings & Hands-on	The supplier personnel who are experienced instructors shall conduct training. The supplier shall

TECHNICAL SPECIFICATION OF LV PANEL

		arrange on its own cost all hardware training platform required for successful training and understanding at BSES works.
11.3.16	FRTU Type and Routine Tests	
11.3.16.1	Type Tests	<p>The FRTU's shall have passed type tests carried out by government accredited labs and in accordance with IEC 255-4, 255-5, 255-6, 801-2, and 801-3 to demonstrate that the FRTU's comply with the ratings stated in these standards. As a minimum, certificates for the following type tests shall be furnished:</p> <ul style="list-style-type: none">a. Dielectric testb. Impulse voltage withstand testc. High frequency disturbance testd. Thermal requirement teste. Mechanical requirement testf. Limiting dynamic value testg. Contact performance testh. Electromagnetic radiation susceptibility testi. Electrostatic discharge susceptibility test
11.3.16.2	Routine Tests	<p>The FRTU's shall pass the Manufacturer's standard routine tests in accordance with the referenced standards.</p> <p>In addition to the tests described in the IEC standards, the routine tests and test report of the FRTU's shall include the following:</p> <ul style="list-style-type: none">a. Visual tests to confirm that construction and sizing requirements have been met.b. Rigorous testing of each input and output function of the FRTU's. This shall include the fault detection and the disturbance data storage functions as well as the operation and performance of the FRTU time and date facilities.c. Verification of the use of the FRTU test equipment for maintenance and testing.d. Verification of the ability to download parameters and configuration data from the SCADA/DMS master station.e. Verification that FRTU software and firmware support FRTU sizing and expansion requirements.f. Verification of successful communications (i.e. protocols) at all the required data rates.g. Testing for secure operation, including verification that<ul style="list-style-type: none">i) Communication errors are detected.ii) SCBO procedures are properly performed for control outputs.

TECHNICAL SPECIFICATION OF LV PANEL

		iii) No erroneous control operation occurs and no incorrect data is generated when power is turned on or off or when operating on low battery voltage.
11.3.16.3	Site Acceptance Test (SAT)	<p>This document exclusively covers the SAT for FRTU system.</p> <p>After the successful commissioning and testing of the FRTU system and liquidation of all punch points, the system will be put on continuous running mode for a cycle of minimum thirty (30) days after clearance on punch-points. During this period, if the FRTUs performance due to configuration and/ or hardware does not meet the criteria as per Technical Requirements of this document, the cycle will be reset.</p> <p>During the cycle, availability and operational efficacy in regard of the supplied FRTU system will be checked and after successful validation, SAT will be concluded. SAT will include the validation of the following:</p> <ul style="list-style-type: none">a. Networkb. FRTU availability and operational efficacyc. Validation of SOEd. Indication, Command and Measured data <p>BSES reserves the right to financially penalize the supplier on failure of SAT as per the technical and tender document.</p>
11.4	Modem	
11.4.1	Cellular Module	<ul style="list-style-type: none">a. 4G Dual SIM (Primary and secondary SIM) with fall back to 2G.b. Module should have functionality to switch to secondary SIM in case of network issue/ connection issue in primary SIM.
11.4.2	Cellular	<ul style="list-style-type: none">a. FDD LTE: B1 (1920-1980/2110-2170) / B3 (1710-1785/1805-1880) / B8 (880-915/925-960) / B20 (800) MHzb. TDD LTE: B38 (2570-2620) / B39 (1880-1920) / B40 (2300-2400) / B41 (2496-2690)c. HSPA / UMTS: B1 (2100) / B8 (900) / 800/850/1900 MHzd. GSM: 900/1800/ MHz Class 10
11.4.3	WAN Protocols	PPP/PCP over Asynchronous HDLC with PAP/CHAP Authentication.
11.4.4	Internet protocol	Modem shall be compatible with IPv4 & IPv6 scheme
11.4.5	Console Interface	RS232 on RJ45 connector.
11.4.6	LAN Interface	10/100 Base-T complying to IEEE 802.3 / ANSI 8802-3 on RJ45 connector.

TECHNICAL SPECIFICATION OF LV PANEL

		Support for SCADA Protocols in transparent pass through mode
11.4.7	Network Protocols	PPP, IPCP, PAP, CHAP, ARP, IP, ICMP, TCP, UDP, IPSEC, SNTP, TFTP. Support for NAT and Port forwarding.
11.4.8	Management	Serial, HTTP, HTTPS, Telnet & via SMS, Port Mapping, Event Log & Upload. Firmware Upgrade
11.4.9	Self-healing	Modem shall have self healing capability to recover from dead lock situation.
11.4.10	Status Monitoring	ICMP to 4 destinations for Keep Alive & Self Heal. Signal Strength & LEDs.
11.4.11	SIM Interface	External with locking provision.
11.4.12	AT Commands Interface	Supporting AT commands for dialing from FRTU through RS-232 serial port to modem.
11.4.13	Communication Interface	Remote management features like telnet & remote download facility
11.4.14	LED Indications	Power ON, Network–Signal strength, SIM availability, Ethernet link
11.4.15	Connectors	RJ45 Ethernet Port, SIM Card Holder, DC power connector, SMA Antenna connector
11.4.16	Power Supply	24V DC (with reverse current protection) with 2 numbers Terminal Block without adapter. Modem functionality shall not affect during DC voltage supply range of 18 to 30V DC.
11.4.17	Mounting	DIN Rail Mounting
11.4.18	Temperature	Operating (-10 to 70 Degree Centigrade), 95% Humidity
11.4.19	Certification:	<p>a. Conducted Immunity : IEC61000-4-6 Measure emission of the device (referenced to earth) on power mains and to compare them with specified limits to ascertain that the device will not disturb other equipments Frequency : 0.15MHz to 80MHz Modulation : 80% AM at 1 KHz Test Voltage : 3V</p> <p>b. Electrostatic Discharge (ESD): IEC61000-4-2 Check immunity against discharge of static electricity that may occur when a charged operator touches the device Contact Discharge : 4KV Air Discharge : 8KV No of Discharge : 10 at pre-selected spots Positive & Negative Polarity</p> <p>c. EN55022 CLASS B Immunity characteristics of the device when subjected to continuous conducted noise</p>

TECHNICAL SPECIFICATION OF LV PANEL

		Conducted Emission : Frequency - 150 KHz – 30 MHz Radiation Emission : Frequency – 30 MHz – 1000 MHz
11.5	Battery	
11.5.1	Battery type	SMF lead acid battery
11.5.2	Rating	a. SMF Lead Acid Battery (as per tender requirement) b. 24VDC, 26Ah(Min)
11.6	Battery charger	2 no's chargers with auto change over using 10A diodes.
11.6.1	MCBs at charger input & output supply	Required 2 nos DP MCB for AC Incoming supply All the MCBs shall be easily accessible for operation, with proper labeling. MCB location shall be preferably away from Battery charger location.
11.6.2	Charger temperature rise at heat sink at full load for 2 hours	Maximum 55 deg C above ambient of 40 deg C
11.6.3	Battery charger cooling method	Natural without any fans
11.6.4	Individual CBs DC control	Required with MCB
11.6.5	DC power supply for FRTU	24v DC +/- 1 volt thru 2 Amp MCB. FRTU functionality should not effect during DC voltage supply range 18 to 30V DC.

12.0 SCADA INTEGRATION

Following signals shall be integrated with SCADA for all ACBs and MCCBs.

S. No.	Signal Type	Parameters
1.	Release data including breaker status on soft communication	a. MCCB ON b. MCCB OFF c. ACB ON d. ACB OFF e. MCCB Trip f. ACB Trip
2.	Measurement data (ACB and MCCB)	a. Phase wise current and Neutral current b. Phase wise voltage c. Power factor d. Frequency e. Maximum current f. Power Demand g. Active Power h. Reactive Power i. Apparent power j. Energy k. Fault Record

TECHNICAL SPECIFICATION OF LV PANEL**13.0 NAME PLATES & MARKINGS**

13.1	Panel nameplate	Panel shall have a nameplate clearly indicating the following: a. BSES Logo b. Customer Name - BSES Yamuna Power Ltd c. PO No. & date d. Name of manufacturer e. Type of Panel f. Panel Serial No. g. Current rating, Voltage rating h. Month & year of manufacturing i. Warranty period
13.2	Feeder nameplate	Large and bold name plate carrying the feeder identification shall be provided on the top of each module. Blank insert type name plates shall be provided on each outgoing feeder.
13.3	Equipment nameplate	a. All equipment mounted on front side as well as equipment mounted inside the panels shall be provided with individual name plates with equipment designation engraved. b. All front mounted equipment shall also be provided at the rear with individual name plates engraved with tag numbers corresponding to the one shown in the panel internal wiring to facilitate easy tracing of the wiring.
13.4	Danger plate	Panel shall have a danger plate of anodized Aluminum clearly indicating the danger logo and voltage details.
13.5	Material	Non-rusting metal or 3 ply lamicoid. Nameplates shall be black with white engraving lettering. Stickers are not allowed.
13.6	Fixing	All nameplates/rating plates shall be riveted to the panels at all four corners. Bolting/screwing is not acceptable.
13.7	Markings	Each switch shall bear clear inscription identifying its function. Similar inscription shall also be provided on each device whose function is not otherwise identified. If any switch or device does not bear this inscription separate nameplate giving its function shall be provided for it. Switch shall also have clear inscription for each position indicating e.g. Trip-Neutral close, ON-OFF etc.

14.0 FINISHING

14.1	Pre-treatment of GI sheet	GI sheet shall be pre-treated before powder coating to avoid rusting and corrosion
14.2	Pre-treatment process	Seven tank process (Pre-galvanization shall remain intact)
14.3	Primer	a. Two coats b. zinc rich primer shall be applied at welded and punched areas
14.4	Finish	Powder Coating
14.5	Colour shade	632 as per IS 5

TECHNICAL SPECIFICATION OF LV PANEL

14.6	Paint thickness	85 microns (minimum)
------	-----------------	----------------------

15.0 APPROVED MAKE OF COMPONENTS

15.1	Switch	Siemens /Salzer
15.2	AC Contactors	Siemens/Telemecanique/GE/ABB/Schneider
15.3	Terminals	Connectwell/Elmex/Wago/Phoenix
15.4	Push buttons / Actuator	Siemens/Vaishno/Schneider
15.5	ACB	Siemens/ ABB/Schneider
15.6	MCCB	Siemens/ ABB/Schneider
15.7	MCB	Datar/Legrand/Hager/Schneider/ABB
15.8	Indicating lamps	Vaishno/Binay/Teknic/Siemens/Mimic/C&S
15.9	GI sheet	Tata/Sail/Jindal
15.10	Modem	Niseva/Lantronix/Phoenix
15.11	FRTU	ABB/Schneider/Siemens/Phoenix

16.0 QUALITY ASSURANCE, INSPECTION AND TESTING

16.1	Type test	<ol style="list-style-type: none">Type tests from only CPRI/ERDA/Equivalent International Lab shall be treated as valid.Offered ACB and MCCB alongwith release shall be type tested in accordance with IS 60947. Type test reports have to be submitted with the bid for review.Offered LV panel shall be type tested in accordance with IS61439. Type test reports have to be submitted with the bid for review.In case the offered LV Panel is not type tested, complete type testing has to be carried out on one LV panel of highest rating offered to BYPL at CPRI/ERDA in accordance with IS 61439. Bulk supply will start after successful completion of type tests on the panel.
16.2	Acceptance & Routine tests	As per IS 61439 and 60947
16.3	Quality Assurance Plan	Detailed quality assurance plan has to be submitted by the bidder clearly mentioning the tests/checks to be carried out at each of the following stages in accordance with relevant Indian standards/ IEC <ol style="list-style-type: none">Raw materialManufacturingFinished ProductInspection
16.4	Inspection	BYPL reserves the right to inspect the material during any stage.

TECHNICAL SPECIFICATION OF LV PANEL**17.0 PACKING, SHIPPING, HANDLING & SITE SUPPORT**

17.1	Packing Protection	The packing shall be fit to withstand rough handling during transit and storage at destination. The test set should be properly protected against corrosion, dampness & damage.
17.2	Packing accessories for and spares	Robust non-returnable packing case with all the above protection & identification Label. The bidder should get the packing list approved before dispatching the material.
17.3	Packing Identification Label	On each packing case, following details are required:
17.3.1	Individual serial number	
17.3.2	Purchaser's name	
17.3.3	PO number (along with SAP item code, if any) & date	
17.3.4	Equipment Tag no. (if any)	
17.3.5	Destination	
17.3.6	Manufacturer / Supplier's name	
17.3.7	Address of Manufacturer / Supplier / it's agent	
17.3.8	Description	
17.3.9	Country of origin	
17.3.10	Month & year of Manufacturing	
17.3.11	Case measurements	
17.3.12	Gross and net weight	
17.3.13	All necessary slinging and stacking instructions	
17.4	Shipping, Handling and Storage	a. The seller shall be responsible for all transit damage due to improper packing. b. Manufacturer instruction shall be followed.
17.5	Detail handling & storage instruction sheet / manual to be furnished before commencement of supply.	

18.0 DEVIATIONS

18.1	Deviation	Deviations from this Specification shall be stated in writing with the tender by reference to the Specification clause/GTP/Drawing and a description of the alternative offer. In absence of such a statement, it will be assumed that the bidder complies fully with this specification. No deviation will be acceptable post order.
------	-----------	---

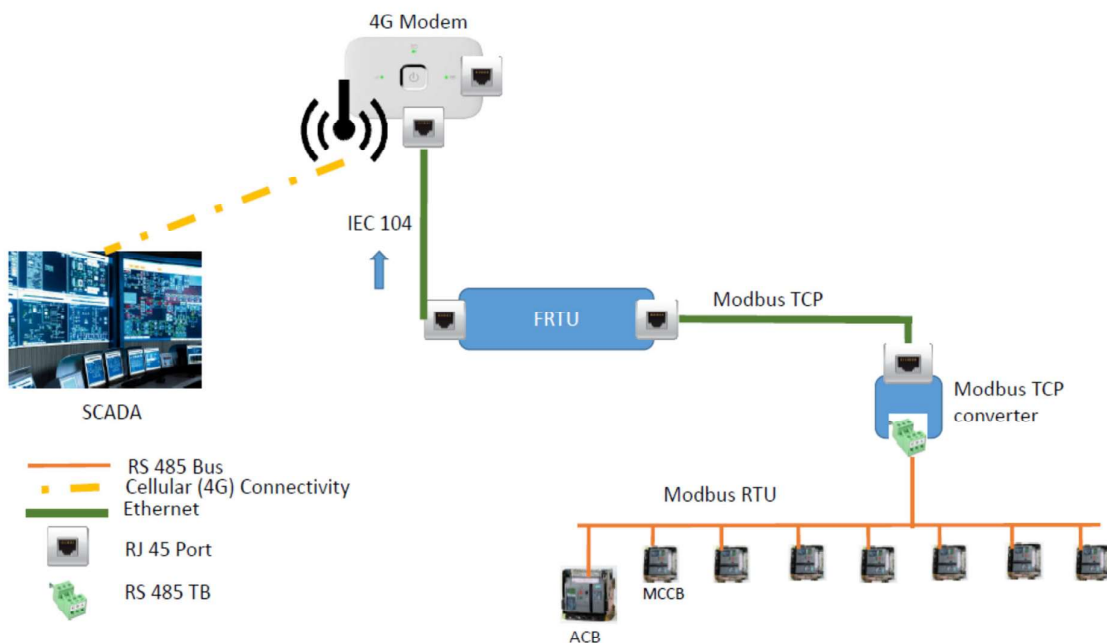
TECHNICAL SPECIFICATION OF LV PANEL**19.0 DOCUMENTS SUBMISSION MATRIX**

Document submission shall be as per the matrix given below. All documents/drawing shall be provided in soft copy. Language of the documents shall be English only. Deficient/improper drawing submission may liable for rejection.

S.No.	Detail of Document	Bid	Approval	Pre Dispatch
19.1	Guaranteed Technical Particulars (GTP)	Required	Required	Required
19.2	Deviation Sheet, if any	Required		
19.3	GA and Dimensional Drawing	Required	Required	
19.4	FRTU details	Required	Required	
19.5	Installation Instructions		Required	Required
19.6	Manual/Catalogue	Required	Required	Required
19.7	Manufacturer's quality assurance plan and certification for quality standards		Required	Required
19.8	Type test reports of offered type and rating of breaker	Required	Required	
19.9	Make of Raw Materials	Required	Required	Required
19.10	Inspection and test reports, carried out in manufacturer's works			Required
19.11	Routine Test Certificates			Required
19.12	Test certificates of all the raw materials			Required

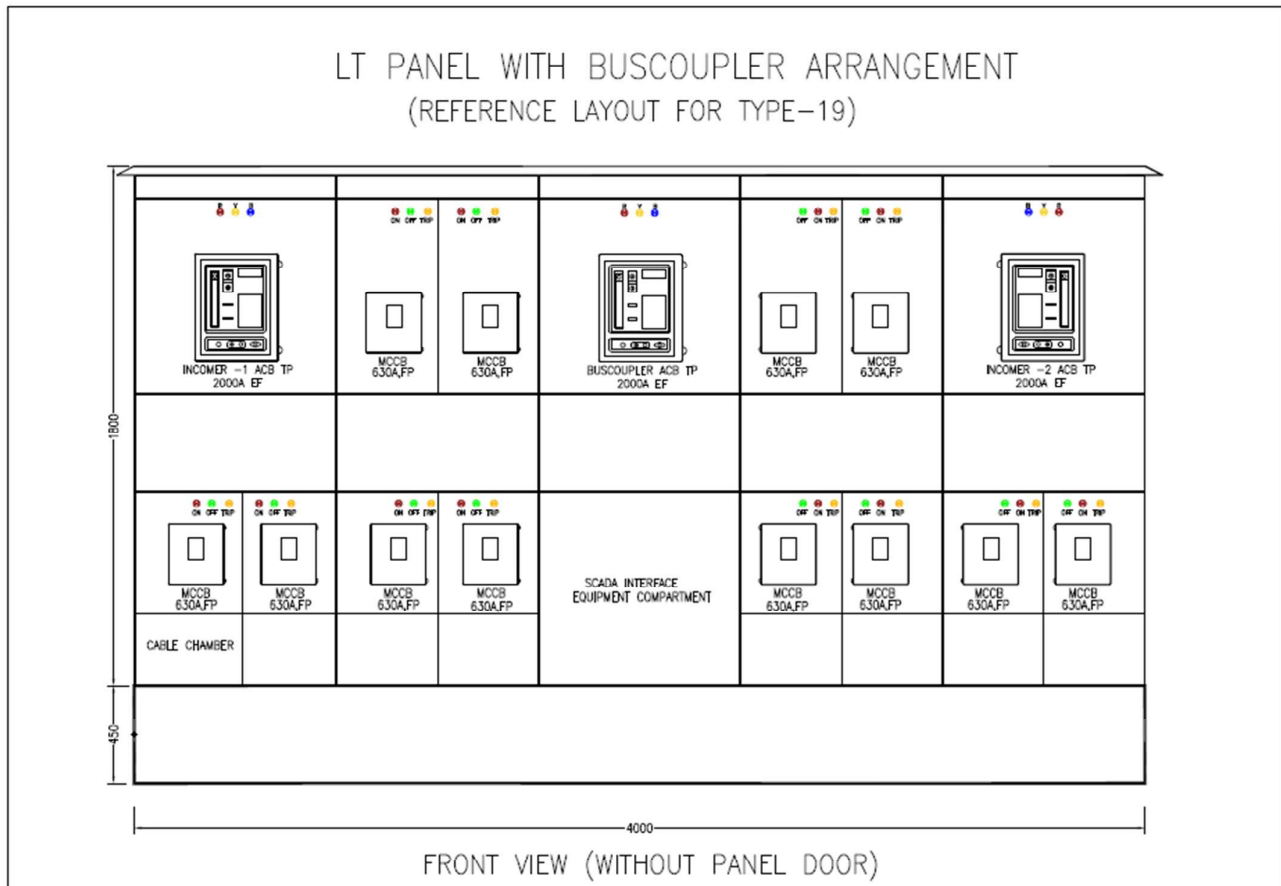
TECHNICAL SPECIFICATION OF LV PANEL

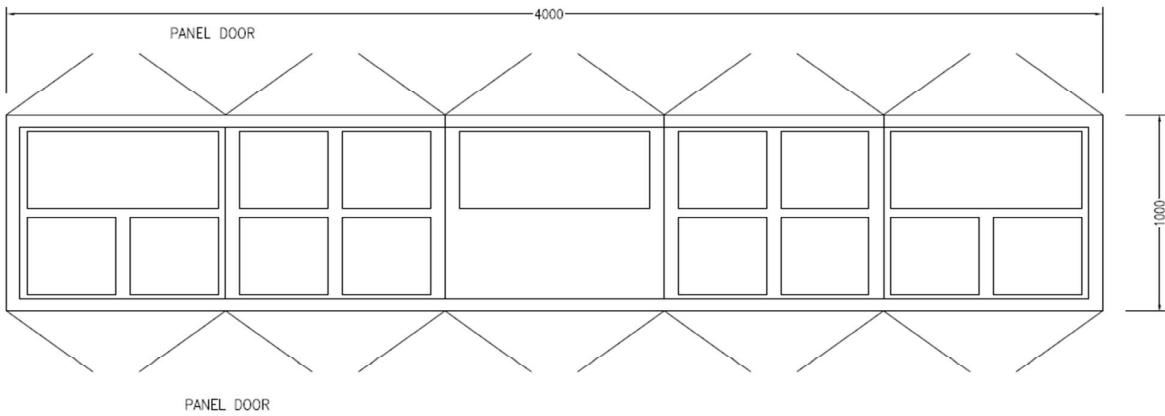
Annexure A- Communication Architecture



TECHNICAL SPECIFICATION OF LV PANEL

Annexure B- Reference Layout of LV Panel



TECHNICAL SPECIFICATION OF LV PANEL**Annexure C- Top View of LV Panel**

TOP VIEW (GLAND PLATE ARRANGEMENT)