



BSES RAJDHANI POWER LIMITED

BSES RAJDHANI POWER LTD (BRPL)

Notice Inviting Tender (NIT)

for

Installation, Testing and Commissioning of 4 nos. (Srinivaspuri Grid, Ambedkar Nagar Grid, Peeragarhi Grid & Nangloi Grid) 33 KV AIS switching substations with supply of miscellaneous materials at BRPL, New Delhi.

NIT No.: CMC/BR/23-24/RB/CR/AG/1166 Dated: 27.10.2023

Due Date for Submission of Tender: 16.11.2023, 15:30 HRS

Date and Time of opening: 16.11.2023, 15:45 HRS

BSES RAJDHANI POWER LIMITED,

BSES Bhawan, Nehru Place, New Delhi – 110019.

Corporate Identification Number: U74899DL2001PLC111527

Website : www.bsedelhi.com

(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).

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SECTION – I: REQUEST FOR QUOTATION**1. GENERAL**

BSES RAJDHANI Power Limited invites sealed tenders on a “Single Stage: Two Envelope” bidding basis (Envelope –I, Techno-Commercial Bid & Envelope-II, Price Bid) from eligible Bidders for “Installation, Testing and Commissioning of 4 nos. (Srinivaspuri Grid, Ambedkar Nagar Grid, Peeragarhi Grid & Nangloi Grid) 33 KV AIS switching substations with supply of miscellaneous materials at BRPL, New Delhi”.

- I. The bidder must qualify the requirements as specified in heading “Qualifying Requirements” of this RFQ.
- II. The sealed envelopes shall be duly super-scribed as:

**“NIT No.: CMC/BR/23-24/RB/CR/AG/1166 Dated: 27.10.2023”
for**

““Installation, Testing and Commissioning of 4 nos. (Srinivaspuri Grid, Ambedkar Nagar Grid, Peeragarhi Grid & Nangloi Grid) 33 KV AIS switching substations with supply of miscellaneous materials at BRPL, New Delhi”.

- III. Schedule of the tendering process is given below. Detailed Specification, Scope of Work, Terms & Conditions, etc are mentioned in the Tender documents, which is available on our website.

| | |
|---|--|
| Cost of Tender Documents (Non- Refundable) | Rs. 1180/- (including GST) |
| Estimated cost of work | Rs.1.61 Cr. |
| Earnest money Deposit | Rs 3.22 Lakhs |
| Work to be completed by | 31 st March 2024 |
| Tender documents on sale | 27/10/2023 to 16/11/2023 (Working days) |
| Date & time of Submission of Bid | 16.11.2023 till 15:30 HRS |
| Date & time of opening of Techno-Commercial Bid | 16.11.2023 at 15:45 HRS |

- IV. The tender document can be obtained from address given below against submission of non-refundable demand draft of **Rs. 1180/-** drawn in favour of BSES Rajdhani Power Ltd, payable at Delhi:
- Head of Department
Contracts & Material Dept.
BSES Rajdhani Power Limited
1st Floor, “C” Block, BSES Bhawan
Nehru Place, New Delhi -110019.
- V. Only DD shall be accepted for tender fees.
- VI. The tender documents will be issued on all working days up to the date mentioned in clause 1.3. The tender documents & detail terms and conditions can also be downloaded from the website www.bsedelhi.com. In case tender documents are downloaded from the above website, then the bidder has to enclose a separate demand draft covering the cost of bid documents.

2. POINTS TO BE NOTED

- I. Works envisaged under this contract are required to be executed in all respects up to the period of completion/ duration of work mentioned above.
- II. Only those agencies, who fulfil the qualifying criteria as mentioned in clause 3 should submit the tender documents.
- III. BSES RAJDHANI Power Ltd reserves the right to accept/reject any or all bids without assigning any reason thereof and alter/amend/modify/add/reduce the amount and quantity mentioned in the tender documents at the time of placing Order
- IV. The bid will be summarily rejected if:
 - (a) **Earnest Money Deposit (EMD)** and **Tender Fee** of requisite amount is not deposited as per tender conditions
 - (b) Bid received after due date and time.

3. EMD

- I. The bidder shall furnish, as part of its bid, an EMD of the requisite amount. The EMD is required to protect the Company against the risk of Bidder 's conduct which would warrant forfeiture. The EMD shall be denominated in any of the following forms:
 - (a) BG from nationalized / Scheduled Bank, as per the format annexed in the tender document, in favour of BSES Rajdhani Power Limited valid for 6 (six) months from original due date of bid submission.
 - (b) Fixed Deposit (lien marked in favor of BSES RAJDHANI POWER LTD) valid for 6 (six) months from original due date of bid submission.
- II. Please note that bank details as given below have been provided only for the purpose of making BG for EMD.

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

The EMD of the bidders who are not technically qualified shall be returned after the price bid opening.

- III. Earnest money given by all the bidders who are techno commercially qualified except the lower bidder shall be returned within 8 (Eight) weeks after award of the work.
- IV. The EMD of the successful bidder shall be returned on submission of CPBG as per tender terms.
- V. The EMD may be forfeited in case of:
 - (a) The Bidder withdraws its bid during the period of bid validity specified by the Bidder in the Bid Form or
 - (b) The successful Bidder does not
 - (i) Accept the Purchase Order/Work Order, or
 - (ii) Furnish the required CPBG as per tender terms
 - (c) The bidder is found to have submitted false or forged, any of the documents/certificates/information.

4. QUALIFYING REQUIREMENTS (QR)

The prospective bidder must meet all of the following qualifying requirements to be eligible to participate in the bidding.

(A.1) TECHNICAL QR:

- a. The bidder must have successfully installed, tested and commissioned Grid AIS/GIS substations or major equipments of Grids i.e. Power Transformer, Grid Switchgear(Panels) and EHV Bay Equipment of 33 KV or higher rating in the five(5) financial years from date of Bid opening. The list of such experiences shall be furnished as per format attached in Schedule-I (List of Installations) of Technical Specification.
- b. Bidder should have at least one performance Certificate for the similar works executed in the last five(5) financial years from reputed Electricity Board(s)/ reputed company(ies) in India /Abroad , transmission and distribution utilities of successful installation, testing & commissioning of similar above works. In case of bidder has a previous association with BRPL /BYPL for similar product and service, the performance feedback of BRPL/BYPL shall be given preferences.
- c. Bidders shall submit the list of tools & tackles, with Sl No, Make & Calibration certificates suitable for carrying out the specified job tendered for.
- d. The bidder must possess valid ISO 9001:2015 certification.
- e. For Existing vendors of BRPL, Technical evaluation will also include the performance in the existing contracts. BRPL reserves the right to qualify or disqualify their bid based on the performance in spite of them meeting the above qualifying criteria.

(A.2) Commercial Qualifying Criteria:

- f. The average annual turnover of the Bidder, in the preceding three (3) financial years (i.e., FY22, FY21 & FY20) should not be less than Rs 3 (Three) Crore. The bidder shall submit the Annual Turnover Report of the last 3 FYs duly certified by a Chartered Accountant. The Turnover certificate must have UDIN Number. In case the audited balance sheet is not available with the bidder for FY 22-23, the bidder shall submit the audited balance sheet for FY 19-20 or turnover certified by the auditor.
- g. The bidder must provide proof of having solvency of an amount equal to Rs 0.50 Crore from any nationalized/ scheduled commercial bank. It should not be older than 01.01.2022.
- h. Bidder should have Registration of GST & PAN.
- i. Bidder should fulfill all statutory compliances like PF, ESI registration.
- j. The bidder should possess valid Electrical Contractor License issued by competent statutory agency to undertake work in NCT Delhi. In case the bidder is not having this license, they have to give the undertaking that it will be obtained by them before the start of the work at site or suitable sub-contractor having the valid license shall be engaged for works at site with the approval of BRPL where copy of valid license shall be submitted to BRPL before the start of the work.
- k. Entities that have been currently debarred/blacklisted by any Private/central/state government institution including electricity boards in India, any of the DISCOM in India, lacks qualifying pre-requisites to participate in this tender will not be considered. Accordingly, an undertaking by the Authorized Person along with other documents to be provided by the bidder on its letterhead in this regard, confirming in clear terms, that the contractor has not been debarred/blacklisted as on

the date of submission of the bid. Bidders who is currently debarred/ blacklisted/ suspended by BRPL will not be considered in this tender.

- l. The bidder should give an undertaking on their letterhead that all the documents/certificates/information submitted by them against the tender are genuine/true/correct and the copies of documents have been made from the original document/s. Further, in case any of the documents/certificates/information submitted by the bidder is found to be false or, BRPL at its sole discretion shall be free to take all actions as permitted under law, including forfeiture of EMD and disqualification from participation in the future tenders of BRPL & Its group companies for an indefinite period or period as may be decided by BRPL.
- m. The bidder should submit an undertaking for “No Litigation” / no legal case is pending with BRPL or its Group Companies. Bidders having any litigation/ legal case pending with BRPL shall not be considered qualified for this tender.

OTHER REQUIREMENTS:

- n. Company reserves the right to carry out technical capability/ infrastructure assessment of the Bidders by factory/office/site inspection or by any other means and company's decision shall be final in this regard.
- o. No Joint ventures / consortiums are allowed.
- p. The bidder shall submit all necessary documentary evidence to establish that the Bidder meets the above qualifying requirements including but not limited to the following:
- q. Last three Financial Years (FY 20, FY 21& FY 22) audited financial statement. In case audited balance sheet of FY 22-23 is not available then bidder can submit provisional balance sheet for FY 22-23 along with UDIN based CA certificate. The bidder shall submit the audited balance sheet for FY 19-20 or turnover certified by the auditor.
- i. Bidder to submit UDIN based CA Certificate showing NIL dues towards Statutory Liabilities, including GST, Taxation, PF, ESI, or any other dues Statutory in nature for the period upto 31.03.2022, herein collectively called as “Statutory dues” and there is no liability over the bidder relating to deposition of such statutory dues.
- ii. Detail of Banks and Fund & Non fund based Credit limit
- iii. Details of formation/registration of the firm (Proprietary/ Partnership) or Company along with all relevant details)
- iv. Memorandum & Articles of Association of the Company/ Partnership Deed of the Firm /other registration documents, as applicable
- v. Organization Chart of the Bidders Company/organization
- vi. Organization chart for execution of the contract
- vii. Experience details with credentials
- viii. Number of Employees & necessary details
- ix. Details of office/s in Delhi, Details of Registered and Corporate offices and details of other offices/establishments in India.
- x. Work order / Agreement copies along with performance certificates in support of relevant experience.
- xi. Turnover certificate issued by CA (along with UDIN no.) for the last three Financial Years.
- xii. Net worth certificate as elaborated in financial QR
- xiii. List of pending litigation with government/other institution on account of executing any order.
- xiv. Copy of ESI/PF Registration certificate
- xv. Copy of PAN/GST no.

- xvi. Copy of GST Return of last Financial Year.
 - xvii. Copy of valid Electrical License
 - xviii. Non-Disclosure Agreement (NDA) as per format attached
 - xix. Bidder's details as per format attached
 - xx. Solvency Certificate
 - xxi. An undertaking to provide all Tools & Plants , PPEs as per tender scope
- (a) The bidder should enclose performance certificates in support of relevant experience.
- (b) For Existing vendors of BRPL, the evaluation will also include the performance in the existing contracts via-a-vis performance in terms of HR issues, all statutory Compliance parameters and wages disbursement by Vendors. BRPL reserves the right to qualify or disqualify their bid based on the contract performance despite them meeting the above-mentioned qualification requirements. 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.
- (c) BRPL may ask for such other documents as it deems fit for substantiating/ justifying the submissions made by the bidder.

5. PRE-BID MEETING:

A pre-Bid meeting shall be organized physically or digitally (through web conferencing platform) at the time and date as specified in the tender documents in the presence of those bidders or their authorized representatives who may choose to be present.

The details of the proposed Webex Meeting (if applicable) are given below: -

Time: -2nd November, 2023 3:00 pm India

Meeting link on WebEx –

NIT-1166 - Installation, Testing and Commissioning of 4 nos. (Srinivaspuri Grid, Ambedkar Nagar Grid, Peeragarhi Grid & Nangloi Grid) 33 KV AIS switching substations with supply of miscellaneous materials at BRPL, New Delhi

Hosted by Head C&M

<https://bsesbrpl.webex.com/bsesbrpl/j.php?MTID=m4e60f270ce09953d00ce36156250749e>

Thursday, November 2, 2023 3:00 PM | 6 hours | (UTC+05:30) Chennai, Kolkata, Mumbai, New Delhi

Meeting number: 2515 748 4025

Password: s6GmpKMHU84 (76467564 from video systems)

Join by video system

Dial 25157484025@bsesbrpl.webex.com

You can also dial 210.4.202.4 and enter your meeting number.

Join by phone

+65-6703-6949 Singapore Toll

Access code: 251 574 84025

All queries related to this tender must reach to C&M Department of BRPL at least three days before the date of the pre- bid meeting. All the bidder's queries shall be replied to in the pre-bid meeting. In case any change is required in the tender document the same shall be effected in the form of corrigendum to this tender. The bidder or their representatives who intend to bid and who have either purchased tender documents or will pay tender fees for



BSES RAJDHANI POWER LIMITED

downloaded documents are invited to attend the pre-bid meeting. Corrigendum, if any, to the tender document shall be hosted on the website subsequent to the pre-bid meeting. Bidders are requested to submit their offer strictly in line with this tender document& corrigendum if any.

6. BID SUBMISSION

1. The bidders are required to submit the bid in 2(two) parts and in original& duplicate (total 2 copies) at the following address:

**Head of Department,
Contracts & Material Department,
BSES Rajdhani Power Limited,
1st Floor, "C" Block, BSES Bhawan,
Nehru Place,
New Delhi-110019.**

2. Technical bid documents along with commercial terms and conditions shall also be submitted in Pen Drive. No price bid shall be submitted in Pen Drive. The PEN Drive should be owned by Bidder. The bidder shall ensure that the Pen Drive is free from all viruses/malware. The pen drive once submitted shall not be returned.
3. This is a two part bid process. Bidders are to submit the bids in 2(two) parts. Both these parts should be furnished in separate sealed covers super scribing **NIT no. DUE DATE OF SUBMISSION, with particulars as PART-A Techno-Commercial Bid and Part-B PRICE BID** and these sealed envelopes should again be placed in another sealed envelope which should be super scribed with —**"Tender Notice No.& Due date of opening"**. The same shall be submitted before the due date & time specified.

6.3.1 PART A: TECHNO-COMMERCIAL BID, UNPRICED (Envelop-1):

The first sealed envelope shall contain an Unpriced Techno-commercial bid in paper form (hard copies) and envelope super-scribing **PART-A Techno-Commercial Bid**. The details to be submitted in techno-commercial bids are given below:

- a) General information about bidder
- b) Documentary evidence in support of all the qualifying criteria as per clause 4.0,
- c) EMD of requisite amount
- d) Non-refundable separate demand draft for Rs. 1180/- In case the forms are downloaded from the website
- e) Technical Literature if any.
- f) Details of experience of works of the same or similar nature. Copy of work orders and performance certificates.
- g) Power of attorney
- h) Acceptance to Commercial Terms and Conditions viz Delivery schedule/period, Payment terms, BG etc
- i) Any other relevant document to support bidder meeting QR

Techno-Commercial Bid should not contain any cost information whatsoever and shall be submitted within the due date. After techno-commercial evaluation, the list of techno-commercially qualified bidders will be posted immediately on the BSES website.

The bidder should submit complete tender document along with all corrigendum (if any) published against this NIT at our website, signed and stamped with bidder's seal as an acceptance of all the terms & conditions of the Tender.

6.3.2 PART B: PRICE BID (Envelop-2):

The second sealed envelope shall contain Price bids in paper form (hard copies and envelope superscribing **PART-B Price Bid** on it. The details to be submitted in the Price bid are given below:

(a) **PRICE BID** shall Comprise of Prices **strictly** in the Format enclosed in SECTION VII. Any change in price bid format, content may lead to rejection of the bid.

(b) Price Bid will be opened after techno-commercial evaluation of all the bids and only of the qualified bidders.

6.3.3 FINANCIAL BID EVALUATION THROUGH REVERSE AUCTION

Reverse Auction (RA) shall be conducted for finalization of contract and the details of the price bid shall not be shared with bidders. The qualified bidders will participate in reverse auction through SAP-SRM tool. The RA process shall be governed by the terms and conditions enclosed as Annexure-III in this tender document. Training/details shall be provided to bidders before participation in auction. In case RA is not conducted /concluded for any reasons, a "final no regret" financial bid in a sealed envelope will be called for from all qualified bidders. Notwithstanding anything stated above, the Company reserves the right to assess bidders' capability to perform the contract, should the circumstances warrant such assessment in the overall interest of the Company. In this regard, the decision of the Company shall be final and binding on the bidders.

6. TIME SCHEDULE

The activities and their timelines are given hereunder which needs to be adhered by the bidders.

| S. No. | Activity | Description | Due date |
|--------|--|--|---------------------------|
| 1 | Submission of Technical & Commercial Queries, if any | All Queries related to NIT | 01/11/2023 |
| 2 | Pre-Bid Meeting | Discussion on pre-bid queries | 02/11/2023 |
| 3 | Submission of Techno-Commercial & Price Bid | Unpriced Techno-Commercial & Price Bid in separate sealed envelopes | 16/11/2023 |
| 4 | Opening of Techno-Commercial Bid | Opening of PART-A | 16/11/2023 |
| 5 | Opening of Price Bid | Opening of PART-B of only the techno-commercially qualified bidders (List of bidders will be published at our website) | To be informed separately |

| | | | |
|---|-----------------|-----------------|---|
| 6 | Reverse Auction | As per RA terms | Schedule will be intimated to eligible bidders through email from email id: BRPL.Eauction@relianceada.com |
|---|-----------------|-----------------|---|

7. AWARD DECISION:

1. Company intends to award the business on a lowest bid basis, so bidders are encouraged to submit the bid competitively. The decision to place order/LOI solely depends on Company on the cost competitiveness across multiple lots, quality, delivery and bidder 's capacity, in addition to other factors that Company may deem relevant.
2. The Company reserves all the rights to award the contract to one or more bidders who meet the execution requirement or nullify the award decision without assigning any reason thereof.
3. In case the performance of any contractor is found unsatisfactory during the execution process, the award will be cancelled and BRPL reserves the right to award the work to another contractor(s) who will be found eligible/fit.
4. The abnormally higher or abnormally lower bids shall not be considered with respect to estimated cost. The criteria decided by BRPL on this shall be final and binding on the bidders.
5. The bidding firms are advised to quote their Margin / Administrative Service Charges accordingly. BRPL reserves the right to reject the bids quoted with abnormally higher or abnormally lower individual activity rates. The criteria decided by BRPL on this shall be final and binding on the bidders and will not be open for discussion under any circumstances.

8. MARKET INTEGRITY

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

- Failure to honour prices submitted to the market place.
- Breach of the terms published in Request for Quotation/NIT
- Misrepresentation of facts, submitting false and fabricating documents

9. CONFIDENTIALITY

- All information contained in this tender document is confidential and may not be disclosed, published or advertised in any manner without written authorization from BRPL. This includes all bidding information submitted.
- All tender documents remain the property of BRPL and all bidders are required to return these documents

- Bidder(s) who do not honour these confidentiality provisions will be excluded from participating in future bidding events.
- The bidder shall sign a Non-Disclosure Agreement (NDA) in the format attached in tender document and submit along with its bid.

10. CONTACT INFORMATION

Technical & Commercial clarification, if any, regarding this tender shall be sought in writing and sent by e-mail to the following e-mail IDs:

| Address | Name/ Designation | E-mail Address / Phone Number |
|---|-------------------------------------|--|
| Technical | | |
| Installation, Testing and Commissioning of 4 nos. (Srinivaspuri Grid, Ambedkar Nagar Grid, Peeragarhi Grid & Nangloi Grid) 33 KV AIS switching substations with supply of miscellaneous materials at BRPL, New Delhi | Mr.Gora Dutta, | Gora.dutta@relianceada.com |
| | AsVP- (EHV Grid) | 8010937153 |
| | Mr. Nirjendu Pandey Head - EHV(P&C) | Nirjendu.Pandey@relianceada.com |
| | Mr. Abhinav Srivastava | 011-49209323 |
| | | abhinav.r.srivastava@relianceada.com |
| | AsVP – (CES Team) | 9350134826 |
| All technical queries shall also be marked copy to Commercial team as per the details below. | | |
| Commercial | | |
| C&M Dept, | Ms. Anima Gaur | anima.gaur@relianceada.com |
| 1st Floor, C Block, | DGM(Contracts) | 011-49209429 |
| BSES Rajdhani Power Ltd | | |
| BSES Bhawan, Nehru Place, | Mr. Amitava Nandi, | Amitava.Nandi@relianceada.com |
| New Delhi – 110019. | AsVP – (Head Contracts) | 011-4920 9619 |

SECTION-II**INSTRUCTIONS TO BIDDERS (ITB)****1. GENERAL**

BSES RAJDHANI Power Ltd (BRPL), hereinafter referred to as the “Company” is desirous for awarding work of **“Installation, Testing and Commissioning of 4 nos. (Srinivaspuri Grid, Ambedkar Nagar Grid, Peeragarhi Grid & Nangloi Grid) 33 KV AIS switching substations with supply of miscellaneous materials at BRPL, New Delhi.**

- 1.1 All the Bids shall be prepared and submitted in accordance with these instructions.
- 1.2 Bidder shall bear all costs associated with the preparation and delivery of its Bid, and the Company will in no case shall be responsible or liable for these costs.
- 1.3 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.
- 1.4 The Company reserves the right to request for any additional information/documents and also reserves the right to reject the proposal of any Bidder, if in the opinion of the Company, the data in support of RFQ requirement is incomplete.
- 1.5 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 Company’s decision in regard to the responsiveness and rejection of bids shall be final and binding without any obligation, financial or otherwise, on the Company.
- 1.6 The company reserves the right to split the order among various successful bidders in any manner it chooses without assigning any reason whatsoever.

2. SCOPE OF WORK

Detailed specification/scope of work is provided in Section-V of this tender document.

3. DISCLAIMER

- 3.1. This NIT is not an agreement and further it is neither an offer nor an invitation by BRPL to bidders or any other person for award of contract. The purpose of this NIT is to provide bidders information that may be useful to them in the preparation and submission of their bids.
- 3.2. This Document includes statements, which reflect various assumptions, which may or may not be correct. Each Bidder 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.
- 3.3. Neither Company 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 Company or its employees, or otherwise arising in any way from the selection process for the Work.

- 3.4. Though adequate care has been taken while issuing the Tender document, the Bidder should satisfy itself that Documents are complete in all respects. Intimation of any discrepancy shall be given to this office immediately.
- 3.5. 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).
- 3.6. It shall be deemed that by submitting a bid, a bidder agrees to release BRPL and its employees, agents and advisors irrevocably unconditionally fully and finally from any and all liability for any claims losses damages costs expenses or liabilities in anyway related to or arising from exercise of any rights and all performance of any obligations under this NIT and or in connection with the bid process to the fullest extent permitted by applicable law and waives any and all rights and all claims it may have in this respect whether actual or contingent whether present or in the future
- 3.7. BRPL and its employees and advisors also accept no liability of any nature whether resulting from negligence or otherwise arising from reliance of any bidder upon the contents of this NIT. BRPL may in its absolute discretion but without being under any obligation to do so, update amend or supplement the information assessment statement or assumptions contained in this NIT.
- 3.8. The issue of this tender document does not imply that BRPL is bound to qualify any bidder or to award the contract to any bidder. BRPL reserves the right to reject all or any of the bids without assigning any reasons whatsoever.

4. COST OF BIDDING

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

5. TENDER DOCUMENTS

- 5.1. 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:

"Check List, Sections, Annexure & Formats as elaborated in CONTENT of this NIT."

- 5.2. The bidder is expected to examine the tender documents, including all Instructions, Forms, Terms and Specifications. Failure to furnish all information required by the tender documents or submission of a bid not substantially responsive to the tender documents in every respect may result in the rejection of the Bid.

6. AMENDMENT OF TENDER DOCUMENTS

- 6.1. At any time prior to the deadline for submission of Bids, the Company may for any reason(s), whether at its own initiative or in response to a clarification requested by a prospective Bidder, alter/amend/modify the tender documents by corrigendum /amendment.

6.2. The corrigendum / amendment shall be part of tender document, pursuant to Clause 5.1, and it will be notified

(a) by way of uploading the corrigendum/amendment on BSES website (in case of public tender),

(b) in writing by e-mail to all the Bidders who have received the Bidding Documents by email. (in case of limited tender)

All such corrigendum & amendments will be binding on the bidders.

6.3. In order to provide prospective Bidders a reasonable time in which to take the Amendment into account in preparing their Bids, the Company may, at its discretion, extend the deadline for the submission of Bids.

7. PREPARATION OF BIDS & LANGUAGE

The Bid prepared by the Bidder, and all correspondence, documents etc. relating to the Bid exchanged by the Bidder and the Company shall be written in English Language. Any printed literature furnished by the Bidder may be written in another Language, provided that this literature is accompanied by English translation, in which case, for purposes of interpretation of the Bid. In case of ambiguity in the English translation, interpretation of the Company as regards to translation will be final.

8. DOCUMENTS COMPRISING THE BID

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

(a) Techno-Commercial Bid & Price Bid as elaborated in RFQ. (STRICTLY AS PER FORMAT)

(b) All the Bids must be accompanied with the required EMD & Tender Fees against each tender.

9. BID FORM

The Bidder shall complete "Original" Bid Form and submit it along with details mentioned in Techno-Commercial bid (without filling price).

10. BID PRICES

Bidders shall quote for the entire Scope of work with prices for individual items. The bidder is required, at his expense, to obtain all the information he may require to enable him to submit his tender including necessary visits to the site to ascertain the local conditions, procurement of necessary materials, labour, etc., requirements of the local/government/public authorities in such matters.

11. BID CURRENCIES

Prices shall be quoted in Indian Rupees Only.

12. PERIOD OF VALIDITY OF BIDS

12.1. Bids shall remain valid & open for acceptance for a period of 180 days from the date of opening of the Bid.

12.2. Notwithstanding above, the Company may solicit the Bidder's consent to an extension of the Period of Bid Validity and the bidder shall be liable to extend the same at the sole cost and consequences of the bidder and no claim from the company in this regard shall be maintainable.

13. ALTERNATIVE BIDS

Bidders shall submit Bids, which comply with the Tender 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 Tender Documents.

14. FORMAT AND SIGNING OF BID

- 14.1. The original Bid Form and accompanying documents (as specified in Clause 9.0), clearly marked "Original Bid", must be received by the Company at the date, time and place specified in Section-I, RFQ.
- 14.2. The original 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-Authority accompanying the Bid. All pages of the bid shall be signed by the signatory accompanied with seal of the Agency.
- 14.3. 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 signed by the person or persons signing the Bid.

15. SEALING AND MARKING OF BIDS

- 15.1. Bid submission: One original (hard copies) and one duplicate (total two copies) of all the Bid Documents shall be sealed and submitted to the Company before the closing time for submission of the bid.
- 15.2. 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 Company to collect the proposals from Courier/Airlines/Cargo Agents etc shall be entertained by the Company.

16. DEADLINE FOR SUBMISSION OF BIDS

- 16.1. The Original bid must be timely received by the company at the address specified in Section –I, RFQ.
- 16.2. The Company may, at its discretion extend the deadline for the submission of bids by amending the Tender Documents in accordance with Clause 6.0, in which case all rights and obligations of the Company and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.

17. ONE BID PER BIDDER

Each Bidder shall submit only one Bid by itself. A Bidder who submits or participates in more than one Bid will cause all those Bids to be rejected.

18. LATE BIDS

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

19. MODIFICATIONS AND WITHDRAWAL OF BIDS

The Bidder is not allowed to modify or withdraw its Bid after the due date of bid submission.

20. EVALUATION OF BID

- 20.1. The bids will be evaluated techno-commercially on compliance to tender terms and Conditions.
- 20.2. BRPL reserves the right to ask the bidders to provide any additional information including breakup of the prices as quoted by them against line items.

21. CLARIFICATION OF BIDS

To assist in the examination, evaluation and comparison of Bids, the Company 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. PRELIMINARY EXAMINATION OF BIDS / RESPONSIVENESS

- 22.1. Company 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.
- 22.2. 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.
- 22.3. Company will determine the substantial responsiveness of each Bid to the Tender Documents including execution capability and acceptable quality of the services offered. A substantially responsive Bid is one, which conforms to all the terms and conditions of the Tender Documents without deviation.
- 22.4. Bid determined as not substantially responsive will be rejected by the Company and may not subsequently be made responsive by the Bidder by correction of the non-conformity.

23. EVALUATION AND COMPARISON OF BIDS

- 23.1. The evaluation of Bids shall be done based on the delivered cost competitiveness basis.
- 23.2. 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 later on the Techno-Commercial Proposals and the Conditionality 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.

- 23.3. The Company'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) Contract completion schedule
 - (b) Conformance to Qualifying Criteria
 - (c) Deviations from Tender Documents
 - (d) Conformity and compliance to the conditions/details provided in pre-bid meeting
 - (e) Change in the quantity from mentioned in the tender
- 23.4. The cost of all quantifiable deviations and omissions from the specification, terms and conditions specified in Tender Documents shall be evaluated.
- 23.5. The Company will make its own assessment of the cost of any deviation for the purpose of ensuring fair comparison of Bids.
- 23.6. Adjustments in price, if any, based on the above procedures, shall be made for the purposes of comparative evaluation only to arrive at an "Evaluated Bid Price". Bid Prices quoted by Bidders shall remain unaltered.

24. CONTACTING THE COMPANY

- 24.1. From the time of Bid opening to the time of contract award, if any Bidder wishes to contact the Company on any matter related to the Bid, it should do so in writing.
- 24.2. Any effort by a Bidder to influence the Company and/or in the Company's decisions in respect of Bid evaluation, bid comparison or Contract Award, will result in the rejection of the Bidder's Bid.

25. COMPANY'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS

The Company reserves the right to accept or reject any Bid and to annul the Bidding process and reject all Bids at any time prior to award of Contract, without thereby incurring any liability to the affected Bidder or Bidders or any obligation to inform the affected Bidder or Bidders of the grounds for the Company's action.

26. AWARD OF CONTRACT

The Company will award the Contract to the successful Bidder whose Bid has been determined to be the lowest-evaluated responsive Bid, provided the Bidder has been determined to be qualified to satisfactorily perform the Contract. Company reserves the right to award order to other bidders in the tender, provided it is required for need of the work. The full or part of the contract may be awarded to other bidder(s) on differential rates.

27. THE COMPANY'S RIGHT TO VARY QUANTITIES

The Company reserves the right to vary the quantity i.e. increase or decrease the Numbers/ quantities without any change in terms and conditions before the award of Contract. Further BRPL may increase or reduce the area/ scale of operations / increase or decrease the Numbers/ quantities after the start of work execution under the contract and the size of contract / contract value shall be adjusted accordingly. In case of decrease in base resources decided mutually then contract value will be adjusted accordingly.

28. 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 successful for award of work/order.

The successful Bidder shall be required to furnish acceptance of LOI / notification of award within 7 days of issue of the letter of intent /Notification of Award by Company.

29. CORRUPT OR FRAUDULENT PRACTICES

29.1. The Company requires that the Bidders observe the highest standard of ethics during the entire period of work execution under the Contract. In pursuance of this policy, the Company:

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

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

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

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

29.2. Furthermore, It shall be the responsibility of the Bidders to read and understand & aware of the provision stated in the Terms and Conditions of tender before participating in the tender.

30. 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 Company's processing of Bids or award decisions may result in the rejection of the Bidder's Bid.

Section III**SPECIAL TERMS AND CONDITIONS OF CONTRACT**

- 1.1. Bidders are requested to visit the site to understand the scope of work, site conditions and requirements prior to Bidding. Hence, no price/time escalation shall be admissible on these accounts.
- 1.2. The scope of this tender includes supply , survey , design , engineering , manufacturer , shop testing , inspection , packing , dispatch , loading , unloading and storage at site, storage and construction insurance , assembly , erection , structural , complete pre-commissioning checks , testing and commissioning at site , obtaining statutory clearance & certification from state electrical inspector and handing over of Grid to owner on single point responsibility basis.
- 1.3. The scope includes supply of all barricading, free issued materials (including installation, transportation, loading & unloading), dewatering, watch and ward and transportation of scrap (generated at Site), balance free-issued material, dismantled material from site to BRPL store including loading & unloading and no additional charges shall be paid against these activities. Used barricading material will be taken back by bidder soon after job is handed over or as directed by BRPL Engineer-In-Charge (E-I-C). No additional cost for these items will be paid to the Bidder. Any leakage, pilferage and damage of the material shall be in vendor's scope.
- 1.4. Joints & Terminations installation shall only be done by OEM. No additional cost for this item will be paid to the Bidder. Contractor to provide all support to the Jointers for doing Joints & Terminations of Joint Kits.
- 1.5. Prices for all the activities shall be FIRM till the actual completion of the job. Statutory variation will be allowed for direct supplies only wherever breakup of Taxes & Duties are available in Price Bid. In case bidder has not submitted any price breakup, no variation on account of statutory variation shall be paid extra by BRPL.
- 1.6. There will be no price escalation given to bidder even if there is delay in the project due to ROW permission.
- 1.7. Permission from road owning agencies & statutory clearance for road cutting shall be taken by Bidder. The Bidder shall follow-up with local authorities and other connected persons that may require carrying out the job under this work order.
- 1.8. Electrical Inspector Clearance fees shall be in Bidder's scope. The related fees, payments and pursuance work shall be in scope of Bidder only.
- 1.9. Bidder has to submit the technical parameters with details of Spares for each rating with catalogue, reference codes etc.
- 1.10. Wherever BRPL specifications are not available relevant IS/IEC to be followed. All Drawings mentioned in the Tender Specification and other required for the completeness of the tender shall be submitted. Drawing submission process shall not be deemed complete if all the requirements are not complied during the submission of the same.
- 1.11. The bidder should have own testing equipment's/they have to provide like IR Tester, Hi Pot Test Kit, Earth Tester, etc with Calibration Certificates for testing.

- 1.12. The Bidder should have own Safety equipment like Neon Tester, Portable Earth, Earthing discharge rod etc. along with Calibration Certificates of all the equipment.
- 1.13. The Bidder should have all major tools and tackles required for installation, testing & commissioning works.
- 1.14. Bidder has to submit the item wise price bifurcation in bid. Un-priced copy must be attached with the Part A. Reverse Auction will be carried out on Lump sum Basis/Total Landed Cost i.e. Supply + ETC.
- 1.15. Any other material not specifically mentioned above but required for successful commissioning and operation is in the scope of bidder. Prior approval shall be taken from central engineering department before execution. Commercial approval shall be taken from C&M Department before execution.
- 1.16. Successful bidder has to adhere to the statutory compliance.
- 1.17. Successful Bidder has to depute the safety officer and quality officer separately at site for whole duration and they have to submit the safety report and quality report to BRPL E-I-C on weekly basis.
- 1.18. Successful bidder has to send the weekly progress report to BRPL EIC.
- 1.19. In case of any major deviation, deletion or addition which bidder may feel is relevant to this project & for its safe operation and completion of works; Bidder may clearly highlight and communicate the same to the purchaser with his bid.
- 1.20. Necessary Statutory Clearances from CEI of Delhi & any other authority for energizing shall be in the scope of this tender.
- 1.21. After commissioning of the complete system and final approval of Electrical Inspector & Compliance to punch points observed to the satisfaction of Projects as per statutory requirements, system shall be handed over to BRPL.

1.22. Guarantee period/Defect Liability period:

The Guarantee Period will be equipment/service/work specific and shall be as specified in the Technical Specifications for the equipment/material/service/work and where Technical specifications are not part of contract documents or guarantee period is not specified in the Technical specifications, the guarantee period shall be as per the Special Terms and Conditions of the Contract. In case of no mention of the guarantee period in Technical specifications, Defect liability period will be 24 Months from the Date of Commissioning or 30 months from the date of delivery of final lot of supplies made, whichever is later.

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

1.23. Failure during Guarantee Period:

If the equipment and material supplied/service or work rendered under the contract fails to perform its due, rated & intended quality performance, during the Guarantee period, the bidder is liable to undertake repair/rectify/replace the equipment and material supplied/service or work rendered under the contract

within time frame as specified below at bidder's cost to make the equipment and material supplied/service or work rendered under the contract of performing its due, rated and intended quality performance. If bidder fails to repair/rectify/replace the equipment or material supplied/service or work rendered under the contract, failed in Guarantee Period, purchaser will be at liberty to get the same done at bidder's risks and costs and recover all such expenses plus the purchaser own charges (@ 15% of expenses incurred), from the bidder or from the "Performance Bank Guarantee" as the case may be.

If during the Warranty/ Guarantee period some parts of the supplies are replaced owing to the defects/damages under the Warranty, the Warranty period for such replaced parts shall be until the expiry of twelve months from the date of such replacement or renewal or until the end of original Guarantee period, whichever is later.

- a) Service Engineer Availability to Attend, Identify & Restore Defects (Minor) of materials/Equipment's under Guarantee Period within 48 Working Hours (Exclusion of Material Support Cases)
- b) Spare Material Delivery for rectification of defect (Major) Under Guarantee Period within Two Weeks. Bidder must keep Requisite Inventory of Critical Spares & Other Equipments Covered in Guarantee Period to Restore Equipment within Two Weeks.
- c) In Case Of Complete Replacement of material, within a Period of 4 Weeks.

Note: BRPL is in the business of Power distribution and is committed to providing reliable and continuous power supply to its customers. In case of any fault in the system, BRPL's top most priority is to rectify the fault and restore the system as soon as possible and maintain the supply.

If during the defect liability period any fault occurs in the system due to faulty materials, design or workmanship, BRPL shall intimate the vendor of such occurrence for taking immediate corrective action.

However, if the situation, in BRPL's sole discretion warrants an emergency restoration, it reserves the right to take immediate action for identifying the fault and restoring the system with available resources & materials or with help from any other third party agency under intimation to the Vendor. All costs of replacement, substitution, shipping, labour and other related expenses including taxes and levies incurred in connection with the restoration of fault plus 15% of expenses incurred as administrative overheads shall be for the account of Vendor. BRPL will charge the vendor for the costs incurred for fault restoration or may set off such costs against any amounts payable by BRPL to the Vendor or deduct from the PBG submitted by the Vendor. Vendor shall pay BRPL the amount within 30 days.

Root cause analysis of the fault shall be done jointly by BRPL's CES & O&M teams and Vendor. In case the fault is due to any reason other than faulty materials, design or workmanship, Vendor shall be exempted from any further action or Cost.

1.24. All the bay equipment (i.e- LA, CT, PT, Disc Insulator, String, Suspension Insulator, Bushing etc.) shall be Polymeric type in the place of porcelain with creepage 31mm/kV. Rest of the parameter to be followed as per tech spec.

1.25. **PROJECT INFORMATION & COMPLETION**

The contractor shall be fully responsible to complete the project in time. It is desired that the project should be completed as per the schedule from the date of LOI or purchase order whichever is earlier.

The detailed completion schedule shall be prepared by vendor and shall be submitted at the time of detailed engineering for approval. Vendor has to submit the progress report fortnightly with this tender/as asked by the Purchaser.

1.26. PROJECT IMPLEMENTATION & EXECUTION CONTROL

The bidders are requested to submit the following along with the bid, about the project implementation & execution methodology.

- a) Write up/overview of project Plan
- b) Implementation Methodology
- c) Project Organization Chart for Representatives, Project Office & site office teams along with the functions.
- d) Bar Chart & Network Diagram (with critical path) for various activities to achieve scheduled completion.

SECTION IV
GENERAL TERMS AND CONDITIONS - SUPPLY

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

2.0 Definition of Terms

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

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

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

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

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

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

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

3.0 Contract Documents & Priority

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

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

4.0 Scope of Supply -General

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

4.02 Bidder shall have to quote for the Bill of quantities as listed herewith.

4.03 All relevant drawings, data and instruction manuals of supply of miscellaneous material shall be scope of bidder.

4.04 Qty Variation: The Bidder/purchaser reserves the rights to vary the quantity by (+/-) 30% of the supply of miscellaneous item quantity as listed below.

Supply of miscellaneous items –Breakup of Scope of Work**1. Breakup of Fire alarm System**

| 33 KV AIS Substation, DTC Srinivasapuri, Ambedkar nagar, Peeragarhi & Nangloi Grids | | | |
|--|---|---------------------|------------|
| Fire alarm System | | | |
| Sr No | Description | Unit | Qty |
| 1 | Fire alarm control panel, make- honeywell, Appolo , compatible to communication with RTU on Modbus, 230VAC supply | Nos | 1 |
| 2 | Manual call point , Break Glass type, with push button 24VDC | Nos | 2 |
| 3 | Optical smoke detector ,true ceiling | Nos | 19 |
| 4 | Heat detector , Heat sensitive resistance, 17-28 VDC operated | M | 1 |
| 5 | Hooter inside building, 24VDC , audio evacuation, alarm shall be actuated by control panel | Nos | 2 |
| 6 | Outdoor Hooter , IP65 , audio evacuation, alarm shall be actuated by control panel | Nos | 1 |
| 7 | Response indicator | Nos | 2 |
| 8 | FRLS control cable, 2Cx1.5 sqmm control cable, polycab/KEI (as per requirement) | LOT | 1 |
| 9 | PVC Conduit 25 MM and accessories , AKG/BEC Heavy duty(as per requirement) | LOT | 1 |
| 10 | Any other item required for successful commissioning of Fire alarm system has to be supplied and erected by vendor without any cost implication to BRPL | LOT(as per actual) | 1 |
| 11 | Training to BRPL Personal | LS | 1 |

2. Breakup of CCTV(VMS) System

| 33 KV AIS Substation, DTC Srinivasapuri, Ambedkar nagar, Peeragarhi & Nangloi Grids | | | |
|--|---|----------------------|------------|
| CCTV(VMS) System | | | |
| Sr No | Description | Unit | qty |
| 1 | 4MP bullet/dome camera with mounting for CRP, VCB room, Maintenance room , Staircase , Building outside area | Nos | 11 |
| 2 | 360 degree PTZ camera with support required for mounting | Nos | 1 |
| 3 | NVR (as per camera quantity)for 30 days recording | Nos | 1 |
| 4 | Furniture(1 table + 1 chair) for control room screen | Nos | 1 |
| 5 | 22" Full HD screen with HDMI | Nos | 1 |
| 6 | UPS for 30 minute backup | Nos | 1 |
| 7 | L2 POE network switch with rack | LOT (as per actual) | 1 |
| 8 | HDPE pipe 40 mm / PVC Conduit 25 MM , AKG/BEC Heavy duty | LOT (as per actual) | 1 |
| 9 | Cable (Video control/data, optical fibre and power supply),cable glands plugs connector and other accessories | LOT (as per actual) | 1 |
| 10 | Any other item required for successful commissioning of CCTV system has to be supplied by vendor without any cost implication to BRPL | LOT | 1 |
| 11 | Training to BRPL Personal | LS | 1 |

3. Breakup of Air Conditioners

| 33 KV AIS Substation, DTC Srinivasapuri, Ambedkar nagar, Peeragarhi & Nangloi Grids | | | |
|--|--|-------------|------------|
| Air Conditioners | | | |
| Sr No | Description | Unit | qty |
| 1 | 1.6Ton , 5 star Inverter AC of reputed make (Voltas, Bluestar, Daikin, Godrej, Hitachi ,LG etc) including all accessories required for commissioning. | Nos | 9 |

4. Breakup of Cable Sealing Solution

| 33 KV AIS Substation, DTC Srinivasपुरi, Ambedkar nagar, Peeragarhi & Nangloi Grids | | | |
|---|--|-------------|------------|
| Cable Sealing Solution | | | |
| Sr No | Description | Unit | Qty |
| 1 | Supply of cable sealing module comprising of (a) 33 Kv cable 3X400 mm ² , diameter 110mm Cable provision for 6nos existing cable + 6nos future, Total 12 nos cable, (b) provision for optical fibre cable module -- 6 nos + 2 Nos spare (c) Provision for 4X150/95/50 mm ² cable - 2nos + 1 no spare (d) provision for 4X300 mm ² cable, diameter 67 mm -- 2nos + 1 spare, (e) provision for 4X10/25 mm ² cable, Diameter 25-35 mm--- 5 nos spares | LOT | 1 |
| 2 | Training of BRPL Personal | LS | 1 |

4.05 Other petty and miscellaneous material required to execute the work at site shall be in the scope of bidder.

5.0 Quality Assurance and Inspection

- 5.01 Immediately on award of contract, the bidder shall prepare detailed quality assurance plan/test procedure identifying the various stages of manufacture, quality checks performed at each stage, raw material inspection and the Customer hold points. The document shall also furnish details of method of checking, inspection and acceptance standards / values and get the approval of Purchaser before proceeding with manufacturing. However, Purchaser shall have right to review the inspection reports, quality checks and results of suppliers in house inspection department which are not Customer hold points and the supplier shall comply with the remarks made by purchaser or his representative on such reviews with regards to further testing, rectification or rejection, etc. In case of standard items, BRPL shall forward the standard QAP which is to be followed by vendor during manufacturing.
- 5.02 Witness and Hold points are critical steps in manufacturing, inspection and testing where the supplier is obliged to notify the Purchaser in advance so that it may be witnessed by the Purchaser. Final inspection is a mandatory hold point. The supplier can proceed with the work past a hold point only after clearance by purchaser or a witness waiver letter from BRPL.
- 5.03 The performance of waiver of QA activity by Purchaser at any stage of manufacturing does not relieve the supplier of any obligation to perform in accordance with and meet all the requirements of the procurement documents and also all the codes & reference documents mentioned in the procurement document nor shall it preclude subsequent rejection by the purchaser.
- 5.04 On completion of manufacturing the items can only be dispatched after receipt of dispatch instructions issued by the Purchaser.
- 5.05 All in-house testing and inspection shall be done without any extra cost. The in-house inspection shall be carried out in presence of BRPL/BRPL authorized third party inspection agency. Cost of Futile/abortive visit(s) shall be debited from the invoices

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

6.0 Packing, Packing List & Marking

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

7.01 Price basis for supply of materials

Bidder has to quote their prices on Landed Cost Basis and quote separate price for each item.

FIRM prices for supply to BRPL Delhi/New Delhi stores inclusive of packing, forwarding, loading at manufacturer's premises, payment of all taxes, GST, Freight, any other local charges etc.

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

Transit insurance will be arranged by bidder.

8.0 Terms of payment and billing – SUPPLY

- a) 85 % against R/A bills for supply of equipment and materials within 30 days against receipt of material at site and submission of following documents duly certified by BRPL Project-in-charge:
- i. Consignee copy of LR
 - ii. Detailed invoice showing commodity description, qty, unit & total price,
 - iii. Original certificate issued by BRPL confirming receipt of material at site & acceptance
 - iv. Dispatch clearance & inspection report issued by the inspection authority
 - v. Packing List, Test Reports
 - vi. Guarantee Certificate.
- b) 10% pro-rata after installation/erection of equipment duly certified by BRPL Project-in-charge.
- c) 5% pro-rata after completion of successful acceptance testing, commissioning and handing over of the entire Installation and duly certified by BRPL Project-in-charge.

9.0 Price Validity

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

10.0 CONTRACT PERFORMANCE BANK GUARANTEE:

- 10.1 CONTRACTOR shall furnish the Contract Performance Bank Guarantee in the prescribed format (Appendix I) within 15 days from the date of issue of Order for due performance of the provisions of purchase Order.
- 10.2 The contract Performance Bank Guarantee shall be of 10% of the total value of order and shall be valid till the completion of defect liability period, plus three (3) months or latest RBI guidelines (if any) whichever is higher towards claim period, if not otherwise specified in agreement. This amount shall remain fixed during the currency of the agreement.
- 10.3 The CPBG shall be issued from any nationalized / scheduled bank as per company format.
- 10.4 The Company shall reserve the right to invoke the CPBG unconditionally and without recourse to the Contractor, if there is failure to perform any part of the Agreement for whatsoever reason. This clause is pertaining to performance of contractual obligations and the decision of Company shall be final in this regard.
- 10.5 In the event of any claim or any other outstanding Contractual obligations remaining unfulfilled, the Contractor shall be required to extend the CPBG till the settlement of all claims and completion of all Contractual obligations at the cost and consequences of contractor.
- 10.6 In the event, in Company's sole judgment, the Contractor has fulfilled all its obligations under this Agreement, The CPBG shall be released without any interest after the expiry of CPBG and its claim period as mentioned above.
- 10.7 If the CPBG is or becomes invalid for any reason (other than its expiry), the Contractor shall immediately notify the Company/BRPL and provide within five (5) days a replacement CPBG in the form set out in the Contract/Agreement.
- 10.8 Not later than sixty (60) Business Days before the expiry of the CPBG, the Contractor shall, upon request of the Company/BRPL obtain extension of the validity of such CPBG for the period stated in such request by the Company/BRPL and provide a copy of such renewed CPBG.
- 10.9 It is Contractor's responsibility to incur charges / cost to maintain and for extension of CPBG without claiming reimbursement from the company/BRPL.

11.0 Forfeiture

- 11.01 Each Performance Bond established under Clause 10.0 shall contain a statement that it shall be automatically and unconditionally forfeited without recourse and payable against the presentation by BRPL of this Performance Bond, to the relevant bank referred to above, together with a simple statement that supplier has failed to comply with any term or condition set forth in the Contract.
- 11.02 Each Performance BG established under will be automatically and unconditionally forfeited without recourse if BRPL at its sole discretion determines that supplier has failed to comply with any term or condition set forth in the contract.

12.0 Release

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

13.0 Guarantee of Performance

The bidder shall stand guarantee that the equipment and material supplied/service or work rendered under the contract is free from design, manufacturing, material, construction, erection & installation and workmanship & quality defects and is capable of its due, rated and intended quality performance, as an integrated product delivered under the contract for a specific period termed as Guarantee Period. The bidder should also guarantee that the equipment/material is new and unused except for the usage required for the tests and checks required as part of quality assurance.

14.0 Guarantee Period/Defects Liability Period

The Guarantee Period will be equipment/service/work specific and shall be as specified in the Technical Specifications for the equipment/material/service/work and where Technical specifications are not part of contract documents or guarantee period is not specified in the Technical specifications, the guarantee period shall be as per the Special Terms and Conditions of the Contract. In case of no mention of the guarantee period in Technical specifications, Defect liability period will be 24 Months from the Date of Commissioning or 30 months from the date of delivery of final lot of supplies made, whichever is later.

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

Cost of repairs on failure in Guarantee Period:

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

15.0 Latent Defect:

Hidden defects in manufacturing or design of the product supplied and which could not be identified by the tests conducted but later manifested during operation of the equipment are termed as latent defects. Bidder shall further be responsible for 'free replacement' for another period of FIVE years from the end of the guarantee period for any 'Latent Defects' if noticed and reported by the Purchaser.

16.0 Support beyond the Guarantee Period

The Bidder shall ensure availability of spares and necessary support for a period of at least 10 years post completion of guarantee period of equipment /technology supplied against this contract. BRPL shall be duly intimated by the Vendor of End of Life Support for the product /technology supplied at least 12 months in advance.

17.0 Return, Replacement or Substitution

BRPL shall give Supplier notice of any defective Commodity promptly after becoming aware thereof. BRPL may at its discretion elect to return defective Commodities to Supplier for replacement, free of charge to BRPL, or may reject such Commodities and purchase the same or similar Commodities from any third party. In the latter case BRPL shall furnish proof to Supplier of the cost of such substitute purchase. In either case, all costs of any replacement, substitution, shipping, labour and other related expenses incurred in connection with the return and replacement or for the substitute purchase of a Commodity hereunder should be for the account of Supplier. BRPL may set off such costs against any amounts payable by BRPL to Supplier. Supplier shall reimburse BRPL for the amount, if any, by which the price of a substitute Commodity exceeds the price for such Commodity as quoted in the Bid.

18.0 Effective Date of Commencement of Contract:

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

19.0 Time – The Essence of Contract

Time is the essence of the contract and the contractor shall be responsible for performance of his works in accordance with the specified schedule. If at any time, the contractor is falling behind the schedule for reasons attributable to him, he shall take necessary action to make good for such delays by increasing his work force or by working overtime or otherwise to accelerate the progress of the work and to comply with schedule timelines and shall communicate such actions in writing to the company, to the satisfaction of the Company that his action will compensate for the delays. The contractor shall not be allowed any extra compensation for such actions.

Time shall be the essence of the Contractor. Contractor shall complete his work in accordance with the specified time-lines/ Schedules as per the terms of the contract or as may be instructed by the Company from time to time..

20.0 The Laws and Jurisdiction of Contract:

The laws applicable to this Contract shall be the Laws in force in India. To the best of their ability, the parties hereto shall endeavor to resolve amicably between themselves all disputes arising in connection with this work order. If the same remain unresolved within thirty (30) days of the matter being raised by either party, either party may refer the dispute for adjudication by arbitration. The arbitration shall be undertaken by the sole arbitrator jointly appointed by the parties. In case the parties fail to arrive at consensus to appoint the sole arbitrator, either party may approach the Court for appointing an arbitrator under Section 11 of the Arbitration and Conciliation Act, 1996 and the award of the said sole arbitrator, shall be final and binding upon the parties. The arbitration proceeding shall be conducted in accordance with this provisions of the Indian Arbitration & Conciliation Act, 1996 (as amended up to date) and the venue of such arbitration shall be the city of New Delhi only. The Arbitration shall be conducted in English language only. The courts at Delhi shall have the exclusive jurisdiction over the subject matter of

Arbitration/dispute. The cost of the Arbitration shall be equally shared by the parties as per directions of the Sole Arbitrator.

21.0 Events of Default

21.01 Company may, without prejudice to any of its other rights or remedies under the Contract or in law, terminate the whole or any part of this Contract by giving written notice to the Contractor, if in the opinion of Company, contractor has neglected to proceed with the Contracts with due diligence or commits a breach of any of the provisions of this Contract including but not limited to any of the following cases:

- A) Failing to complete execution of Contract as per the terms and conditions specified in the Contract.
- B) Failing to complete Contracts in accordance with the approved schedule of Contract.
- C) Failing to comply with any reasonable instructions or orders issued by Company in connection with the Contract.
- D) Failing to comply with any of the terms or conditions of this Contract.
- E) In the event Company terminates this Contract, in whole or in part, on the occurrence of any event of default, Company reserves the right to engage any other vendor or agency to complete the Contract or any part thereof, and in addition to any other right Company may have under the Contract or in law including without limitation, including the right to penalize for delay under clause "Liquidated Damage" of this Contract, the contractor shall be liable to Company for any additional costs that may be suffered/borne by Company for the execution of the Contract.
- F) Failure on the part of the Contractor to maintain its confidentiality obligations and or compromising its integrity, which are required to be of highest standards, in so far as the present scope of work is concerned.

22.0 Consequences of Default

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

23.0 Liquidated Damages

23.01 In the event of any delay in completion of the work beyond the stipulated time given by in order due to reasons solely attributable to the Contractor, the Contractor shall pay to the Company liquidated damages.

If the Contractor failed perform the services within the time period specified in the order, the Company shall, without prejudice to its other remedies under the contract, deduct liquidated damages a sum equivalent to 2.0% of the billed amount of final work executed for each week or part there of delay until

the actual date of completion up to a maximum deduction of 20% of billed amount of final work executed. Once the maximum is reached to Company may consider termination of contract without any liabilities to Company.

In case the contractor has not mobilized / taking up the job as per the direction of Engineer In-charge, the company have all rights to cancel / re-allocate the work allotted to the contractor.

Engineer In charge should specifically mention the amount of LD levied on the bill of contractor for this job..

24.0 Statutory variation in Taxes and Duties

The total order value shall remain **FIRM** within stipulated delivery period and shall not be adjusted on account of any price increase/variations in commodities & raw materials. However Statutory Taxes, duties and Levies imposed by Competent Authorities by way of fresh notification(s) within the stipulated delivery period shall be borne by BRPL on submission of necessary documents claiming such variation. The variation will be applicable only on such value wherever price breakup of same is submitted by vendor/available in PO/WO

25.0 Force Majeure

25.01 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.

25.02 Specific Events of Force Majeure subject to the provisions of above clause, Events of Force Majeure shall include only the following to the extent that they or their consequences satisfy the above requirements:

- (i) The following events and circumstances:
 - a) Effect of any natural element or other acts of God, including but not limited to storm, flood, earthquake, lightning, cyclone, landslides or other natural disasters.
 - b) Explosions or fires.
- (ii) War declared by the Government of India, provided that the ports at Mumbai are declared as a war zone.

(iii) Dangers of navigation, perils of the sea.

25.03 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.

25.04 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.

25.05 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.

25.06 Termination for Certain Events of Force Majeure. If any obligation of any Party under the Agreement is or is reasonably expected to be delayed or prevented by a Force Majeure event for a continuous period of more than 1 (one) month during the Term of the Agreement, the Agreement shall be terminated at the discretion of the Company and neither Party shall be liable to the other for any consequences arising on account of such termination.

The Company reserves the right to demand the Contractor's services on holidays as well as beyond the normal working hours.

The Contractor will ensure that none of their person is engaged in any unlawful activities subversive of the Company's interest failing which suitable action may be taken against the Contractor as per the terms and condition of this order.

The Contractor shall be liable for payment of all taxes and duties as applicable, to the State/ Central Govt. or any local authority.

The Contractor's employees shall not be treated as Company's employees / persons for any purpose whatsoever & facilities/ benefits applicable to the Company's employees shall not be applicable to Contractor's employees. If due to any reasons whatsoever the Company is made liable to meet any

obligation under any of the laws & enactment etc, for any reason whatsoever the same shall be recovered from the Contractor either from the present and future amount payable to him or as per law.

26.0 Transfer and Sub-Letting

The Contractor shall not, without company's prior consent in writing assign or sublet or transfer any portion of services awarded to the Contractor as envisaged herein and falling under this contract. Moreover, any such consent shall not relieve the Contractor from any obligation, responsibility, or duty under this Contract.

27.0 Recoveries

When ever 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.

28.0 Waiver

No delay or forbearance by company in exercising any right or power under this Agreement shall be construed as a waiver of such right or power, nor shall any single or partial exercise of such right or power preclude any further exercise of such right of power.

29.0 Indemnification

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

30.0 Documentation

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

31.0 Commissioning Spares

Commissioning Spares shall be deemed to be included in the quoted prices

32.0 Limitation on Liability

32.1 The Contractor's liability (except Third Party Liability; covered under the agreement and addendums thereto) for all damages, losses, acts or omissions, howsoever occasioned, shall not, at any time exceed an amount equivalent to Contract Value.



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32.2 Notwithstanding anything stated in the agreement, the limitation of Liability shall not be available/applicable in case of wilful default/breach/negligent act/misconduct on the part of the Contractor and/or its employees.

33.0 Consequential Damages

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

SECTION VI**GENERAL TERMS & CONDITIONS - ERECTION, TESTING & COMMISSIONING****1. DEFINITIONS and INTERPRETATION**

The following terms shall have the following meanings:

1.1 "Company": means BSES Rajdhani Power Ltd, a company incorporated under the Companies Act 1956 and having its office at BSES Bhawan, Nehru Place, New Delhi 110 019, which expression shall include its authorized representatives, agents, successors and assigns.

1.2 "Contractor": shall mean the successful Bidder / vendor to whom the contract has been awarded

1.3 "Rate": The unit rates for the work to be carried out at site shall be as per finalized unit rates through tender. The finalized rates shall be firm for the entire duration of work to be carried out by the Contractor under the work order and are not subject to escalation for any reason whatsoever.

1.4. Contract Specification: The terms "Contract Specification" shall mean the Technical specification of the work as agreed by you and description of work as detailed in Annexure-I enclosed herewith and all such particulars mentioned directly/referred to or implied as such in the contract.

1.5 SITE: The terms "Site" shall mean the working location in BRPL area. Under this tender, working location shall be as mentioned elsewhere.

1.6 ENGINEER IN CHARGE: "Engineer In-charge" means the Company's authorized representative for the purpose of carrying out the work.

2. EXAMINATION OF SITE AND LOCAL CONDITIONS:

The contractor is deemed to have visited the site of the work and ascertained therefore all site conditions and information pertaining to his work. The company shall not accept any claim whatsoever arising out of the difficult site/terrain/local conditions, if any.

3. LANGUAGE AND MEASUREMENT:

The Contract issued to the contractor by the company and all correspondence and documents relating to the Contract placed on the Bidder shall be written in English language.

Metric System shall be followed for all dimension, units etc.

4. SCOPE OF WORK:

The scope includes survey, design, engineering, manufacture, shop testing, inspection, packing, dispatch, loading, unloading and storage at site, storage and construction insurance, assembly, erection, structural, complete pre-commissioning checks , testing and commissioning at site , obtaining statutory clearance & certification from state electrical inspector, Municipal Corporation department (if required), Fire Officer (if required), Horticulture department (if required), and handing over to owner after successful testing & Commissioning of 4 Nos. 33 kV AIS Substation at BRPL, New Delhi on single point responsibility basis. Schedule of work shall be as per BOQ attached herewith.

After completion of E/T/C work of the scheme, Bidder has to obtain the Electrical Inspectorate's Clearance from the Electrical Inspector of Delhi Govt. Electrical Inspector Clearance fees shall be in Bidder's scope. The related fees, payments and pursuance work shall be in scope of Bidder only.



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Bidder shall arrange any permission like road cutting clearance, if required, etc from the Delhi Civic authorities. The Bidder shall follow-up with local authorities and other connected persons that may be required to carry out the job under this work order.

All the labour, cranes, tool and tackles, and technical supervision etc. are including in your scope of work. Adequate number of engineers, supervisors and laborers shall be posted at site and the list of the same along with certificate of Qualification of technical staff should be submitted by the Bidder to the Engineer In Charge for checking the adequacy immediately (within seven days) after award of contract.

The Bidder shall also make his own arrangement for the accommodation/conveyance requirements for its staff at site. Company will be provided at site the adequate open space for Bidder's site store for storing the materials, tools, tackles etc. The entire Bidder's storage will be within the site premises. All the incoming and outgoing materials, equipment, tools, tackles and any other items related to said work shall be entered into the register kept for this purpose and shall be in the custody of Bidder, however company does not hold any responsibility for any loss or damage of Bidder's material etc.

All loading/unloading, of materials at work-site shall be Bidder's responsibility. Involvement of Crane/Hydra/Tractor/Trailer for this type of work shall be in your scope. Adequate weather protection shall be provided by the Bidder to keep the materials safe from sun & rain by providing covered storage space as well as using tarpaulins.

The Bidder at his own shall arrange Water and Electricity Power at his cost.

Major materials like Switchgear panels along with C&R Panels, ACDB, DCDB, Battery charger & battery bank etc. will be issued by BRPL as free issue item. However transportation of all free issue materials from BRPL stores to BRPL S/S, handling, safe storage till handing over of the installations shall be in the scope of the contractor.

Any additional work beyond the scope enumerated in the work order above shall be carried out as per the instructions of Engineer-In Charge. The company shall not entertain any claim or increase in the Work Order value due to execution of such additional work if the same is not approved by Engineer In Charge.

FREE ISSUES OF MATERIAL AND /OR EQUIPMENT:

The Purchaser issued Free Issue Material/Equipment to Vendor in order that Vendor may fulfill its obligations under the Agreement, shall remain the property of Purchaser and shall be clearly labelled as such by Vendor until handing over of the completed installations in accordance with the terms of the Agreement. Risk of loss in respect of all such Free Issue Items shall pass to Vendor upon receipt of such terms by Vendor and remain with Vendor until handing over of the completed installations to Purchaser in accordance with the terms of the Agreement. Vendor shall maintain all such Free Issue Items in good condition and shall use them solely in connection with the requirements of the Agreement.

Special Instruction:-

- a. CES shall consider completion certificate of different projects (which shall be submitted by bidders in support to PQR) as a performance certificate during tender evaluation.
- b. All Erection tools and tackles and testing equipment shall be available with Bidder in event of order.
- c. Penalty clause shall be incorporated in case any of workmen of Bidder is found violating safety protocol as per GCC-ETC LD Clause no 15.
- d. GTP & drawing approval before procurement & inspection of the ready material before dispatch shall be done by CES-BRPL.



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e. 1.1 Continuous Metal Barricades:-

1) Vendor shall demonstrate to BRPL Engineer in Charge, ready availability of Metal Barricades (With Specifications as per BSES Standards for continuous barricading) within 15 Days of Order Award. Barricades not conforming to BRPL specification shall be summarily rejected.

2) BRPL will permit Excavation only after Minimum Length of Barricades is made available at Site.

Minimum Length of Barricades: Must be equal to the Route Length of Cable Laying OR 600 MTR (2 Runs X 300 MTR), whichever is Lower. Thus:-

a) If Route Length of Cable Laying is < 600 MTR, then Min-m Length of Barricades to be made available at Site = Actual Route Length,

b) If Route Length of Cable Laying is > 600 MTR, then Min-m Length of Barricades to be made available at Site = 600 MTR

3) Non-compliance of above will lead to immediate termination of Contract and may also result in - a) Forfeiture of Security Money b) Disqualification from future Tender participation for a Min-m 1 Year Period ".

1.2 Sub: HDPE Pipes:

HDPE Pipes will be supplied by BRPL from its Stores as a free issue item. Vendor shall be responsible for -

a) Loading of Pipes at BRPL Store, Transportation to Site and its Watch and Ward.

b) Supply and erection of all accessories (Collars, Couplers, End caps etc.) required for erection of BRPL supplied HDPE pipes. No additional amount will be payable against Supply and erection of such accessories.

5. RATES:

The rates finalized for this order shall be firm for the entire duration of work carried out by the Bidder under the order and are not subject to any variation and escalation for any reason whatsoever.

The cost of insurance during loading/unloading of materials/ equipments during its storage and handling/erection at site for installation is included in the Bidder's scope and value shall be included in the unit rates finalized.

The unit rates finalized is also inclusive of barricading and watch & ward during execution and no separate charges shall be paid for the same.

6. TAXES AND DUTIES:

Prices are inclusive of all taxes and duties including GST as applicable. However, IT as per applicable rate will be deducted from your bills as Tax Deduction at Source (TDS).

The total order value shall remain **FIRM** within stipulated delivery period and shall not be adjusted on account of any price increase/variations in labour. However Statutory Taxes, duties and Levies imposed by Competent Authorities by way of fresh notification(s) within the stipulated delivery period shall be borne by BRPL on submission of necessary documents claiming such variation. The variation will be applicable only on such value wherever price breakup of same is submitted by vendor/available in PO/WO.

1. As Per Notification No. 39/2021 – Central Tax dated 21st December, 2021 w.e.f 01/01/2022 registered person (ie, Recipient/Purchaser) can avail tax credit on those invoices only which have been reflected in GSTR 2A or GSTR2B (it means 100% matching of invoice is required). Also, GST has to be deposited by Supplier/Contractor by filing of GSTR- 1 and GSTR-3B.



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2. In view of above, if the same is not complied with by the supplier/contractor and the Recipient/Purchaser is not in position to avail / utilize Input Tax Credit due to non-compliance or non-filing of GSTR-1 and GSTR-3B for the month/quarter (as applicable) in which the supply was made, then Recipient/Purchaser has right to hold 100% GST amount from next payment due of the subsequent month till the time default is not cured.

3. For releasing of the payment kept on hold on account of GST supplier shall submit payment proof i.e GST Portal screenshot reflecting name of Recipient/Purchaser alongwith GSTR-1 and GSTR-3B for month/quarter (as applicable) in which the same has been discharged. Payment shall not be released, till the time proof of payment of GST as mentioned above is not submitted.

4. Further, the recipient/purchaser shall also be entitled to recover any financial loss incurred (including tax, interest and penalty) due to non-compliance or non-filing of GSTR-1 and GSTR-3B by the supplier.

5. In case where delivery of goods is being made on FOR site basis, 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 due to seizure of goods shall attract liquidated damages as per Order / Contract provisions. "

7. TERMS OF PAYMENT (Erection, Testing & Commissioning)

Payment shall be made as under:

i) 85% pro-rata of total installation value shall be payable against R/A bills payable within 45 days after installation / erection of material at site duly certified by Engineer in charge.

ii) 10% pro-rata of total installation value shall be payable against R/A bills payable within 30 days after testing & commissioning of material at site.

iii) 5% of contract value payable after completion of successful acceptance testing, commissioning and handing over of complete systems duly certified by Engineer in charge, submission of Electrical Inspector Clearance Certificate.

The contractor shall submit the invoice along with the checklist duly filled in Invoice shall be processed and payment shall be made to contractor on certification of Engineer-In Charge for compliance to check point's given in check list.

8.CONTRACT PERFORMANCE BANK GUARANTEE:

8.1 Contractor shall furnish the CPBG in the prescribed format within 15 days from the date of issue of LOI / Work Order for due performance of the provisions of Work Order/Agreement.

8.2 The contract Performance Bank Guarantee shall be of 10% of the total value of order and shall be valid till the completion of defect liability period plus three (3) months or latest RBI guidelines (if any) whichever is higher towards claim period, if not otherwise specified in agreement. This amount shall remain fixed during the currency of the agreement.

8.3 The CPBG shall be issued from any nationalized / scheduled bank as per company format.

8.4 The Company shall reserve the right to invoke the CPBG unconditionally and without recourse to the Contractor, if there is failure to perform any part of the Agreement for whatsoever reason. This clause is pertaining to performance of contractual obligations and the decision of Company shall be final in this regard.

8.5 In the event of any claim or any other outstanding Contractual obligations remaining unfulfilled, the Contractor shall be required to extend the CPBG till the settlement of all claims and completion of all Contractual obligations at the cost and consequences of contractor.

8.6 In the event, in Company's sole judgement, the Contractor has fulfilled all its obligations under this Agreement, The CPBG shall be released without any interest after the expiry of CPBG and its claim period as mentioned above.

8.7 If the CPBG is or becomes invalid for any reason (other than its expiry), the Contractor shall immediately notify the Company/BRPL and provide within five (5) days a replacement CPBG in the form set out in the Contract/Agreement.

8.8 Not later than sixty (60) Business Days before the expiry of the CPBG, the Contractor shall, upon request of the Company/BRPL obtain extension of the validity of such CPBG for the period stated in such request by the Company/BRPL and provide a copy of such renewed CPBG.

8.9 It is Contractor's responsibility to incur charges / cost to maintain and for extension of CPBG without claiming reimbursement from the company/BRPL.

9. Guarantee of Performance

The bidder shall stand guarantee that the equipment and material supplied/service or work rendered under the contract is free from design, manufacturing, material, construction, erection & installation and workmanship & quality defects and is capable of its due, rated and intended quality performance, as an integrated product delivered under the contract for a specific period termed as Guarantee Period. The bidder should also guarantee that the equipment/material is new and unused except for the usage required for the tests and checks required as part of quality assurance.

10. Guarantee period/Defect Liability period:

The Guarantee Period will be equipment/service/work specific and shall be as specified in the Technical Specifications for the equipment/material/service/work and where Technical specifications are not part of contract documents or guarantee period is not specified in the Technical specifications, the guarantee period shall be as per the Special Terms and Conditions of the Contract. In case of no mention of the guarantee period in Technical specifications, Defect liability period will be 24 Months from the Date of Commissioning or 30 months from the date of delivery of final lot of supplies made, whichever is later.

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

11. COMPLETION PERIOD

You are required to mobilize your manpower and Tools & Tackles and furnish a list of equipments to be used for erection and commence the execution activity as per instructions of Engineer In-charge. The entire Erection, Testing & Commissioning work should be completed till 31/03/2024. The detailed schedule and milestone completion dates would be as per the contract schedules given from time to time by Engineer In-charge at site. You shall submit a weekly progress report to Engineer In charge.

12. CLEANLINESS & PRECAUTIONS TO BE TAKEN WHILE DOING WORK AT SITE TO PREVENT DUST POLLUTION

All debris shall be removed and disposed of at assigned areas on daily basis. Surplus excavated earth shall be disposed of in an approved manner. In short, the contractor shall be fully responsible for keeping the work site clean at all times. In case of non-compliance, company shall get the same done at Contractor's risk and costs.

While carrying out any civil work including road/ pit digging, plinth/ fence making, road restoration etc contractor shall adhere to below mentioned guidelines.

1. No construction material/ debris shall be stored on metalled road.
2. Wind breakers of appropriate height on all sides of ear marked area using CGI sheets shall be raised to ensure that no construction material dust fly outside ear marked area.
3. The construction material i.e. coarse sand, stone aggregates, excavated earth, cement and any other material to and from the site shall be transported under wet and covered condition to ensure their non-slippage en-route to avoid air contamination.
4. The contractor shall provide mask and helmet to every worker working on the construction site and involved in loading/unloading and carriage of construction material and construction debris to prevent inhalation of dust particles.
5. Over loading of vehicles shall be strictly prohibited
6. The construction material at site shall be stored under wet and covered condition.
7. The dumping sites for temporarily storing the excavated earth shall be properly levelled, watered and rehabilitated by plantation to avoid flying of dust.
8. The worker at the site shall be sensitized to adopt / observe the dust controlled measures in true spirit.
9. If any C&D waste is generated at site the same will be transported to the C&D waste site only and the record for the same will be maintained by the agency.
10. Wet jet in grinding and stone cutting is being permitted at site.
11. The necessary record for dust control is being maintained by the department on day to day basis and being monitored regularly.

GUIDELINES REGARDING INSPECTION & MAINTENANCE OF PITS/ DUG AREA WHILE DOING WORK AT SITE IN BRPL AREA

The contractor shall ensure strict compliance of the following directions:

- a) The sites of all manholes, pits, holes, tanks or any other opening in the ground of any kinds shall be regularly inspected and maintained.
- b) Schedule and protocols of inspections and maintenance shall be drawn up and notified to BRPL.
- c) These sites shall be cordoned off to render them inaccessible to the public.
- d) The existence of these sites shall be clearly & visibly marked by the display of signboards/signages.
- e) If they are required to be covered, it shall be ensured that the covers are in place.

The Execution vendors shall be responsible for all the preventive and protective environmental steps as per guidelines. Any violation from the above guidelines has been viewed very seriously by the authorities. Concerned agency is liable for the penalties / other action by the authorities, The Agency shall indemnify BRPL from all liabilities on this account.

All debris shall be removed and disposed of at assigned areas on daily basis. Surplus excavated earth shall be disposed of in an approved manner. In short, you shall be fully responsible for keeping the work site clean at all times. In case of non-compliance, company shall get the same done at Bidder's risk and costs.

13. COMMISSIONING & ACCEPTANCE TEST:

After completion of the work, the Bidder shall conduct trial run/ operation in the presence of Engineer In charge. During such trial run the system shall be operated under the supervision of the Bidder. If any rectification/modification required during this period the Bidder shall do all necessary measures.

On satisfactory completion of above, the system shall be deemed to have energized and placed in commercial operation. The Engineer-in-Charge will issue an acceptance certificate.

14. WORK COMPLETION CERTIFICATION, HANDING OVER.

The work carried out by the Bidder under this order has to be certified by Engineer In-charge for satisfactory completion of work allotted to the Bidder with respect to specifications / Field Quality Procedures as per applicable standards. In case of modification/correction to be carried out, Bidder shall carry out the said modifications/correction without additional cost. The Bidder shall remain in close contact with Engineer In-Charge at site to report the general findings of the fieldwork during the initial as well as later stage of the work at site.

The Bidder shall be solely responsible for any shortage or damage of materials issued to them handling of and / or in storage and erection at site and cost of the same will be recovered from the Bidder as certified by Engineer In-Charge. Bidder must submit a periodical material reconciliation statement in the approval format with every Running Bill raise by him or end of every month whichever is earlier. The Bidder shall maintain an accurate and exhaustive record detailing out the list of all items received by him for the purpose of erection and keep such record open for the inspection of the company.

15. PENALTY AND LIQUIDATED DAMAGES

15.1 Penalty: A penalty of 2.5% of bill amount shall be levied in each case of non-compliance of safety practices and site cleanliness.

15.2 Liquidated Damages: In the event of any delay in completion of the work beyond the stipulated time given by in order due to reasons solely attributable to the Bidder, the Bidder shall pay to the Company liquidated damages.

If the Bidder failed perform the services within the time period specified in the order, the Company shall, without prejudice to its other remedies under the contract, deduct liquidated damages a sum equivalent to 0.5 % of the total order value for each week or part there of delay until the actual date of completion up to a maximum deduction of 10% of total order value. The levy payment or deduction of such damages shall not relieve the Bidder from his obligation to complete the Works on time or from any other part of his obligation and liabilities under the Contract. Once the maximum is reached, the Company reserves the right for termination of contract without any liabilities to the Company.

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

Engineer In charge should specifically mention the amount of LD levied on the bill of Bidder.

16. SAFETY REGULATIONS & SAFETY CODE:

The Bidder shall indemnify the Company from any consequence arising due to Bidder's failure in respect to safety compliance.

First Aid facilities at easily accessible place shall be provided by the Bidder at his own cost as per provisions of Labor act or as advised by the Company wherever works are carried out.

All critical injuries shall be reported promptly to the Company. The report shall cover type, nature, cause, physician's report and actions for prevention of those types again.

To ensure effective enforcement of the rules and regulations relating to safety precautions, arrangements made by the Bidder shall be open to inspection by the Company.

The cost so incurred by the Bidder in providing for safety standards and requirements as above shall be deemed to be included in the rates quoted for various items under the scope of Contract and no extra amounts shall be payable to the Bidder on this account.

The Bidder shall furnish to the Company within seven days from issue of Work Order whichever is earlier, for approval of Company, the proposed safety program on how it intends to implement the safety procedures and precautions to ensure that the site is accident free.

The Bidder shall ensure adequate safety precautions at site as required under the law of the land and shall be entirely responsible for the complete safety of their workman as well as other workers at site and premises. The Bidder shall not deploy any worker below the age of 18 years.

The Bidder shall observe the safety requirements as laid down in the contract and in case of sub-contract (only after written approval of company), it shall be the responsibility of main Bidder that all safety requirements are followed by the employees and staff of the sub-vendor.

The Bidder employing two hundred employees or more, including contract workers, shall have a safety coordinator in order to ensure the implementation of safety requirements of the contract and a Bidder with lesser number of employees, including contract workers, shall nominate one of his employees to act as safety coordinator who shall liaise with the safety officer on matters relating to safety and his name shall be displayed on the notice board at a prominent place at the work site.

The Bidder shall be responsible for non-compliance of the safety measures, implications, injuries, fatalities and compensation arising out of such situations or incidents.

In case of any accident, the Bidder shall immediately submit a statement of the same to the owner and the safety officer, containing the details of the accident, any injury or causalities, extent of properly damage and remedial action taken to prevent recurrence and in addition, the Bidder shall submit a monthly statement of the accidents to the owner at the end of each month.

17. STATUTORY OBLIGATIONS:

The Contractor shall ensure the due compliance of all the applicable statutory acts, including but not limited to the following acts, where special attention of the Contractor is required to be drawn towards the compliance of provision (along with the latest amendments/additions) including any statutory approval required from the Central/State Governments, Ministry of Labour.

- The Child Labour (Prohibition and Regulation) Act, 1986.
- The Agreement Labour (Regulation and Abolition) Act, 1970.
- The Employee's Pension Scheme, 1995.
- The Employee's Provident Funds and miscellaneous provisions Act, 1952.
- The Employees State Insurance Act, 1948.
- The Industrial Disputes Act, 1947.
- The Maternity Benefit Act 1961.
- The Minimum Wages Act, 1948.
- The Payment of Bonus Act, 1965.
- The Payment of Gratuity Act, 1972.
- The payment of Wages Act, 1936.
- The Delhi Shops & Establishment Act, 1954.
- The Workmen's Compensation Act. 1923.
- The Company's Liability Act, 1938.
- The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013
- The Delhi Preservation of Trees Act 1994



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Further the Contractor shall be liable to comply with all the amendment in existing acts / upcoming new comprehensive labour acts/codes related to applicable labour laws.

The Contractor shall, prior to commencement of the jobs under this agreement, furnish to the Company the Registration No and Codes of permanent Provident Fund and ESI of its employees.

Contractor shall bear the entire responsibility, liability and risk relating to coverage of its workforce under different statutory regulations including Workmen's Compensation Act, ESI Act, Factories Act 1948, the Agreement Labour (Regulation and Abolition) Act 1970, as amended from time to time, and any other relevant laws/regulations as the case may be. Contractor shall also be solely responsible for the payment of all benefits such as Provident Fund, Bonus, Retrenchment Compensation, leave etc. applicable as per the various statutory laws/regulations and shall keep the Company indemnified in this regard against any claim. The Company shall be entitled to deduct from any money due to or become due to Contractor, any money paid or payable by way of compensation as aforesaid or cost or expenses in connection with any claims thereto and Contractor shall abide by the decision of the Company as regards the sum payable by Contractor under the provisions of this clause

The Contractor shall obtain all registration/permissions licenses etc., which are/may be required under any labour or other legislations for providing the services under this Agreement.

In case it is desired by any Labour authorities to produce the records with respect to salary/ PF/ESI/EDIL/Bonus etc., the said record/register will be made available by the Contractor.

The contractor shall follow all law of the land and prevailing orders issued by various Govt. Departments like Dept. of Power / DERC/ NGT/Dept. of Forest/ Dept. of Environment / DPCB / CPCB/ Court orders etc.

18. WORKMAN COMPENSATION:

The Contractor shall take insurance policy under the Workman Compensation Act to cover such workers who are not covered under ESI and PF by the Bidder however engaged to undertake the jobs covered under this order and a copy of this insurance policy will be given to Company for reference and records. This insurance policy shall be kept valid at all times. In case there are no worker involve other than those who are covered under ESI and PF by the Bidder, the Bidder shall certify for the same.

The Bidder shall keep the company indemnified at all times, against all claims of compensation under the provision of Workmen Compensation Act 1923 and as amended from time to time or any compensation payable under any other law for the time being workman engaged by the Bidder/sub-contractor/sub-agent in carrying out the job involved under this work order and against costs and expenses, if any, incurred by the company in connection therewith and without prejudice to make any recovery.

The company shall be entitled to deduct from any money due to or to become due to the Bidder, moneys paid or payable by way of compensation as aforesaid or cost or expenses in connection with any claims thereto and the Bidder shall abide by the decision of the Company as to the sum payable by the Bidder under the provisions of this clause.

19. STAFF AND WORKMAN

It shall be responsibility of Bidder

(a) To obtain Contract Labour License from the concerned authorities and maintain proper liaison with them. Necessary Forms for obtaining Labour License would be issued by the company. However you will bear all



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expenses for obtaining Labour license and registration in PF Department for your scope of work. You will deposit PF of your staff/laborer each month and all related documents should be furnished to us.

b) To obtain workman insurance cover against deployment of workers etc.

(II) To maintain, proper records relating to workmen employed, in the form of various Registers, namely,

- a) Register of workmen.
- b) Register of muster roll.
- c) Register of overtime.
- d) Register of wages.
- e) Any other register as per latest amendment Labour Act.

The records shall be in the prescribed formats only.

(III) To disburse monthly wages to your workers/ supervisors in time and in the presence of Company representatives or as directed by the Labour authorities.

(IV) To maintain proper liaison with the Project authorities, local police and all other government and local bodies.

(V) To pay your workmen at least not less than the minimum prescribed wages as per state/Central Labour laws as may be, applicable. The Bidder shall, be responsible for compliance of all the provisions of minimum Wages Act, PF, ESIC Act workmen Compensation Act and Contract Labour Regulation & Abolition Act the rules made there under. In case of non-compliance of the statutory requirements, the company would take necessary action at the risk and cost of the Bidder.

(VI) To employ required number of skilled/semi-skilled and unskilled workmen as per site requirement to complete the entire project as per schedule. To provide safety shoes, safety helmets, safety belts, gloves etc. to your worker/staff as per requirement during erection work.

(VII) To employ necessary engineering and supervisory staff for completion of the Project in time. While day-to-day management of the site and supervision of the works shall be the responsibility of your Engineer - In charge, he will report to the Engineer in charge to assist him to discharge the overall responsibility of the execution of the project.

20. INSURANCE

The contractor shall take suitable insurance policy for its men and materials (Term Insurance for life , GPA, Mediclaim policy, Workmen Compensation Policy etc.)as listed below for the resources deployed by him

- a) **Term Insurance for life:**
Before commencing the execution of the work the Contractor shall take Term Insurance Policy for life for the staff engaged/deployed by them for the work under agreement, to insure against any loss of life which may occur during the agreement for the work of the Company. The policy shall have coverage of Rs. 10 Lakh.
- b) **Group Personal Accident Insurance:**
Before commencing the execution of the work the Contractor shall take Accidental insurance policy for the staff engaged/deployed by him for the work under agreement, to insure against any loss of life which may

occur during the agreement for the work of the Company. The policy shall have coverage of Rs. 5 Lakh (Table C Death + Permanent Total Disability + Partial permanent Disability due to external accidents). Permanent total disability coverage shall be 125% of the basic sum assured of Rs 5 Lakh.

The Contractor shall be responsible for on the spot same day claim settlement with the victim's legal heirs without waiting for settlement by insurance claim and without any liability on BRPL. The premium amount for both the above policies shall be borne by the Contractor. The Contractor shall furnish copy of policy within 15 days of start of work under the contract.

c) Medical Insurance Policy:

Contractor shall take a mediclaim policy including family floater of minimum sum assured value Rs. 2.00 lakhs for the resources who are not covered under ESI.

d) Comprehensive Marine Storage cum Erection insurance policy:

Company shall take at his own cost Comprehensive Marine Storage cum Erection insurance policy for the total work. However, Contractor shall take at his own cost third party insurance and other suitable insurance policy for his own men and materials. Please note that these insurance policies shall be taken in consultation with the company and a copy of the such insurance policies shall have to be furnished to company within 15 days of the date of LOI/Order.

e) For all the insurance policies (whether taken by the Company or Contractor), the Contractor shall be responsible for settlement of claims with the underwriters without any liability on the company and will arrange replacements / rectification expeditiously without a waiting settlement of insurance claim, at contractor's own cost and this shall not entitle the Contractor for any extension of time.

21. SECURITY

Adequate number of trained Security Guards shall be deployed both at the storage yard and stores as well as places of work to prevent theft and pilferage of material and accessories and various other materials. All security rules and safety rules enforced at site by company shall be strictly observed.

22. ENVIRONMENTAL, HEALTH & SAFETY PLAN:

Contractor will make ensure that the Environment, Health & Safety (EHS) requirements are clearly understood and faithfully implemented at all levels at site as per instruction of Company.

Contractors must comply with these requirements:

- a) Comply with all of the elements of the EHS Plan and any regulations applicable to the work
- b) Comply with the procedures provided in the interests of Environment, Health and Safety
- c) Ensure that all of their employees designated to work are properly trained and competent
- d) Ensure that all plant and equipment they bring on to site has been inspected and serviced in accordance with legal requirement and manufacturer's or suppliers' instructions
- e) Make arrangements to ensure that all employees designated to work on or visit the site present themselves for site induction prior to commencement of work
- f) Provide details of any hazardous substances to be brought onsite
- g) Ensure that a responsible person accompanies any of their visitors to site

All contractor's staff are accountable for the following:

1. Use the correct tools and equipment for the job and use safety equipment and protective clothing supplied, e.g. helmets, goggles, ear protection, etc. as instructed
2. Keep tools in good condition
3. Report to the Supervisor any unsafe or unhealthy condition or any defects in plant or equipment
4. Develop a concern for safety for themselves and for others
5. Prohibit horseplay
6. Not to operate any item of plant unless they have been specifically trained and are authorized to do so.

18.1 Measures related to the Tree Pruning, excavation near tree and construction & demolition:

Notwithstanding anything stated in the tender document, work contract or any other communication issued related to the performance of the work order awarded, it is clarified that the vendor and its associate/employees/worker, during the performance of work under this work order(s), shall ensure full compliance of the provisions of all environment laws/rules/directions by any authority including judicial authority/ regulation related to excavation near tree and construction & demolition activity, and shall mandatorily comply the following instructions:

- A. Tree Pruning, Planning, Installation and Maintenance of Utility Apparatus in proximity to trees shall be done mandatorily by ensuring the following prescribed measures:
 - 1) No excavation work shall be done within two (2) meters of the Tree Trunk.
 - 2) Any exposed roots beyond 2 meters of the tree trunk, should be protected with dry sacking and backfilling must be done with a suitable manure mixture and/or the compost material mix as soon as possible on the completion of the works.
 - 3) For any excavation to be carried out beyond the prescribed distance of 2 meters but within 3 meter from the tree trunk, manual methods (by use of hand) or by using trenchless techniques shall be preferred over use of a mechanical excavation.
 - 4) No roots shall be cut during the excavation work.
 - 5) Not to lean any materials against or chain mechanical plants to the trunk of the trees.
 - 6) Avoid any soil contamination from oil, gasoline, paint and paint thinner or other chemicals.
 - 7) No concrete or construction or repairing work shall be done at least within two (2) meter radius of the trunk of trees.
 - 8) All the electric wires and high tension cables and other apparatus relating to supply of electricity shall permanently be removed from the trees branches.

Records to be maintained by the supervisor to demonstrate adherence to the guidelines for excavation in Proximity to the Trees:

- 1) Ensure pre and post photography and videography of the site demarcated for the excavation work and the same shall not be deleted/removed until securing the prior permission of the Circle head O&M.
- 2) While digging and upon exposure to the roots- take immediate photographs of the same and report the matter to senior officers for further guidance.
If any unauthorized layering of other cables is being carried out at the digging site by some other agency/person, then immediately capture photographs of the same and inform the seniors, who shall take suitable legal actions, if required, which includes intimating to tree officer about such unauthorized laying of wires by such agency.

B. DUST MITIGATION MEASURES FOR CONSTRUCTION & DEMOLITION ACTIVITIES

Any construction/demolition/excavation related activity performed in furtherance of the performance of work under award, be undertaken only after ensuring the Dust Mitigation Measures prescribed as follows:

- 1) Dust/wind breaking walls of appropriate height around the periphery of the construction site.
- 2) Installation of Anti Smog Gun(s) (for >20,000 m² built up area).
- 3) Tarpaulin or green net on scaffolding around the area under-construction and the building.
- 4) All vehicles including carrying construction material and construction debris of any kind should be cleaned and wheels washed.
- 5) All vehicles carrying construction material and construction debris should be fully covered and protected.
- 6) All construction debris and construction material of any kind should be stored on the site and not dumped on public roads or pavements.
- 7) No loose soil or sand or Construction & Demolition Waste or any other construction material which may cause dust, shall not be left uncovered.
- 8) No grinding and cutting of building materials in open area. Wet jet should be used in grinding and stone cutting.
- 9) Unpaved surfaces and areas with loose soil should be adequately sprinkled with water to suppress dust.
- 10) Roads leading to or at construction sites must be paved and blacktopped i.e., metallic roads (for >20,000 m² built up area).
- 11) Construction and demolition waste should be recycled on-site or transported to authorized recycling facility and due record of the same should be maintained.
- 12) Every worker working on construction site and is involved in loading, unloading and carriage of construction material and construction debris should be provided with dust-mask to prevent inhalation of dust particle.
- 13) Arrangement should be provided for medical help, investigation and treatment to workers involved in the construction of building and carry of construction material and debris relatable to dust emission.

14) Dust mitigation measures shall be displayed prominently at the construction site for easy public viewing.

15) Ensure the compliance of all dust control measure.

It is clarified that BRPL has zero tolerance with respect to the non-compliance/breach of environment laws/rules/directions by any authority including judicial authority/ regulation. Accordingly, in case of breach by the vendor/its associate/employee/worker to the laws/rules as detailed above, shall be termed as serious breach to the terms of work order and BRPL shall be free to take all actions against vendor for such breach of contract including the termination of the said contract. Additionally, the vendor shall also be liable to indemnify BRPL/its Directors/Officers/Employees/Associates in full including the payment of all loss/penalties/compensation including environment compensation as imposed by any judicial/quasi-judicial citing/alleging such breach.

The vendor shall also be under a mandate to provide an Undertaking to BRPL, which includes that the excavation, tree pruning, construction and demolition work, if performed by such vendor, the same shall be in strict adherence of all environment laws/rules/directions by any authority including judicial authority/ regulation and all the measures provided in work order/tender under the head/title "Measures related to the Tree Pruning, excavation near tree and construction & demolition".

Format 1

Undertaking from the _____(Vendor- undertaking the excavation work)

I _____, Proprietor of M/s _____, having R/o. at _____

Has been awarded a work order no. _____, dated _____, from BSES Rajdhani Power Limited (BRPL), to carry out digging/excavation work on the stretch of road detailed in the work order.

Details of the Road cutting permission are RCP no. _____ dated _____ valid from _____ to _____ on the stretch of road detailed in the work order.

I have read the Guidelines on Excavation (as enclosed) and understood the same in sense and spirit. I assure that I shall abide with the said guidelines along with the all other provision associated with laws relating to laying of cables under the said work order.

I do hereby undertake that I shall be fully responsible for any violation of any kind and shall be liable for any cost consequences, penalty, liability, damages if imposed by any authority court citing/disputing the performance of the task.

I further undertake to indemnify BRPL its officers, directors, employees and associates from any cost consequences, penalty, liability, damages if imposed by any authority court citing/disputing the performance of the task.

I do hereby agree and confirm that forming a part of work order/agreement and breach of this undertaking shall be termed as breach of the terms of the said work order/agreement.

I have read and understood the terms of this undertaking and submitting this undertaking out of my own accord and without any coercion.

23. TEST CERTIFICATE & QUALITY ASSURANCE:

The Bidder shall procure all equipment from genuine sources as approved by the Company and as per Company specifications. The Bidder shall submit all the test certificates and joint inspection reports related to major equipment wherever applicable. The Bidder shall ensure for the strict compliance to the specifications and Field Quality Procedures issued by company / Engineer in-charge.

24. SUB-CONTRACTING / SUBLETTING:

BIDDER shall not assign or transfer the whole or any part of this Work Order or any other benefits accruing there from nor shall it subcontract / sublet the whole or any part of the Works without the prior written consent of COMPANY.

In the event the Bidder assigns this work order, Bidder's assignees shall be bound by the terms and conditions of this work order and shall, if deemed necessary by COMPANY at the time of such assignment, undertake in writing to be so bound by this Work Order.

Notwithstanding the subletting / subcontracting of any portion of the works, Bidder shall remain wholly responsible for the carrying out, completion and satisfactory execution of Works in all respects in accordance with this Work Order, specification, approved drawings and data sheets.

25. INDEMNITY:

Bidder shall indemnify and save harmless COMPANY against and from any and all liabilities, claims, damages, losses or expenses arising due to or resulting from:

- A. Any breach non-observance or non-performance by Bidder or its employees or agents of any of the provisions of this Work Order.
- B. Any act or omission of Bidder or its employees or agents.
- C. Any negligence or breach of duty on the part of Bidder, its employees or agents including any wrongful use by it or them of any property or goods belonging to or by COMPANY or any other third party at site including adjoining neighbors.

Bidder shall at all times indemnify COMPANY against all liabilities to other persons, including the employees or agents of COMPANY or Bidder for bodily injury, damage to property or other loss which may arise out of or in consequence of the execution or completion of Works and against all costs charges and expenses that may be occasioned to COMPANY by the claims of such person.

26. EVENTS OF DEFAULTS:

COMPANY may, without prejudice to any of its other rights or remedies under the Work Order or in law, terminate the whole or any part of this Work Order by giving written notice to the Bidder, if in the opinion of COMPANY, Bidder has neglected to proceed with the works with due diligence or commits a breach of any of the provisions of this work order including but not limited to any of the following cases:

- a) Failing to complete execution of work within the terms specified in this work order.
- b) Failing to complete works in accordance with the approved schedule of works.
- c) Failing to meet requirements of specifications, drawings, and designs as approved by COMPANY.

- d) Failing to comply with any reasonable instructions or orders issued by COMPANY in connection with the works.
- e) Failing to comply with any of the terms or conditions of this work order.

In the event COMPANY terminates this work order, in whole or in part, on the occurrence of any event of default, COMPANY reserves the right to engage any other sub-vendor agency to complete the work or any part thereof, and in addition to any other right COMPANY may have under this work order or in law including without limitation the right to penalize for delay under clause 15.0 of this tender, the contractor shall be liable to COMPANY for any additional costs that may be incurred by COMPANY for the execution of the Work.

Failure on the part of the Contractor to maintain its confidentiality obligations and or compromising its integrity, which are required to be of highest standards, in so far as the present scope of work is concerned.

27. RISK & COST:

If the Contractor fails to execute the work as per specification/Agreement/as per the direction of Engineer-in-change within the scheduled period and/or even after the extended period, the company shall be having the right to cancel/terminate the agreement and the company reserves the right to get the work executed from any other source at the Risk & Cost of the Contractor. The Extra Expenditure so incurred shall be debited to/recovered from the Contractor.

28. ARBITRATION:

To the best of their ability, the parties hereto shall endeavor to resolve amicably between themselves all disputes arising in connection with the proposed Agreement. If the same remain unresolved, within fifteen (15) days of the matter being raised by either party, either party may refer the dispute for settlement by arbitration. The arbitration to be undertaken by a sole arbitrator to be appointed by the company. The decision of the arbitrator is final and binding upon both the parties. The arbitration proceeding shall be conducted in accordance with the provisions of the Indian Arbitration & Conciliation Act, 1996 and the venue of such arbitration shall be New Delhi only.

29. FORCE MAJEURE:

29.1 General:

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

(i) Such event or circumstance, despite the exercise of reasonable diligence, could not have been prevented, avoided or reasonably foreseen by such Party;

(ii) 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 parties ability to perform its obligations under this Contract and to mitigate the consequences thereof. 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.



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(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; and

(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

29.2 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:

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, and
- b) Explosions or fires
- c) Declaration of the Site as war zone.
- d) Any order, regulation, directive, requirement from any Governmental, legislative, executive or judicial authority.

29.3 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 2 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.

29.4 Mitigation of events of force majeure:

The Bidder 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 applying other ways in which to perform 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 Keep the Company informed at regular intervals of the circumstances concerning the event of Force Majeure,



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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.

29.5 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 Contract. 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.

29.6 Terminations for certain events of force majeure:

If any obligation of any Party under the Agreement is or is reasonably expected to be delayed or prevented by a Force Majeure event for a continuous period of more than 1 (one) month during the Term of the Agreement, the Agreement shall be terminated at the discretion of the Company and neither Party shall be liable to the other for any consequences arising on account of such termination.

The Company reserves the right to demand the Contractor's services on holidays as well as beyond the normal working hours.

The Contractor will ensure that none of their person is engaged in any unlawful activities subversive of the Company's interest failing which suitable action may be taken against the Contractor as per the terms and condition of this order.

The Contractor shall be liable for payment of all taxes and duties as applicable, to the State/ Central Govt. or any local authority.

The Contractor's employees shall not be treated as Company's employees / persons for any purpose whatsoever & facilities/ benefits applicable to the Company's employees shall not be applicable to Contractor's employees. If due to any reasons whatsoever the Company is made liable to meet any obligation under any of the laws & enactment etc, for any reason whatsoever the same shall be recovered from the Contractor either from the present and future amount payable to him or as per law.

30. SECRECY CLAUSE:

The technical information, drawing and other related documents forming part of work order and the information obtained during the course of investigation under this work order shall be the Company's executive property and shall not be used for any other purpose except for the execution of the work order. The technical information drawing, records and other document shall not be copied, transferred, or divulged and/ or disclosed to third party in full/part, not misused in any form whatsoever except to the extent for the execution of this work order.

This technical information, drawing and other related documents shall be returned to the Company with all approved copies and duplicates including drawing/plans as are prepared by the Bidder during the executions of this work order, if any, immediately after they have been used for agreed purpose.

In the event of any breach of this provision, the Bidder shall indemnify the Company against any loss, cost or damage or claim by any party in respect of such breach.

The Contractor shall not use the name/logo/emblem of the Company in any manner either for credit arrangement or otherwise and it is agreed that the Company shall not in any way be responsible for the debts, liabilities or obligations of the Contractor and/or his employees.

The Contractor hereby covenant that the Contractor shall be responsible for theft, if any committed, by his staff and the Contractor shall indemnify Company from and against all claims, demands, actions, suits and proceedings, whatsoever that may be brought or made against the Company by or on behalf of any person, body, authority whatsoever and whomsoever and all duties, penalties, levies, taxes, losses, damages, costs, charges and expenses and all other liabilities of whatsoever nature which the Company may be liable to pay, incur or sustain by virtue of or as a result of the performance or non- performance or observance or non- observance by the Contractor of any of the terms and conditions of this agreement. The Company shall have full power and rights at its discretion to pay or defend or compromise any suits, claims or demands brought or made, whether pending or threatened touching upon this agreement as it may consider necessary or desirable and shall be entitled to recover from the Contractor all sums of money including all legal costs, charges and expenses incurred by virtue of any such compromises which shall not be called into question by the Contractor but shall be final and binding on the Contractor.

Contractor shall submit signed NDA as per the format 4.3 attached.

31. TERMINATION

31.1 TERMINATION BY COMPANY FOR NON PERFORMANCE

During the course of the execution, if at any time the Company observe and forms an opinion that the work under the order is not being performed satisfactory and the performance of the Contractor not found satisfactory, the Company reserves its right to cancel/ terminate this Agreement giving 30 days' notice without assigning any reason and the Company will recover all damages including losses occurred due to loss of time from the Contractor. After termination of the agreement, the Contractor shall immediately stop all activities related to the work terminated. This is without prejudice to other rights under the terms of contract. The Contractor shall hand over the Company all drawing/documents prepared for this contract up to the date of cancellation of order.

31.2 PREMATURE TERMINATION

The order can be terminated by the Company before the expiry of its term under the following conditions:

- (i) The Contractor repudiates this order or otherwise evidences intention not to be bound by this order;
- (ii) The Contractor assigns, mortgages, or charges or purports to assign, mortgage, or charge any of its obligations or rights in contravention to the provisions of this order; or, transfers or negates any of its obligations in contravention to the provisions of this order.
- (iii) The Contractor breaches the Secrecy/Non-disclosure Clause/Confidentiality obligations.
- (iv) If at any stage during the tenure of the work order, Contractor is found to be involved or indulging or even attempting illegal, unlawful action or activities or some fraudulent or even trying to take or ask bribe from any customer or to give bribe official/staff or misuse or abuse any meter or property of the Company.
- (v) The Company shall be entitled to deduct from any money due or to becomes due to the Contractor, money paid or payable by way of compensation as aforesaid or cost or expenses in connection with any claims thereto. The Contractor shall abide by the decision of the Company as to the amount payable by the Contractor under the provision of this clause.

31.3 TERMINATION BY COMPANY FOR CONVENIENCE

The Company shall, in addition to any other right enabling it to terminate the Contract, have the right to terminate the Contract at any time without assigning any reason, by giving a written notice of minimum 30 days to the Contractor. The Contract shall stand terminated on the date as per the notice but such termination shall be without prejudice to the rights of the Parties accrued on and before the date of termination.

32. QUALITY

Contractor shall ensure that strict quality is maintained in the Performa and execution of works under this Work Order and Works are executed in conformity with the Specification.

All tools, tackles, instruments and other equipments used in the execution of the Works shall be duly calibrated as required and Contractor shall maintain proper records of such tools, tackles, instruments and / or equipment.

Contractor shall prepare the quality plan as per the specifications and shall strictly monitor compliance with the approved quality plan during the entire period of this Work Order.

Contractor shall submit duly approved Quality Check sheets along with final bill and the same shall be integral part of final Quality Clearance. QA Check sheets format attached with this contract as Annexure-A for the following:

QA - CHECKSHEET FOR 11KV RMU
QA - CHECKSHEET FOR 11KV TERMINATION
QA - CHECKSHEET FOR DISTRIBUTION TRANSFORMER
QA - CHECKSHEET FOR FEEDER PILLAR
QA - CHECKSHEET FOR FENCING
QA - CHECKSHEET FOR HIGH MAST
QA - CHECKSHEET FOR HT OVERHEAD LINE 11KV
QA - CHECKSHEET FOR LT ACB
QA - CHECKSHEET FOR OH LT LINE
QA - CHECKSHEET FOR PKG SUB-STN
QA - CHECKSHEET FOR ROUTINE ELECTRICAL TESTS
QA - CHECKSHEET FOR STREET LIGHT
QA - CHECKSHEET FOR UNDERGROUND HT CABLE 11KV
QA - CHECKSHEET FOR UNDERGROUND LT CABLE
QA - CHECKSHEET FOR POWER TRANSFORMER (EHV)

33. LIABILITY OF BIDDERS

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 Bidder or on the part of any person acting on behalf of the Bidder, with respect to any loss or damage caused by the Bidder to the Employer's property or the Site, the Bidders shall not be liable to the Employer for the following:

- a) For any indirect or consequential loss or damage; and
- b) For any direct loss or damage that exceeds:

(i) The total payments made and expected to be made to the Bidder under the Contract including reimbursements, if any; or

(ii) The insurance claim proceeds which the Bidder may be entitled to receive from any insurance purchased by the Bidder to cover such a liability, whichever is higher.

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

Notwithstanding anything contained in the Contract, the Bidder shall not be liable for any gross negligence or willful misconduct on the part of the Employer or any of its affiliates, any Bidder, or any party, other than Bidder



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and/or, its directors, officers, agents or representatives or its affiliates, or Sub-vendor, or the Bidder or any third party engaged by it.

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



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SECTION – VII: PRICE BID

1. PART A SUPPLY ITEMS OF AMBEDKAR NAGAR SCHEME NO: ES22GS1046:

| Scheme No: ES22GS1046 for BOQ of Supply of miscellaneous materials of DTC Ambedkar Nagar Grid at BRPL | | | | | |
|--|--|------------|-------------|--------------|---------------|
| Sr No | Description | UOM | Qty. | Rates | Amount |
| 1 | Supply of MS Rod 40 mm. Dia For Earthing | MT | 8 | | |
| 2 | Supply of Video Surveillance /Monitoring System for entire substation as per attached specification & Scope of supply work | LS | 1 | | |
| 3 | Supply of 1.6 Ton, Air Conditioner split wall mounted Inverter AC System for grid S/stn as per attached details & Scope of supply work | LS | 1 | | |
| 4 | Supply of Perforated cable Tray 600mm including couplier and all hardware | mtr | 25 | | |
| 5 | Supply of Perforated cable Tray, Tray 300 mm including couplier and all hardware | mtr | 15 | | |
| 6 | Supply of Perforated cable Tray, Tray 100 mm including couplier and all hardware | mtr | 10 | | |
| 7 | Supply of Fire Alarm System for Entire Grid S/stn. As per attached details & Scope of supply work | LS | 1 | | |
| 8 | Supply of Cable sealing solution As per attached details & Scope of supply work | LS | 1 | | |
| | Total (A) | | | | |
| | GST 18% | | | | |
| | Net Total (A) | | | | |

| <u>BOQ</u> | | | | | |
|---|--|-------------|------------|-------------|---------------|
| Scheme No: ES22GS1046 | | | | | |
| Installation, Testing and Commissioning of 33 KV AIS substation with supply of miscellaneous materials of Ambedkar Nagar Grid at BRPL, New Delhi | | | | | |
| SR.NO. | DESCRIPTION | UNIT | QTY | RATE | AMOUNT |
| 1 | Transportation of various material like 40 mm dia Rod 12-15 mtrs long by 25 T trailor from BRPL store/any site in Delhi to site of work in Delhi inclding loading and unloading at both ends manually.(Considering max lead of 50KM) | TRP | 1 | | |
| 2 | Transportation of various electrical equipment / material from various BRPL / BYPL Store / any site to the site of work in the Union Territory of Delhi including loading and unloading at both ends manually / by using suitable T&P for safe loading/unloading.The material transported at site should be placed inyard where ever required. by Using Crane. | TRP | 10 | | |
| 3 | Transportation of various electrical equipment / material from various BRPL / BYPL Store / any site to the site of work in the Union Territory of Delhi including loading and unloading at both ends manually / by using suitable T&P for safe loading/unloading.The material transported at site should be placed inyard where ever required. by Manually. | TRP | 15 | | |
| 4 | Transportation of Empty cable drum from site to site or from site to store any where in Union teritory of Delhi. | TRP | 2 | | |
| 5 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Line panel with single bus bar arrangement | EA | 4 | | |
| 6 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Bus coupler panel with single bus bar arrangement | EA | 1 | | |
| 7 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Bus PT panel with single bus bar arrangement | EA | 2 | | |
| 8 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 50/220 V Float cum boost battery charger including DCDB | EA | 1 | | |
| 9 | Erection of ACDB | EA | 1 | | |
| 10 | Erection of 48 V ,Li-Ion Battery | EA | 1 | | |

| | | | | | |
|----|---|-----|-----|--|--|
| 11 | Laying, dressing, megger and continuity test of PVC, armoured control and auxiliary power cables in excavated trench/cable trays .For 10CX2.5 sqmm, Cu | M | 100 | | |
| 12 | Laying, dressing, megger and continuity test of PVC, armoured control and auxiliary power cables in excavated trench/cable trays .For 6/5CX2.5 sqmm, Cu | M | 100 | | |
| 13 | Laying of HT/LT cable > 70 to 150 in trench | M | 200 | | |
| 14 | Laying of HT/LT cable< 70 in trench | M | 200 | | |
| 15 | Laying of 40 mm dia MS Rod in the excavated trench including risers, overlapping of MS rod at the joints by twice of its width and welding of over lapping and cross joints including supply of electrodes, red oxide/bitumin compound , paint etc.as per BRPL specification For 40 mm dia MS Rod | M | 720 | | |
| 16 | Laying of MS flat in the excavated trench including risers, equipment earthing, overlapping of MS flat at the joints by twice of its width and welding of over lapping and cross joints including supply of electrodes, red oxide/bitumin compound , paint etcand Laying of GI earth strip for equipment earthing, along the wall, trench, cable trays etc including fabrication of supports/cleats and fixing with wall bolts, welding works, painting of earth strip and riser with red oxide paint/bitumin compound and final. For 50X6 sqmm | M | 350 | | |
| 17 | Excavation of trench below the ultimate good earth level in following type of soil including refilling after laying of earth mat riser, fixing of earth electrodes welding etc. For Soft soil | CUM | 470 | | |
| 18 | Excavation of trench below the ultimate good earth level in following type of soil including refilling after laying of earth mat riser, fixing of earth electrodes welding etc. For Semi rocky/rocky soil with providing of good earth | CUM | 60 | | |
| 19 | Demolishing cement concrete including disposal of material outside the premises: PCC | CUM | 135 | | |
| 20 | Digging of earth pit upto depth of 10 ft. in rocky/ semi rocky as per feasibility at site of embedding 600 x600mm earth plate with M.S Plate 50 x8 mm running the same through 3/4 " dia G.I. grouting pipe. Earth Plate to be covered by charcoal 200kg. And 100 Kg. Sodium chloride in the earth pit and refilling etc. NOTE: Charcoal, commonsalt, earth plate, G.I. Pipe, MS flat, Badarpur, Cement and bricks to be supplied by the contractor | EA | 8 | | |
| 21 | Making of civil goomitties around GI earthpipe as per standard design of BSES. Supply of necessary bricks, cement, badarpur, sand, C1 cover of size 1'x1' and providing the same at the top of goomitties. | EA | 8 | | |
| 22 | Erection of double compression gland including termination For any type of LT power cables(Supply of Lugs/Ferrules etc shall be in vendor scope) | EA | 20 | | |
| 23 | Erection of double compression gland including termination For any type of control cables(Supply of Lugs/Ferrules etc shall be in vendor scope) | EA | 20 | | |

| | | | | | |
|----|---|-----|-----|--|--|
| 24 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 600 mm wide | M | 25 | | |
| 25 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 300 mm wide | M | 15 | | |
| 26 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 100 mm wide | M | 10 | | |
| 27 | Erection of Non treated electrode upto 3 M depth | EA | 30 | | |
| 28 | Erection of Spike rod for building DSLP | EA | 4 | | |
| 29 | Erection of Remote end LDR including supply of TB,MCB,wire,lugs etc. and Relocation of existing relays/ modification of panel to accomodate the new relay etc. As per site requirement | Nos | 4 | | |
| 30 | Testing and Commissioning of all equipment of the Grid S/stn and remote end LDR , (All test like CT Analyzer test , Primary injection test,relay Secondary injection test , Line Stability Test , Circuit Breaker all test, IR test @ 5KV , Busbar Hipot test, earth resistance measurement test etc. as per satisfaction of BRPL)All testing equipments to be arranged by vendor | LOT | 1 | | |
| 31 | Nomenclature work in Building and all equipments front & back side , Funcational Location marking on metal plate fixing at 1 location (Size 800mm X200mm) etc as per BRPL's requirement | LOT | 1 | | |
| 32 | Installation, Testing and commissioning work (Including SCADA integration)for complete Fire alarm system in s/stn building | LOT | 1 | | |
| 33 | Installation, Testing and commissioning work of Video Monitoring system | LOT | 1 | | |
| 34 | ETC of Air Conditioner with Supply of copper piping and other accessories, Any other work for successful commissioning shall be in vendor's scope. | LOT | 1 | | |
| 35 | Installation of Cable sealing System including necessary Civil work | LOT | 1 | | |
| 36 | Erection of 22.5 KG Fire Extinguishres with Trolley | Nos | 2 | | |
| 37 | Erection of 4.5 KG Fire Extinguishres with mounting on Bracket | Nos | 10 | | |
| 38 | Erection of Fire Bucket with Stand | SET | 1 | | |
| 39 | Fabrication work using MS steel (for any type & as per drawing, specification provided by BSES) including all consumables i.e. welding rods, supplying and providing 2 coats of red oxide primer and one coat of aluminum paint, nuts, bolts and washers. All type frames,structure,clamps etc.Steel shall be provided by Contactor. | KG | 500 | | |
| 40 | Supply and erection of of 5 pin (3 Phase+1 Neutral + 1 Earth) 32A welding socket as per approved make | EA | 2 | | |
| 41 | Supply and erection of Shock treatment chart | Nos | 2 | | |
| 42 | Supply and erection of First Aid Medical kit , (Thadani Make; Medic Series 2500) | Nos | 1 | | |
| 43 | Supply and erection of Waste bin, Large size (Green & Blue), atleast 60 Litre capacity of each | Nos | 2 | | |
| 44 | Supply and erection of SLD lamination and Framing on A1 Size | Nos | 1 | | |

| | | | | | |
|----|--|-----|----|--|--|
| 45 | Supply and fixing of Key stand with lockable door | Nos | 1 | | |
| 46 | Supply and erection of VCB handle mounting frame in VCB room | NOS | 1 | | |
| 47 | Supply and Fixing of Danger Boards suitable for 33 kV System | Nos | 4 | | |
| 48 | Supply of 96 F(72 Single mode + 24 Multimode) LIU , wall mounted for Line Differential relay communication | EA | 8 | | |
| 49 | Erection of LIU including all hardware | EA | 8 | | |
| 50 | Splicing , Termination and commissioning of 48 F LIU , wall mounted | EA | 16 | | |
| 51 | Supply of patch cords, Duplex , Pigtel (Single mode 36+12 multimode), Both end Connectors as per LIU and Relay , Length 10M | EA | 16 | | |
| 52 | Supply and Fixing of Entry /Exit Sign Boards at each entrance and Providing of plates 2 SET of each type (PTW issued, Cable back end alive , cable earthed , Breaker opne , etc) as per IMS | LOT | 1 | | |
| 53 | Laying of Safety Rubber Mat | LOT | 1 | | |
| 54 | Supply of Galvanized 25mm Dia; NB; Class-2; GI Spike rod length 1.5M minimum for Building DSLP | EA | 4 | | |
| 55 | Supply of Glands 4X25/10/50 MM | EA | 20 | | |
| 56 | Supply of Glands 10X2.5MM | EA | 20 | | |
| | Total | | | | |
| | GST 18% | | | | |
| | Net Total | | | | |

2. PART A SUPPLY ITEMS OF SRINIWASPURI SCHEME NO: ES22GS1045:

| Scheme No: ES22GS1045 for BOQ for supply of miscellaneous materials of DTC Srinivasपुरi Grid at BRPL | | | | | |
|---|--|------------|-------------|--------------|---------------|
| Sr No | Description | UOM | Qty. | Rates | Amount |
| 1 | Supply of MS Rod 40 mm. Dia For Earthing | MT | 11 | | |
| 2 | Supply of Video Surveillance /Monitoring System for entire substation as per attached specification & Scope of supply work | LS | 1 | | |
| 3 | Supply of 1.6 Ton, Air Conditioner split wall mounted Inverter AC System for grid S/stn as per attached details & Scope of supply work | LS | 1 | | |
| 4 | Supply of Perforated cable Tray 600mm including coupler and all hardware | mtr | 25 | | |
| 5 | Supply of Perforated cable Tray, Tray 300 mm including coupler and all hardware | mtr | 15 | | |
| 6 | Supply of Perforated cable Tray, Tray 100 mm including coupler and all hardware | mtr | 10 | | |
| 7 | Supply of Fire Alarm System for Entire Grid S/stn. As per attached details & Scope of supply work | LS | 1 | | |
| 8 | Supply of Cable sealing solution As per attached details & Scope of supply work | LS | 1 | | |
| | Total (A) | | | | |
| | GST 18% | | | | |
| | Net Total (A) | | | | |

2.PART B E/T/C OF SRINIWASPURI SCHEME NO: ES22GS1045:

| <u>BOQ</u> | | | | | |
|---|--|-------------|------------|-------------|---------------|
| Scheme No: ES22GS1045 | | | | | |
| Installation, Testing and Commissioning of 33 KV AIS substation with supply of miscellaneous materials of Sriniwaspuri Grid at BRPL, New Delhi | | | | | |
| SR.NO. | DESCRIPTION | UNIT | QTY | RATE | AMOUNT |
| 1 | Transportation of various material like 40 mm dia Rod 12-15 mtrs long by 25 T trailor from BRPL store/any site in Delhi to site of work in Delhi inclding loading and unloading at both ends manually.(Considering max lead of 50KM) | TRP | 1 | | |
| 2 | Transportation of various electrical equipment / material from various BRPL / BYPL Store / any site to the site of work in the Union Territory of Delhi including loading and unloading at both ends manually / by using suitable T&P for safe loading/unloading.The material transported at site should be placed inyard where ever required. by Using Crane. | TRP | 10 | | |
| 3 | Transportation of various electrical equipment / material from various BRPL / BYPL Store / any site to the site of work in the Union Territory of Delhi including loading and unloading at both ends manually / by using suitable T&P for safe loading/unloading.The material transported at site should be placed inyard where ever required. by Manually. | TRP | 15 | | |
| 4 | Transportation of Empty cable drum from site to site or from site to store any where in Union teritory of Delhi. | TRP | 2 | | |
| 5 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Line panel with single bus bar arrangement | EA | 4 | | |
| 6 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Bus coupler panel with single bus bar arrangement | EA | 1 | | |
| 7 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Bus PT panel with single bus bar arrangement | EA | 2 | | |
| 8 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 50/220 V Float cum boost battery charger including DCDB | EA | 1 | | |
| 9 | Erection of ACDB | EA | 1 | | |
| 10 | Erection of 48 V ,Li-Ion Battery | EA | 1 | | |

| | | | | | |
|----|--|-----|------|--|--|
| 11 | Laying, dressing, megger and continuity test of PVC, armoured control and auxiliary power cables in excavated trench/cable trays .For 10CX2.5 sqmm, Cu | M | 100 | | |
| 12 | Laying, dressing, megger and continuity test of PVC, armoured control and auxiliary power cables in excavated trench/cable trays .For 6/5CX2.5 sqmm, Cu | M | 100 | | |
| 13 | Laying of HT/LT cable > 70 to 150 in trench | M | 200 | | |
| 14 | Laying of HT/LT cable< 70 in trench | M | 200 | | |
| 15 | Laying of 40 mm dia MS Rod in the excavatd trench including risers, overlapping of MS rod at the joints by twice of its width and welding of over lapping and cross joints including supply of electrodes, red oxide/bitumin compound , paint etc.as per BRPL specification For 40 mm dia MS Rod | M | 1020 | | |
| 16 | Laying of MS flat in the excavatd trench including risers, equipment earthing, overlapping of MS flat at the joints by twice of its width and welding of over lapping and cross joints including supply of electrodes, red oxide/bitumin compound , paint etcand Laying of GI earth strip for equipment earthing, along the wall, trench, cable trays etc including fabrication of supports/cleats and fixing with wall bolts, welding works, painting of earth strip and riser with red oxide paint/bitumin compound and final. For 50X6 sqmm | M | 350 | | |
| 17 | Excavation of trench below the ultimate good earth level in following type of soil including refilling after laying of eath mat riser, fixing of earth electrodes welding etc. For Soft soil | CUM | 690 | | |
| 18 | Excavation of trench below the ultimate good earth level in following type of soil including refilling after laying of eath mat riser, fixing of earth electrodes welding etc. For Semi rocky/rocky soil with providing of good earth | CUM | 85 | | |
| 19 | Demolishing cement concrete including disposal of material outside the premises: PCC | CUM | 200 | | |
| 20 | Digging of earth pit upto depth of 10 ft. in rocky/ semi rocky as per feasibility at site of embedding 600 x600mm earth plate with M.S Plate 50 x8 mm running the same through 3/4 " dia G.I. grouting pipe. Earth Plate to be covered by charcoal 200kg. And 100 Kg. Sodium chloride in the earth pit and refilling etc. NOTE: Charcoal, commonsalt, earth plate, G.I. Pipe, MS flat, Badarpur, Cement and bricks to be supplied by the contractor | EA | 8 | | |
| 21 | Making of civil goomitties around GI earthpipe as per standard design of BSES. Supply of necessary bricks, cement, badarpur, sand, C1 cover of size 1'x1' and providing the same at the top of goomitties. | EA | 8 | | |
| 22 | Erection of double compression gland including termination For any type of LT power cables(Supply of Lugs/Ferrules etc shall be in vendor scope) | EA | 20 | | |
| 23 | Erection of double compression gland including termination For any type of control cables(Supply of Lugs/Ferrules etc shall be in vendor scope) | EA | 20 | | |

| | | | | | |
|----|---|-----|-----|--|--|
| 24 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 600 mm wide | M | 25 | | |
| 25 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 300 mm wide | M | 15 | | |
| 26 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 100 mm wide | M | 10 | | |
| 27 | Erection of Non treated electrode upto 3 M depth | EA | 33 | | |
| 28 | Erection of Spike rod for building DSLP | EA | 4 | | |
| 29 | Erection of Remote end LDR including supply of TB,MCB,wire,lugs etc. and Relocation of existing relays/ modification of panel to accomodate the new relay etc. As per site requirement | Nos | 4 | | |
| 30 | Testing and Commissioning of all equipment of the Grid S/stn and remote end LDR , (All test like CT Analyzer test , Primary injection test,relay Secondary injection test , Line Stability Test , Circuit Breaker all test, IR test @ 5KV , Busbar Hipot test, earth resistance measurement test etc. as per satisfaction of BRPL)All testing equipments to be arranged by vendor | LOT | 1 | | |
| 31 | Nomenclature work in Building and all equipments front & back side , Funcational Location marking on metal plate fixing at 1 location (Size 800mm X200mm) etc as per BRPL's requirement | LOT | 1 | | |
| 32 | Installation, Testing and commissioning work (Including SCADA integration)for complete Fire alarm system in s/stn building | LOT | 1 | | |
| 33 | Installation, Testing and commissioning work of Video Monitoring system | LOT | 1 | | |
| 34 | ETC of Air Conditioner with Supply of copper piping and other accessories, Any other work for successful commissioning shall be in vendor's scope. | LOT | 1 | | |
| 35 | Installation of Cable sealing System including necessary Civil work | LOT | 1 | | |
| 36 | Erection of 22.5 KG Fire Extinguishres with Trolley | Nos | 2 | | |
| 37 | Erection of 4.5 KG Fire Extinguishres with mounting on Bracket | Nos | 10 | | |
| 38 | Erection of Fire Bucket with Stand | SET | 1 | | |
| 39 | Fabrication work using MS steel (for any type & as per drawing, specification provided by BSES) including all consumables i.e. welding rods, supplying and providing 2 coats of red oxide primer and one coat of aluminum paint, nuts, bolts and washers. All type frames,structure,clamps etc.Steel shall be provided by Contactor. | KG | 500 | | |
| 40 | Supply and erection of of 5 pin (3 Phase+1 Neutral + 1 Earth) 32A welding socket as per approved make | EA | 2 | | |
| 41 | Supply and erection of Shock treatment chart | Nos | 2 | | |
| 42 | Supply and erection of First Aid Medical kit , (Thadani Make; Medic Series 2500) | Nos | 1 | | |
| 43 | Supply and erection of Waste bin, Large size (Green & Blue), atleast 60 Litre capacity of each | Nos | 2 | | |
| 44 | Supply and erection of SLD lamination and Framing on A1 Size | Nos | 1 | | |

| | | | | | |
|----|--|-----|----|--|--|
| 45 | Supply and fixing of Key stand with lockable door | Nos | 1 | | |
| 46 | Supply and erection of VCB handle mounting frame in VCB room | NOS | 1 | | |
| 47 | Supply and Fixing of Danger Boards suitable for 33 kV System | Nos | 4 | | |
| 48 | Supply of 96 F(72 Single mode + 24 Multimode) LIU , wall mounted for Line Differential relay communication | EA | 8 | | |
| 49 | Erection of LIU including all hardware | EA | 8 | | |
| 50 | Splicing , Termination and commissioning of 48 F LIU , wall mounted | EA | 16 | | |
| 51 | Supply of patch cords, Duplex , Pigtel (Single mode 36+12 multimode), Both end Connectors as per LIU and Relay , Length 10M | EA | 16 | | |
| 52 | Supply and Fixing of Entry /Exit Sign Boards at each entrance and Providing of plates 2 SET of each type (PTW issued, Cable back end alive , cable earthed , Breaker opne , etc) as per IMS | LOT | 1 | | |
| 53 | Laying of Safety Rubber Mat | LOT | 1 | | |
| 54 | Supply of Galvanized 25mm Dia; NB; Class-2; GI Spike rod length 1.5M minimum for Building DSLP | EA | 4 | | |
| 55 | Supply of Glands 4X25/10/50 MM | EA | 20 | | |
| 56 | Supply of Glands 10X2.5MM | EA | 20 | | |
| | Total | | | | |
| | GST 18% | | | | |
| | Net Total | | | | |

3. PART A SUPPLY ITEMS OF NANGLOI SCHEME NO: EW22GS1025

| Scheme No: EW22GS1025 for BOQ of supply of miscellaneous materials of DTC Nangloi Grid at BRPL | | | | | |
|---|--|------------|-------------|--------------|---------------|
| Sr No | Description | UOM | Qty. | Rates | Amount |
| 1 | Supply of MS Rod 40 mm. Dia For Earthing | MT | 12 | | |
| 2 | Supply of Video Surveillance /Monitoring System for entire substation as per attached specification & Scope of supply work | LS | 1 | | |
| 3 | Supply of 1.6 Ton, Air Conditioner split wall mounted Inverter AC System for grid S/stn as per attached details & Scope of supply work | LS | 1 | | |
| 4 | Supply of Perforated cable Tray 600mm including coupler and all hardware | MTR | 25 | | |
| 5 | Supply of Perforated cable Tray, Tray 300 mm including coupler and all hardware | MTR | 15 | | |
| 6 | Supply of Perforated cable Tray, Tray 100 mm including coupler and all hardware | MTR | 10 | | |
| 7 | Supply of Fire Alarm System for Entire Grid S/stn. As per attached details & Scope of supply work | LS | 1 | | |
| 8 | Supply of Cable sealing solution As per attached details & Scope of supply work | LS | 1 | | |
| | Total(A) | | | | |
| | GST 18% | | | | |
| | Net Total(A) | | | | |

3.PART B E/T/C OF NANGLOI SCHEME NO: EW22GS1025:

| <u>BOQ</u> | | | | | |
|--|--|-------------|------------|-------------|---------------|
| Scheme No: EW22GS1025 | | | | | |
| Installation, Testing and Commissioning of 33 KV AIS substation with supply of miscellaneous materials of Nangloi Grid at BRPL, New Delhi | | | | | |
| SR.NO. | DESCRIPTION | UNIT | QTY | RATE | AMOUNT |
| 1 | Transportation of various material like 40 mm dia Rod 12-15 mtrs long by 25 T trailor from BRPL store/any site in Delhi to site of work in Delhi inclding loading and unloading at both ends manually.(Considering max lead of 50KM) | TRP | 1 | | |
| 2 | Transportation of various electrical equipment / material from various BRPL / BYPL Store / any site to the site of work in the Union Territory of Delhi including loading and unloading at both ends manually / by using suitable T&P for safe loading/unloading.The material transported at site should be placed inyard where ever required. by Using Crane. | TRP | 10 | | |
| 3 | Transportation of various electrical equipment / material from various BRPL / BYPL Store / any site to the site of work in the Union Territory of Delhi including loading and unloading at both ends manually / by using suitable T&P for safe loading/unloading.The material transported at site should be placed inyard where ever required. by Manually. | TRP | 15 | | |
| 4 | Transportation of Empty cable drum from site to site or from site to store any where in Union teritory of Delhi. | TRP | 2 | | |
| 5 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Line panel with single bus bar arrangement | EA | 4 | | |
| 6 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Bus coupler panel with single bus bar arrangement | EA | 1 | | |
| 7 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Bus PT panel with single bus bar arrangement | EA | 2 | | |
| 8 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 50/220 V Float cum boost battery charger including DCDB | EA | 1 | | |
| 9 | Erection of ACDB | EA | 1 | | |
| 10 | Erection of 48 V ,Li-Ion Battery | EA | 1 | | |

| | | | | | |
|----|--|-----|------|--|--|
| 11 | Laying, dressing, megger and continuity test of PVC, armoured control and auxiliary power cables in excavated trench/cable trays .For 10CX2.5 sqmm, Cu | M | 100 | | |
| 12 | Laying, dressing, megger and continuity test of PVC, armoured control and auxiliary power cables in excavated trench/cable trays .For 6/5CX2.5 sqmm, Cu | M | 100 | | |
| 13 | Laying of HT/LT cable > 70 to 150 in trench | M | 200 | | |
| 14 | Laying of HT/LT cable < 70 in trench | M | 200 | | |
| 15 | Laying of 40 mm dia MS Rod in the excavated trench including risers, overlapping of MS rod at the joints by twice of its width and welding of overlapping and cross joints including supply of electrodes, red oxide/bitumin compound, paint etc.as per BRPL specification For 40 mm dia MS Rod | M | 1100 | | |
| 16 | Laying of MS flat in the excavated trench including risers, equipment earthing, overlapping of MS flat at the joints by twice of its width and welding of overlapping and cross joints including supply of electrodes, red oxide/bitumin compound, paint etc and Laying of GI earth strip for equipment earthing, along the wall, trench, cable trays etc including fabrication of supports/cleats and fixing with wall bolts, welding works, painting of earth strip and riser with red oxide paint/bitumin compound and final. For 50X6 sqmm | M | 350 | | |
| 17 | Excavation of trench below the ultimate good earth level in following type of soil including refilling after laying of earth mat riser, fixing of earth electrodes welding etc. For Soft soil | CUM | 540 | | |
| 18 | Excavation of trench below the ultimate good earth level in following type of soil including refilling after laying of earth mat riser, fixing of earth electrodes welding etc. For Semi rocky/rocky soil with providing of good earth | CUM | 200 | | |
| 19 | Demolishing cement concrete including disposal of material outside the premises: PCC | CUM | 100 | | |
| 20 | Digging of earth pit upto depth of 10 ft. in rocky/ semi rocky as per feasibility at site of embedding 600 x600mm earth plate with M.S Plate 50 x8 mm running the same through 3/4 " dia G.I. grouting pipe. Earth Plate to be covered by charcoal 200kg. And 100 Kg. Sodium chloride in the earth pit and refilling etc. NOTE: Charcoal, commonsalt, earth plate, G.I. Pipe, MS flat, Badarpur, Cement and bricks to be supplied by the contractor | EA | 8 | | |
| 21 | Making of civil goomitties around GI earth pipe as per standard design of BSES. Supply of necessary bricks, cement, badarpur, sand, C1 cover of size 1'x1' and providing the same at the top of goomitties. | EA | 8 | | |
| 22 | Erection of double compression gland including termination For any type of LT power cables(Supply of Lugs/Ferrules etc shall be in vendor scope) | EA | 20 | | |
| 23 | Erection of double compression gland including termination For any type of control cables(Supply of Lugs/Ferrules etc shall be in vendor scope) | EA | 20 | | |

| | | | | | |
|----|---|-----|-----|--|--|
| 24 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 600 mm wide | M | 25 | | |
| 25 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 300 mm wide | M | 15 | | |
| 26 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 100 mm wide | M | 10 | | |
| 27 | Erection of Non treated electrode upto 3 M depth | EA | 34 | | |
| 28 | Erection of Spike rod for building DSLP | EA | 4 | | |
| 29 | Erection of Remote end LDR including supply of TB,MCB,wire,lugs etc. and Relocation of existing relays/ modification of panel to accomodate the new relay etc. As per site requirement | Nos | 4 | | |
| 30 | Testing and Commissioning of all equipment of the Grid S/stn and remote end LDR , (All test like CT Analyzer test , Primary injection test,relay Secondary injection test , Line Stability Test , Circuit Breaker all test, IR test @ 5KV , Busbar Hipot test, earth resistance measurement test etc. as per satisfaction of BRPL)All testing equipments to be arranged by vendor | LOT | 1 | | |
| 31 | Nomenclature work in Building and all equipments front & back side , Funcational Location marking on metal plate fixing at 1 location (Size 800mm X200mm) etc as per BRPL's requirement | LOT | 1 | | |
| 32 | Installation, Testing and commissioning work (Including SCADA integration)for complete Fire alarm system in s/stn building | LOT | 1 | | |
| 33 | Installation, Testing and commissioning work of Video Monitoring system | LOT | 1 | | |
| 34 | ETC of Air Conditioner with Supply of copper piping and other accessories, Any other work for successful commissioning shall be in vendor's scope. | LOT | 1 | | |
| 35 | Installation of Cable sealing System including necessary Civil work | LOT | 1 | | |
| 36 | Erection of 22.5 KG Fire Extinguishres with Trolley | Nos | 2 | | |
| 37 | Erection of 4.5 KG Fire Extinguishres with mounting on Bracket | Nos | 10 | | |
| 38 | Erection of Fire Bucket with Stand | SET | 1 | | |
| 39 | Fabrication work using MS steel (for any type & as per drawing, specification provided by BSES) including all consumables i.e. welding rods, supplying and providing 2 coats of red oxide primer and one coat of aluminum paint, nuts, bolts and washers. All type frames,structure,clamps etc.Steel shall be provided by Contactor. | KG | 500 | | |
| 40 | Supply and erection of of 5 pin (3 Phase+1 Neutral + 1 Earth) 32A welding socket with male top and female industrial type as per approved make (ABB , Schneider , L&T , Siemens) | EA | 2 | | |
| 41 | Supply and erection of Shock treatment chart | Nos | 2 | | |
| 42 | Supply and erection of First Aid Medical kit , (Thadani Make; Medic Series 2500) | Nos | 1 | | |
| 43 | Supply and erection of Waste bin, Large size (Green & Blue) atleast 60 Litre capacity of each | Nos | 2 | | |

| | | | | | |
|----|--|-----|----|--|--|
| 44 | Supply and erection of SLD lamination and Framing on A1 Size | Nos | 1 | | |
| 45 | Supply and fixing of Key stand with lockable door | Nos | 1 | | |
| 46 | Supply and erection of VCB handle mounting frame in VCB room | NOS | 1 | | |
| 47 | Supply and Fixing of Danger Boards suitable for 33 kV System | Nos | 4 | | |
| 48 | Supply of 96 F(72 Single mode + 24 Multimode) LIU , wall mounted for Line Differential relay communication | EA | 8 | | |
| 49 | Erection of LIU including all hardware | EA | 8 | | |
| 50 | Splicing , Termination and commissioning of 48 F LIU , wall mounted | EA | 16 | | |
| 51 | Supply of patch cords, Duplex , Pigtel (Single mode 36+12 multimode), Both end Connectors as per LIU and Relay , Length 10M | EA | 16 | | |
| 52 | Supply and Fixing of Entry /Exit Sign Boards at each entrance and Providing of plates 2 SET of each type (PTW issued, Cable back end alive , cable earthed , Breaker open , etc) as per IMS | LOT | 1 | | |
| 53 | Laying of Safety Rubber Mat | LOT | 1 | | |
| 54 | Supply of Galvanized 25mm Dia; NB; Class-2; GI Spike rod length 1.5M minimum for Building DSLP | EA | 4 | | |
| 55 | Supply of Glands 4X25/10/50 MM | EA | 20 | | |
| 56 | Supply of Glands 10X2.5MM | EA | 20 | | |
| | Total | | | | |
| | GST 18% | | | | |
| | Net Total | | | | |

4. PART A SUPPLY ITEMS OF PEERAGARHI SCHEME NO: EW22GS1024

| Scheme No: EW22GS1024 for BOQ of supply of miscellaneous materials of DTC Peeragarhi Grid at BRPL | | | | | |
|--|--|------------|-------------|--------------|---------------|
| Sr No | Description | UOM | Qty. | Rates | Amount |
| 1 | Supply of MS Rod 40 mm. Dia For Earthing | MT | 7 | | |
| 2 | Supply of Video Surveillance /Monitoring System for entire substation as per attached specification & Scope of supply work | LS | 1 | | |
| 3 | Supply of 1.6 Ton, Air Conditioner split wall mounted Inverter AC System for grid S/stn as per attached details & Scope of supply work | LS | 1 | | |
| 4 | Supply of Perforated cable Tray 600mm including coupler and all hardware | mtr | 25 | | |
| 5 | Supply of Perforated cable Tray, Tray 300 mm including coupler and all hardware | mtr | 15 | | |
| 6 | Supply of Perforated cable Tray, Tray 100 mm including coupler and all hardware | mtr | 10 | | |
| 7 | Supply of Fire Alarm System for Entire Grid S/stn. As per attached details & Scope of supply work | LS | 1 | | |
| 8 | Supply of Cable sealing solution As per attached details & Scope of supply work | LS | 1 | | |
| | Total (A) | | | | |
| | GST 18% | | | | |
| | Net Total (A) | | | | |

4.PART B E/T/C OF PEERAGARHI GRID SCHEME NO: EW22GS1024:

| <u>BOQ</u> | | | | | |
|---|--|-------------|------------|-------------|---------------|
| EW22GS1024 | | | | | |
| Installation, Testing and Commissioning of 33 KV AIS substation with supply of miscellaneous materials of Peeragarhi Grid at BRPL, New Delhi | | | | | |
| SR.NO. | DESCRIPTION | UNIT | QTY | RATE | AMOUNT |
| 1 | Transportation of various material like 40 mm dia Rod 12-15 mtrs long by 25 T trailor from BRPL store/any site in Delhi to site of work in Delhi inclding loading and unloading at both ends manually.(Considering max lead of 50KM) | TRP | 1 | | |
| 2 | Transportation of various electrical equipment / material from various BRPL / BYPL Store / any site to the site of work in the Union Territory of Delhi including loading and unloading at both ends manually / by using suitable T&P for safe loading/unloading.The material transported at site should be placed inyard where ever required. by Using Crane. | TRP | 10 | | |
| 3 | Transportation of various electrical equipment / material from various BRPL / BYPL Store / any site to the site of work in the Union Territory of Delhi including loading and unloading at both ends manually / by using suitable T&P for safe loading/unloading.The material transported at site should be placed inyard where ever required. by Manually. | TRP | 15 | | |
| 4 | Transportation of Empty cable drum from site to site or from site to store any where in Union teritory of Delhi. | TRP | 2 | | |
| 5 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Line panel with single bus bar arrangement | EA | 4 | | |
| 6 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Bus coupler panel with single bus bar arrangement | EA | 1 | | |
| 7 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 33 kV Indoor switchgear, Bus PT panel with single bus bar arrangement | EA | 2 | | |
| 8 | Erection of electrical equipment Including supply of T & P, all consumable items such as welding rods, hacksaw blades etc and minor modification in support structure for fixing as required.For 50/220 V Float cum boost battery charger including DCDB | EA | 1 | | |
| 9 | Erection of ACDB | EA | 1 | | |
| 10 | Erection of 48 V ,Li-Ion Battery | EA | 1 | | |

| | | | | | |
|----|---|-----|-----|--|--|
| 11 | Laying, dressing, megger and continuity test of PVC, armoured control and auxiliary power cables in excavated trench/cable trays .For 10CX2.5 sqmm, Cu | M | 100 | | |
| 12 | Laying, dressing, megger and continuity test of PVC, armoured control and auxiliary power cables in excavated trench/cable trays .For 6/5CX2.5 sqmm, Cu | M | 100 | | |
| 13 | Laying of HT/LT cable > 70 to 150 in trench | M | 200 | | |
| 14 | Laying of HT/LT cable< 70 in trench | M | 200 | | |
| 15 | Laying of 40 mm dia MS Rod in the excavated trench including risers, overlapping of MS rod at the joints by twice of its width and welding of over lapping and cross joints including supply of electrodes, red oxide/bitumin compound , paint etc.as per BRPL specification For 40 mm dia MS Rod | M | 600 | | |
| 16 | Laying of MS flat in the excavated trench including risers, equipment earthing, overlapping of MS flat at the joints by twice of its width and welding of over lapping and cross joints including supply of electrodes, red oxide/bitumin compound , paint etcand Laying of GI earth strip for equipment earthing, along the wall, trench, cable trays etc including fabrication of supports/cleats and fixing with wall bolts, welding works, painting of earth strip and riser with red oxide paint/bitumin compound and final. For 50X6 sqmm | M | 350 | | |
| 17 | Excavation of trench below the ultimate good earth level in following type of soil including refilling after laying of earth mat riser, fixing of earth electrodes welding etc. For Soft soil | CUM | 290 | | |
| 18 | Excavation of trench below the ultimate good earth level in following type of soil including refilling after laying of earth mat riser, fixing of earth electrodes welding etc. For Semi rocky/rocky soil with providing of good earth | CUM | 60 | | |
| 19 | Demolishing cement concrete including disposal of material outside the premises: PCC | CUM | 100 | | |
| 20 | Digging of earth pit upto depth of 10 ft. in rocky/ semi rocky as per feasibility at site of embedding 600 x600mm earth plate with M.S Plate 50 x8 mm running the same through 3/4 " dia G.I. grouting pipe. Earth Plate to be covered by charcoal 200kg. And 100 Kg. Sodium chloride in the earth pit and refilling etc. NOTE: Charcoal, commonsalt, earth plate, G.I. Pipe, MS flat, Badarpur, Cement and bricks to be supplied by the contractor | EA | 8 | | |
| 21 | Making of civil goomitties around GI earthpipe as per standard design of BSES. Supply of necessary bricks, cement, badarpur, sand, C1 cover of size 1'x1' and providing the same at the top of goomitties. | EA | 8 | | |
| 22 | Erection of double compression gland including termination For any type of LT power cables(Supply of Lugs/Ferrules etc shall be in vendor scope) | EA | 20 | | |
| 23 | Erection of double compression gland including termination For any type of control cables(Supply of Lugs/Ferrules etc shall be in vendor scope) | EA | 20 | | |

| | | | | | |
|----|---|-----|-----|--|--|
| 24 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 600 mm wide | M | 25 | | |
| 25 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 300 mm wide | M | 15 | | |
| 26 | Installation of ladder type cable trays including fixing of supports, tees, bands, joints ,cantilever and supporting structures. For 100 mm wide | M | 10 | | |
| 27 | Erection of Non treated electrode upto 3 M depth | EA | 32 | | |
| 28 | Erection of Spike rod for building DSLP | EA | 4 | | |
| 29 | Erection of Remote end LDR including supply of TB,MCB,wire,lugs etc. and Relocation of existing relays/ modification of panel to accomodate the new relay etc. As per site requirement | Nos | 4 | | |
| 30 | Testing and Commissioning of all equipment of the Grid S/stn and remote end LDR , (All test like CT Analyzer test , Primary injection test,relay Secondary injection test , Line Stability Test , Circuit Breaker all test, IR test @ 5KV , Busbar Hipot test, earth resistance measurement test etc. as per satisfaction of BRPL)All testing equipments to be arranged by vendor | LOT | 1 | | |
| 31 | Nomenclature work in Building and all equipments front & back side , Funcational Location marking on metal plate fixing at 1 location (Size 800mm X200mm) etc as per BRPL's requirement | LOT | 1 | | |
| 32 | Installation, Testing and commissioning work (Including SCADA integration)for complete Fire alarm system in s/stn building | LOT | 1 | | |
| 33 | Installation, Testing and commissioning work of Video Monitoring system | LOT | 1 | | |
| 34 | ETC of Air Conditioner with Supply of copper piping and other accessories, Any other work for successful commissioning shall be in vendor's scope. | LOT | 1 | | |
| 35 | Installation of Cable sealing System including necessary Civil work | LOT | 1 | | |
| 36 | Erection of 22.5 KG Fire Extinguishres with Trolley | Nos | 2 | | |
| 37 | Erection of 4.5 KG Fire Extinguishres with mounting on Bracket | Nos | 10 | | |
| 38 | Erection of Fire Bucket with Stand | SET | 1 | | |
| 39 | Fabrication work using MS steel (for any type & as per drawing, specification provided by BSES) including all consumables i.e. welding rods, supplying and providing 2 coats of red oxide primer and one coat of aluminum paint, nuts, bolts and washers. All type frames,structure,clamps etc.Steel shall be provided by Contactor. | KG | 500 | | |
| 40 | Supply and erection of of 5 pin (3 Phase+1 Neutral + 1 Earth) 32A welding socket with male top and female industrial type as per approved make (ABB , Schneider , L&T , Siemens) | EA | 2 | | |
| 41 | Supply and erection of Shock treatment chart | Nos | 2 | | |
| 42 | Supply and erection of First Aid Medical kit , (Thadani Make; Medic Series 2500) | Nos | 1 | | |
| 43 | Supply and erection of Waste bin, Large size (Green & Blue), atleast 60 Litre capacity of each | Nos | 2 | | |

| | | | | | |
|----|--|-----|----|--|--|
| 44 | Supply and erection of SLD lamination and Framing on A1 Size | Nos | 1 | | |
| 45 | Supply and fixing of Key stand with lockable door | Nos | 1 | | |
| 46 | Supply and erection of VCB handle mounting frame in VCB room | NOS | 1 | | |
| 47 | Supply and Fixing of Danger Boards suitable for 33 kV System | Nos | 4 | | |
| 48 | Supply of 96 F(72 Single mode + 24 Multimode) LIU , wall mounted for Line Differential relay communication | EA | 8 | | |
| 49 | Erection of LIU including all hardware | EA | 8 | | |
| 50 | Splicing , Termination and commissioning of 48 F LIU , wall mounted | EA | 16 | | |
| 51 | Supply of patch cords, Duplex , Pigtel (Single mode 36+12 multimode), Both end Connectors as per LIU and Relay , Length 10M | EA | 16 | | |
| 52 | Supply and Fixing of Entry /Exit Sign Boards at each entrance and Providing of plates 2 SET of each type (PTW issued, Cable back end alive , cable earthed , Breaker open , etc) as per IMS | LOT | 1 | | |
| 53 | Laying of Safety Rubber Mat | LOT | 1 | | |
| 54 | Supply of Galvanized 25mm Dia; NB; Class-2; GI Spike rod length 1.5M minimum for Building DSLP | EA | 4 | | |
| 55 | Supply of Glands 4X25/10/50 MM | EA | 20 | | |
| 56 | Supply of Glands 10X2.5MM | EA | 20 | | |
| | Total | | | | |
| | GST 18% | | | | |
| | Net Total | | | | |

Appendix- I**33kV Grid Substation, DTC Depot, Srinivaspuri, Peeragarhi, Nangloi & Ambedkar Nagar****COMMERCIAL TERMS AND CONDITIONS - SUPPLY**

| Sl No | Item Description | AS PER BRPL | BIDDER'S CONFIRMATION |
|-------|-------------------------------------|--|-----------------------|
| 1 | Validity | 120 days from the due date of submission or amended due date of submission | |
| 2 | Price basis | a) Firm , FOR Delhi store basis. Prices shall be inclusive of all taxes & duties, freight up to Delhi stores. b) Unloading at stores - in vendor's scope c) Transit insurance in Bidder scope | |
| 3 | Payment terms | a. 85 % against R/A bills within 30 days against receipt of material at site. b. 10% pro-rata after installation/erection of equipment c. 5% pro-rata after completion of successful acceptance testing, commissioning and handing over of the entire Installation and duly certified by BRPL Project-in-charge. | |
| 4 | Completion time | 31 st March 2024 from date of LOI/Order | |
| 5 | Defect Liability period | 24 months from the date of Handing over of entire Installation. | |
| 6 | Liquidated damages | 0.5% of total price for every week delay subject to maximum of 10% of total contract value | |
| 7 | Contract Performance Bank Guarantee | 10% (Ten percent) of the total Contract value valid up to Defect Liability Period plus 3 months towards claim period. | |

Appendix-II**33kV Grid Substation, DTC Depot, Srinivasapuri, Peeragarhi, Nangloi & Ambedkar Nagar****COMMERCIAL TERMS AND CONDITIONS – E/T/C**

| Sl No | Item Description | AS PER BRPL | BIDDER'S CONFIRMATION |
|-------|-------------------------------------|---|-----------------------|
| 1 | Validity | 120 days from the due date of submission or amended due date of submission | |
| 2 | Price basis | Firm. Prices shall be inclusive of all taxes & duties. | |
| 3 | Payment terms | a) 85% pro-rata of total installation value shall be payable against R/A bills payable within 45 days after installation/erection of material at site duly certified by Engineer in charge. b) 10% pro-rata of total installation value shall be payable against R/A bills payable within 30 days after testing & commissioning of material at site duly certified by Engineer in charge. c) 5% of contract value payable after completion of successful acceptance testing, commissioning and handing over of complete systems duly certified by Engineer in charge, submission of Electrical Inspector Clearance Certificate. | |
| 4 | Completion time | 31 st March 2024 from date of LOI/Order | |
| 5 | Defect Liability period | 24 months from the date of Handing over of entire Installation. | |
| 6 | Liquidated damages | 0.5 % of the order value for each week or part there of delay until the actual date of completion up to a maximum deduction of 10% of total order value | |
| 7 | Contract Performance Bank Guarantee | 10% (Ten percent) of the total Contract value valid up to Defect Liability Period i.e. 24 months from the date of Handing over of entire Installation plus 3 months towards claim period. | |

Note: RA is mandatory. The bids will be evaluate commercially based on the total all inclusive price. BRPL reserves the right to evaluate the bid in totality or partially. RA methodology will be informed separately to all the qualified bidders prior to RA.

SECTION X
GRAND SUMMARY OF THE QUOTED PRICE

| Sr. No. | Scheme no. | SCHEME DESCRIPTION | Total price for supply F.O.R site inclusive all duties taxes | Total for Erection, Testing & Commissioning inclusive all Taxes(INR) | Grand Total(INR) |
|------------|--------------------|--|--|--|------------------|
| 1 | ES22GS1045 | Installation, Testing and Commissioning of 33 KV AIS Ambedkarnagar Grid substations with supply of miscellaneous materials at BRPL, New Delhi. | | | |
| 2 | ES22GS1046 | Installation, Testing and Commissioning of 33 KV AIS Srinivaspuri Grid substations with supply of miscellaneous materials at BRPL, New Delhi | | | |
| 3 | EW22GS1025 | Installation, Testing and Commissioning of 33 KV AIS Nangloi Grid substations with supply of miscellaneous materials at BRPL, New Delhi. | | | |
| 4 | EW22GS1024 | Installation, Testing and Commissioning of 33 KV AIS Peeragarhi Grid substations with supply of miscellaneous materials at BRPL, New Delhi | | | |
| | TOTAL Package Cost | | | | |
| In words : | | | | | |
| | | | | | |

We declare that the following are our quoted prices in INR for the entire project/schemes.

Date:

Bidder Name:

Place:

Bidders Address:

Name & Signature

Designation:

Common Seal:.....

ANNEXURE – I :BID FORM

To,

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

Dear Sir,

- 1 We understand that BRPL is desirous of awarding the contract for..... (Name of the Work) work in its licensed distribution network area in Delhi.
- 2 Having examined the Tender Documents for the above named works, we the undersigned, offer to deliver the goods/services in full conformity with the Terms and Conditions, technical specifications & Scope of Work as may be determined in accordance with the terms and conditions of the contract. The quoted amounts for this work are in accordance with the Price Schedules attached herewith and are made part of this bid.
- 3 If our Bid is accepted, we undertake to deliver the entire goods/services as per delivery/ completion schedule mentioned in Section III from the date of award of order/letter of intent.
- 4 If our Bid is accepted, we will furnish a Contract Cum Performance Bank Guarantee (CPBG) for due performance of the Contract in accordance with the Terms and Conditions of the NIT.
- 5 We agree to abide by this Bid for a period of 180 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 are aware of the provision of all Laws associated with the supply of equipment's/materials or Services 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 BRPL is not bound to accept the lowest, or any bid BRPL may receive.
- 9 There is provision for Resolution of Disputes under this Contract, in accordance with the Laws and Jurisdiction of Contract.
- 10 We do hereby agree and shall abide the terms of tender documents/agreement, in full

Dated this..... day of..... 2023

Signature..... In the capacity of

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

(IN BLOCK CAPITALS).....

ANNEXURE – II : BIDDER'S DETAILS

| S.No. | Item | Description |
|-------|--|-------------|
| 1 | Company Name | |
| 2 | BRPL Vendor Code (If Registered) | |
| 3 | Area of Specialization | |
| 4 | Company Founded Year | |
| 5 | Type of Company | |
| 6 | Constitution(Company Registration number) | |
| 7 | Name of Director / Mobile Number | |
| 8 | Name of other main person / Mobile Number | |
| 9 | Vendor Address | |
| 10 | Vendor Contact no | |
| 11 | Vendor Email ID | - |
| 12 | No. of Manpower on payroll (Executive/Skilled/Semi-Skilled/Un-skilled) | - |
| 13 | No. of Contractual Manpower (Executive/Skilled/Semi-Skilled/Un-skilled) | - |
| 14 | Other Office / Factory Address | |
| 15 | ISO certification | |
| 16 | PAN | |
| 17 | PF/ESI | |
| 18 | Shop Establishment Certificate (If Applicable) | |
| 19 | Electrical License Detail (If Applicable) | |
| 20 | GST | |
| 21 | GST Registration Date | |
| 22 | SSI | |
| 23 | MSME Registration Number (If Applicable) | |
| 24 | Turn Over FY 2019-20 (Rs. Cr.) | |

| | | |
|--------------|--|---|
| 25 | Turn Over FY 2020-21 (Rs. Cr.) | |
| S.No. | Item | Description |
| 26 | Turn Over FY 2021-22 (Rs. Cr.) | |
| 27 | Turn Over FY 2022-23 (Rs. Cr.) | |
| 28 | Profit after Tax FY 2019-20 (Rs. Cr.) | |
| 29 | Profit after Tax FY 2020-21 (Rs. Cr.) | |
| 30 | Profit after Tax FY 2021-22 (Rs. Cr.) | |
| 31 | Profit after Tax FY 2022-23 (Rs. Cr.) | |
| 32 | Networth (Rs Cr.) | |
| 33 | Bank Guarantee Limit (in Cr.) | |
| 34 | Over Draft/Cash Credit Limit (in Cr.) | |
| 35 | Present Order Booking (Rs Cr.) | |
| 36 | Order executed with Reliance ADA (Rs Cr.) | |
| 37 | Name & Detail of relative working in BRPL | |
| 38 | Main Customer | |
| 39 | Details of orders executed / Under Execution | Please submit the details in Attachment - A |

ATTACHMENT – A

Reference List of Order Executed / under Execution by the Vendor (M/s)

A) Major Orders Executed

| <u>SN</u> | <u>Name of Project</u> | <u>Client name & address</u> | <u>Client contact Detail</u> (<u>Person name,</u> <u>e-mail ID,</u> <u>Mobile & landline number</u>) | <u>Vendor's Scope of Work</u> | <u>Date Of Award</u> | <u>Value of Work (Rs in Lakhs)</u> | <u>Completion date as per Order</u> | <u>Actual Completion Date</u> | <u>LD / Penalty imposed, if any (Rs in Lakhs)</u> | <u>Litigation / Arbitration (Y/N) (If Yes, furnish details)</u> | <u>Remarks</u> |
|-----------|------------------------|----------------------------------|---|-------------------------------|----------------------|------------------------------------|-------------------------------------|-------------------------------|---|---|----------------|
| 1. | | | | | | | | | | | |
| 2. | | | | | | | | | | | |
| 3. | | | | | | | | | | | |
| 4. | | | | | | | | | | | |
| 5. | | | | | | | | | | | |

B) Orders Under Execution

| <u>SN</u> | <u>Name of Project</u> | <u>Client name & address</u> | <u>Client contact Detail</u> (<u>Person name,</u> <u>e-mail ID,</u> <u>Mobile & landline number</u>) | <u>Vendor's Scope of Work</u> | <u>Date Of Award</u> | <u>Value of Work (Rs in Lakhs)</u> | <u>Completion date as per Order</u> | <u>Actual Completion Date</u> | <u>LD / Penalty imposed, if any (Rs in Lakhs)</u> | <u>Litigation / Arbitration (Y/N) (If Yes, furnish details)</u> | <u>Remarks</u> |
|-----------|------------------------|----------------------------------|---|-------------------------------|----------------------|------------------------------------|-------------------------------------|-------------------------------|---|---|----------------|
| 1. | | | | | | | | | | | |
| 2. | | | | | | | | | | | |
| 3. | | | | | | | | | | | |
| 4. | | | | | | | | | | | |
| 5. | | | | | | | | | | | |



BSES RAJDHANI POWER LIMITED

ANNEXURE – III :ACCEPTANCE FORM FOR PARTICIPATION IN REVERSE AUCTION EVENT

(To be signed and stamped by the bidder prior to participation in the auction event)

BRPL 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 commercially 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. BRPL 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. BRPL will make every effort to make the bid process transparent. However, the award decision by BRPL would be final and binding on the supplier/Contractor.
3. The bidder agrees to non-disclosure of trade information regarding the purchase, identity of BRPL, bid process, bid technology, bid documentation and bid details.
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 BRPL.
6. In case of intranet medium, BRPL shall provide the infrastructure to bidders, further, BRPL 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 BRPL.
8. The bidder shall be prepared with competitive price quotes on the day of the bidding 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 at BRPL site.
10. The prices submitted by a bidder during the auction event shall be binding on the bidder. No further communication will be there.
11. No requests for time extension of the auction event shall be considered by BRPL.
12. The original price bids of the bidders shall be reduced on pro-data basis against each line item based on the final all-inclusive prices offered during conclusion of the auction event for arriving at contract amount.

For.....

Signature:

Name:

Designation:

FORMAT – 4.1**EMD BANK GUARANTEE**

(To be issued in a Non Judicial Stamp Paper of Rs.100/-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/services of [name and/or description of the goods/sevices] (here after called the “Bid”). KNOW ALL PEOPLE by these presents that WE [name of bank] at [Branch Name and address],having our registered office at[address of the registered office of the bank](herein after called the “Bank”),are bound unto BSES RAJDHANI Power Ltd., with its Corporate Office at BSES Bhawan, Nehru Place, New Delhi - 110019 ,(herein after called —the “Purchaser”)in the sum of (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_____ 2023. 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 180 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(s)

FORMAT – 4.2**PROFORMA OF CONTRACT CUM PERFORMANCE BANK GUARANTEE****(TO BE ISSUED ON RS 100/- STAMP PAPER)**

This Guarantee made at _____ this [____] day of [____] 2023

1. WHEREAS **M/s BSES Rajdhani Power Limited**, a Company incorporated under the provisions of Companies Act, 1956 having its Registered Office at **BSES Bhawan, Nehru Place, New Delhi - 110019**, India hereinafter referred to as the “Company”, (which expression shall unless repugnant to the context or meaning thereof include its successors, administrators, executors and assigns).
2. AND WHEREAS the Company 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 “Contractor”, 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 General Conditions of Contract, the Contractor is obliged to provide to the Company 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 Company granting the Contractor the Contract, the Bank hereby unconditionally and irrevocably guarantees and undertakes, on a written demand, to immediately pay to the Company 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 Contractor and without the Company 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 Company to invoke this Guarantee and as to whether the Contractor has not performed its obligations under the Contract shall be binding on the Bank. The Bank acknowledges that any such demand by the Company of the amounts payable by the Bank to the Company 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 Contractor or any dispute raised, invoked, threatened or pending before any court, tribunal, arbitrator or any other authority.
6. The Bank also agrees that the Company at its option shall be entitled to enforce this Guarantee against the Bank as a principal debtor without proceeding against the Contractor notwithstanding any other security or other guarantee that the Company may have in relation to the Contractor’s liabilities.
7. The Bank hereby waives the necessity for the Company first demanding the aforesaid amounts or any part thereof from the Contractor before making payment to the Company and further also waives any right the Bank may have of first requiring the Company to use its legal remedies against the Contractor, 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 Company to timely pay or perform any of its obligations under the Contract.



BSES RAJDHANI POWER LIMITED

9. The Bank further unconditionally and unequivocally agrees with the Company that the Company 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 Company against the Contractor under the terms and conditions of the Contract; or
- (iii) Extend and/or postpone the time for performance of the obligations of the Contractor 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 Company or any indulgence shown by the Company to the Contractor 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 Contractor, and this Guarantee shall not be affected or discharged by the liquidation, winding-up, bankruptcy, reorganization, dissolution or insolvency of the Contractor 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 Company to secure the performance of the obligations of the Contractor 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 Company and agrees that any change in the constitution of the Bank or the Contractor shall not discharge our liability hereunder.
- 15. Company may assign this Guarantee to any Person or body whether natural, incorporated or otherwise under intimation to the Bank. The Bank shall be discharged of its obligations hereunder by performance in accordance with the terms hereof to such assignee without verifying the validity / legality / enforceability of the assignment.
- 16. This Guarantee shall be governed by the laws of India. Any suit, action, or other proceeding arising out of, connected with, or related to this Guarantee or the subject matter hereof shall be subject to the exclusive jurisdiction of the courts of Delhi, India.
Dated this day of 2023 at

(Signature)

.....

(Name)

.....

(Designation with Bank Stamp)

Attorney as per



BSES RAJDHANI POWER LIMITED
Power of Attorney No.....

Date.....

Beneficiary's bank detail with IFSC Code:

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

Vendor has to fill this form & submit along with the PERFORMANCE BANK GUARANTEE

1. Bank Email ID-----Bank Phone No-----

2. Where to Dispatched the BG -Local Address of bank -----

3. Where to Dispatched the BG Head Office Address -----

FORMAT – 4.3**NON-DISCLOSURE AGREEMENT**

THIS NON-DISCLOSURE AGREEMENT ("Agreement") is made and entered into at Delhi on the ____ day of _____, 2023

By And Between

M/s BSES Rajdhani Power Limited, a company registered under the Companies Act, 1956 and having its registered office at **BSES Bhawan, Nehru Place, New Delhi - 110019** (hereinafter referred to as the "Disclosing Party" which expression shall unless repugnant to the meaning and context mean and include its successors and permitted assigns) of the FIRST PART

And

_____, a company incorporated under the Companies Act, 1956 and having its registered office at _____, (hereinafter referred to as the "Receiving Party" which expression shall unless repugnant to the meaning and context mean and include its successors and permitted assigns) of the OTHER PART

Disclosing Party and Receiving Party are hereinafter individually referred to as the "Party" and collectively as the "Parties".

WHEREAS the Disclosing Party is in discussions with the Receiving Party for Security Management Services ("Project") and the Disclosing Party may in conjunction with the aforesaid disclose to the Receiving Party information relating to their businesses which is confidential and sensitive in nature and the Receiving Party is willing to undertake to restrict the use and further disclosure of the information in accordance with the terms and conditions set out herein:

1. The "Receiving Party" acknowledges and confirms the confidential and sensitive nature of all information, documents and material relating to Persons and entities which may be accused of or related to the theft of electricity which is a penal offense under the provisions of the electricity act 2003As well as the various data and tools which may be available by way of documents as well as other modes of proof("Project") (i) that may be disclosed or made available to the Receiving Party by the Disclosing Party or its employees/ representatives/ advisors/ consultants; (ii)Receiving Party may gain or gather from any source; (iii) Receiving Party may process or arrive at during the course of the Project; (iv) Receiving Party may have come across during its discussions with any person in the course of the Project; and (v) all negotiations and discussions between the Parties relating to the Project (all the information referred to above is hereinafter referred to as the "Confidential Information").
2. Confidential Information is understood to include but is not limited to information made available in written, machine recognizable, graphic or sample form including, without limitation, drawings, photographs, models, design or performance specifications, its analysis, compilations, studies, notes and all other information and data disclosed orally or visually which has been developed / is exclusive to the Disclosing Party and includes information provided in various meetings.

Provided, however, that Confidential Information shall not include information which (a) is, or becomes, publicly known, otherwise than through a wrongful act of the Receiving Party or its representatives; (b) is in the possession of the Receiving Party prior to receipt from the Disclosing Party or its representatives without an obligation of confidentiality; (c) is independently developed by the Receiving Party, provided that it was not derived from the Confidential Information; (d) is furnished to others by the Disclosing Party without restrictions, similar to those herein on the rights of such others to use or disclose; or (e) is approved in writing by the Disclosing Party for disclosure.

3. The Receiving Party shall not disclose the Confidential Information to any other person save and except with the express consent in writing given by the Disclosing Party. The Receiving Party, however, may disclose such part of the Confidential Information where (i) such disclosure is in response to a valid order of a court or any other

governmental body having jurisdiction over this Agreement or (ii) such disclosure is otherwise required by law, provided that Receiving Party has given prior written notice to the Disclosing Party forthwith it came to learn about such disclosure requirement or the demand for such for disclosure and made all reasonable efforts to protect the Confidential Information in connection with such disclosure.

4. The Receiving Party shall with reference to the Confidential Information take all actions as may be necessary to (i) maintain the confidentiality thereof; (ii) limit its use of such Confidential Information solely for the purpose of the Project; (iii) avoid disclosure even to any of its employees that are not associated with the Project; (iv) avoid any dissemination or publication by any of its employees/ representatives associated with the Project; (v) avoid writing about sensitive information which is disclosed verbally and is sensitive to the operations; and (vi) safeguard the Confidential Information from being accessed by any unauthorized person. Such actions shall include but not be limited to obtaining appropriate non-disclosure undertakings from its employees directly or indirectly engaged in the Project.
5. The Receiving Party hereby agrees to indemnify and hold harmless the Disclosing Party and its directors and employees from and against any damage, loss, cost or liability (including all expenses and costs of enforcing rights under the Agreement) arising out of or resulting from (i) any use or disclosure by the Receiving Party of Confidential Information in violation of the Agreement; (ii) any leakage of the Confidential Information at the end of the Receiving Party or its employees/ representatives; and (iii) breach or violation of any of the other covenants herein.
6. The Receiving Party will, promptly upon the request of the Disclosing Party, deliver to the Disclosing Party, the documents comprising the Confidential Information or any part thereof and will destroy any copies, notes, or extracts thereof, without retaining any copy thereof, except that any portion of the Confidential Information that consists of analysis and any written Confidential Information not so requested and returned, shall be retained and kept subject to the terms of this Agreement, or upon the Disclosing Party's request destroyed (such destruction to be confirmed in writing).
7. The term of this Agreement is 3 years from the date of execution of this Agreement. However, the obligation to maintain confidentiality of the Disclosing Party's information shall survive the termination of this Agreement. Any violation of this agreement may lead to termination of all the relations with the Receiving party and black listing/ debarring of the Agency for future engagements.
8. This Agreement shall be governed by the laws of India. Any dispute, difference or claim related to or arising under, out of or in connection with this Agreement shall be resolved subject to the jurisdiction of Delhi Courts.

For the Disclosing Party

Authorized Signatory

Name:

Designation:

For the Receiving party

Authorized Signatory

Name:

Designation:

FORMAT – 4.4**NO DEVIATION DECLARATION****NO DEVIATION –A(Technical)**NIT NO & DATE:DUE DATE OF TENDER:

We hereby accept all terms and conditions of the technical scope of work as mandated in the tender documents subject to the following deviations as mentioned against the applicable technical qualifying requirement:

| S.NO. | SL.NO OF TECHNICAL SPECIFICATION/SCOPE OF WORK | DEVIATIONS, IF ANY |
|-------|--|--------------------|
| | | |

SIGNATURE & SEAL OF BIDDER

NAME OF BIDDER

Note-The above template is indicative only, May vary depending on the nature of procurement/value.

NO DEVIATION –B(Commercial)NIT NO & DATE:DUE DATE OF TENDER:

We hereby accept all terms and conditions of the commercial requirement as mandated in tender document subject to the following deviations as mentioned against the applicable commercial qualifying requirement:

| S.NO. | S. NO OF COMMERCIAL REQUIREMENTS | DEVIATIONS, IF ANY |
|-------|----------------------------------|--------------------|
| | | |

SIGNATURE & SEAL OF BIDDER

NAME OF BIDDER

Note:-It is important to explicitly include all such terms and conditions which are considered absolutely necessary to be accepted by bidder without any deviation. Tender document shall have a stipulation that deviation to such criteria shall make the bid liable for rejection.

FORMAT – 4.5**BIDDER'S COMMUNICATION DETAILS****Bidder should furnish the below details for future communication: -**

| <u>GENERAL INFORMATION</u> | |
|-----------------------------------|--|
| NAME OF Company | |
| POSTAL ADDRESS | |

| FOR TECHNICAL QUERY: | | |
|------------------------------|-----------|--------------|
| CONTACT PERSON & DESIGNATION | NAME | DESIGNATION |
| E-MAIL | MOBILE NO | TELEPHONE NO |

| FOR COMMERCIAL QUERY: | | |
|------------------------------|-----------|--------------|
| CONTACT PERSON & DESIGNATION | NAME | DESIGNATION |
| E-MAIL | MOBILE NO | TELEPHONE NO |

Note: No communication shall be entertained from any other email id, except as mentioned above. Bidder needs to inform the company if any changes in the email id on their letter head duly signed by the authorized signatory.

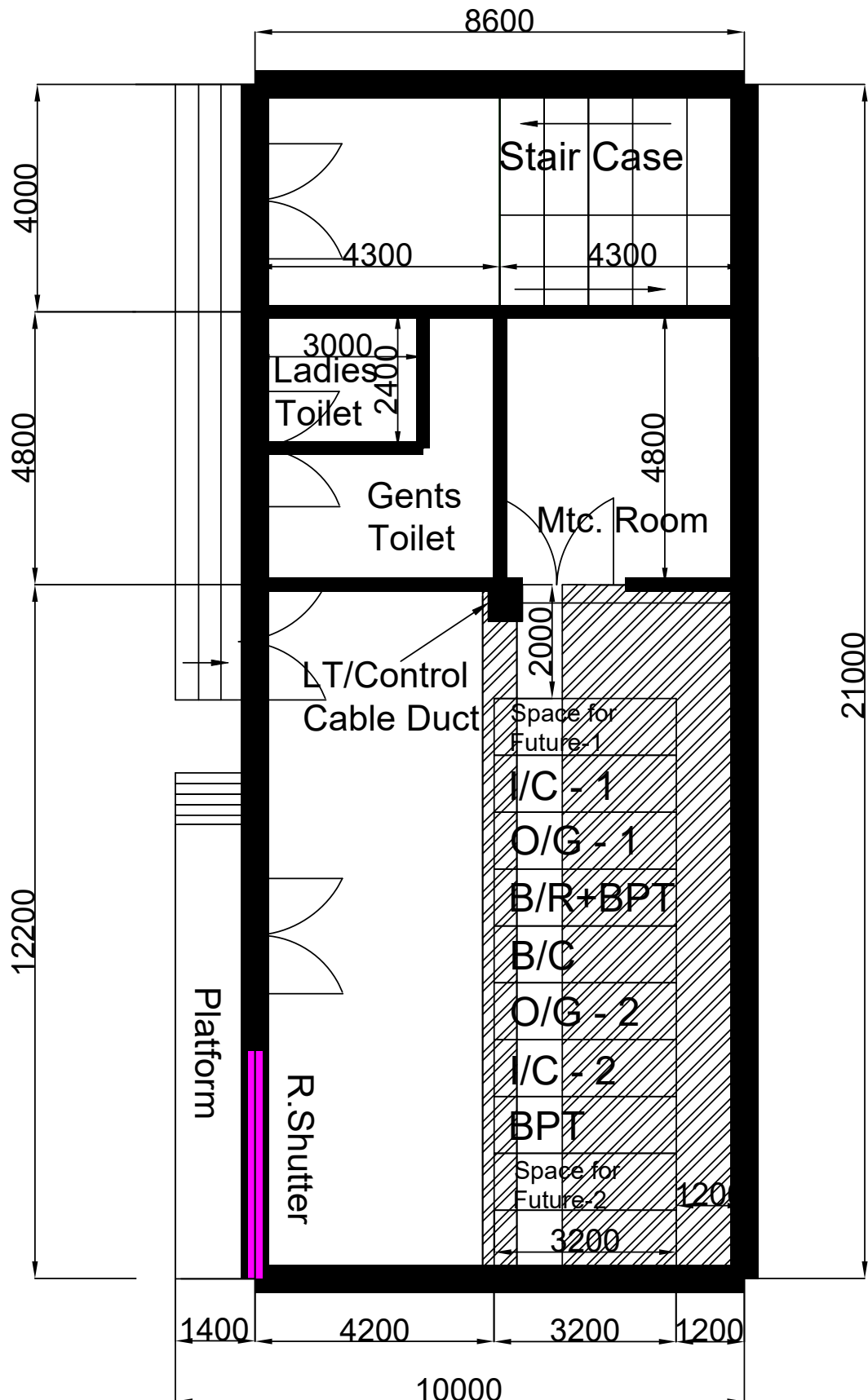


BSES RAJDHANI POWER LIMITED

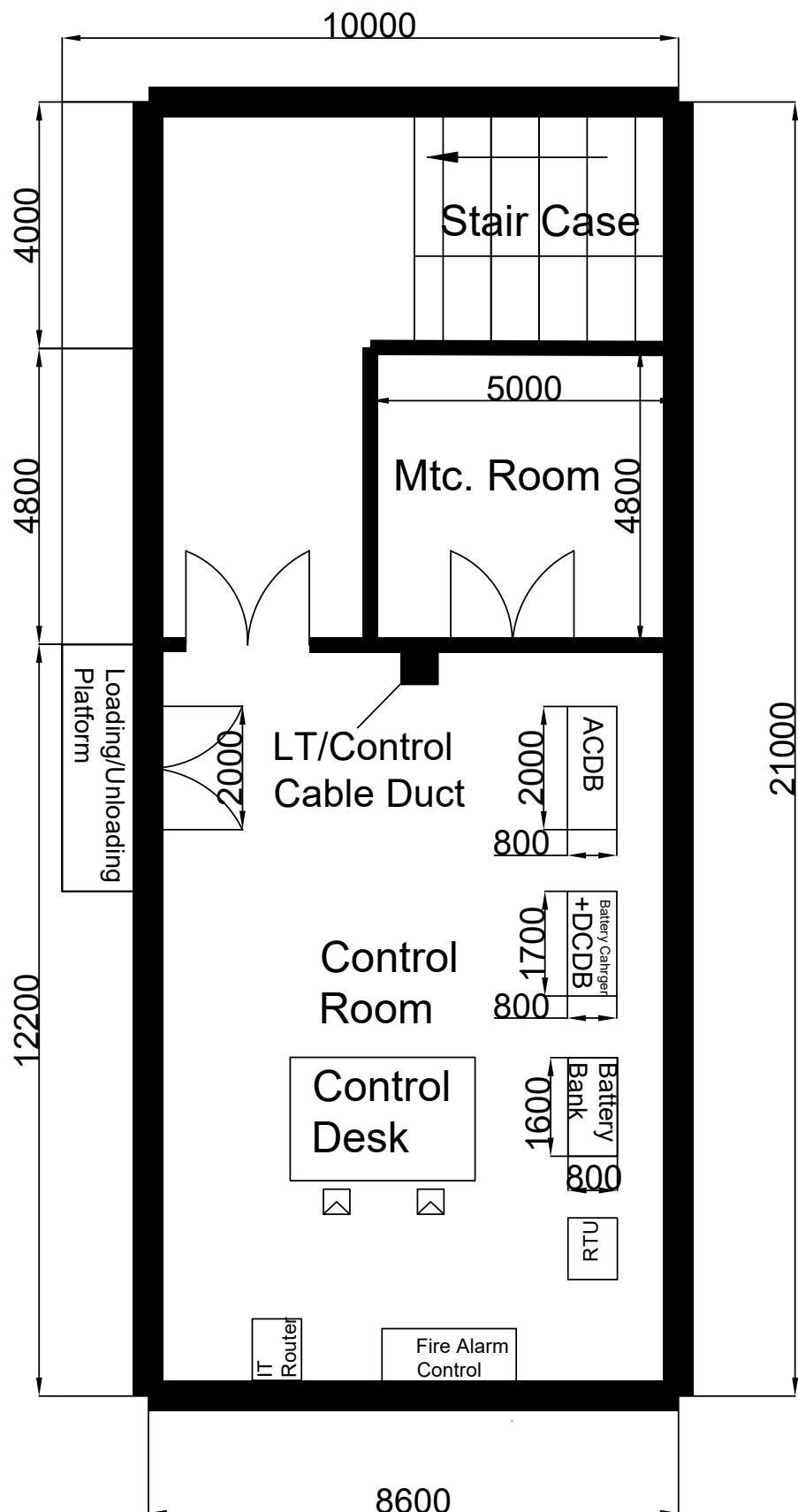
ANNEXURE-III

ROUTE MAP

DTC Nangloi , Peeragarhi, Sri Niwas Puri and Ambadkar Nagar - Ground Floor.



DTC Nangloi , Peeragarhi, Sri Niwas Puri and Ambadkar Nagar - First Floor.





Search Google Maps



Restaurants

Hotels

Things to do

Museums

Transit

Pharmacies

ATM



Parts & Re...

Air cond...

Saved

Recents

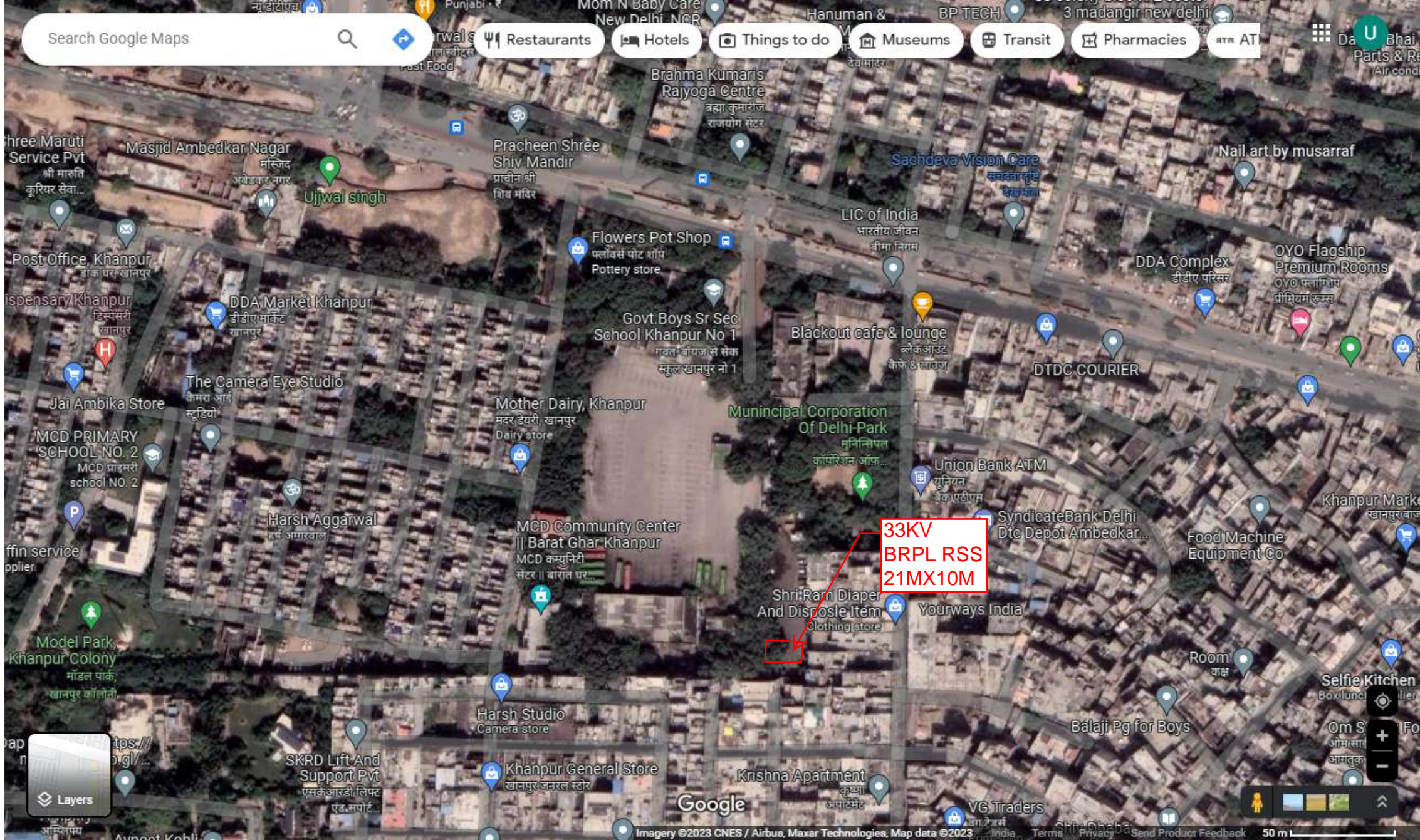
Select Citywalk...

Sector 34 Noida...

Hotel LeOsh



Layers

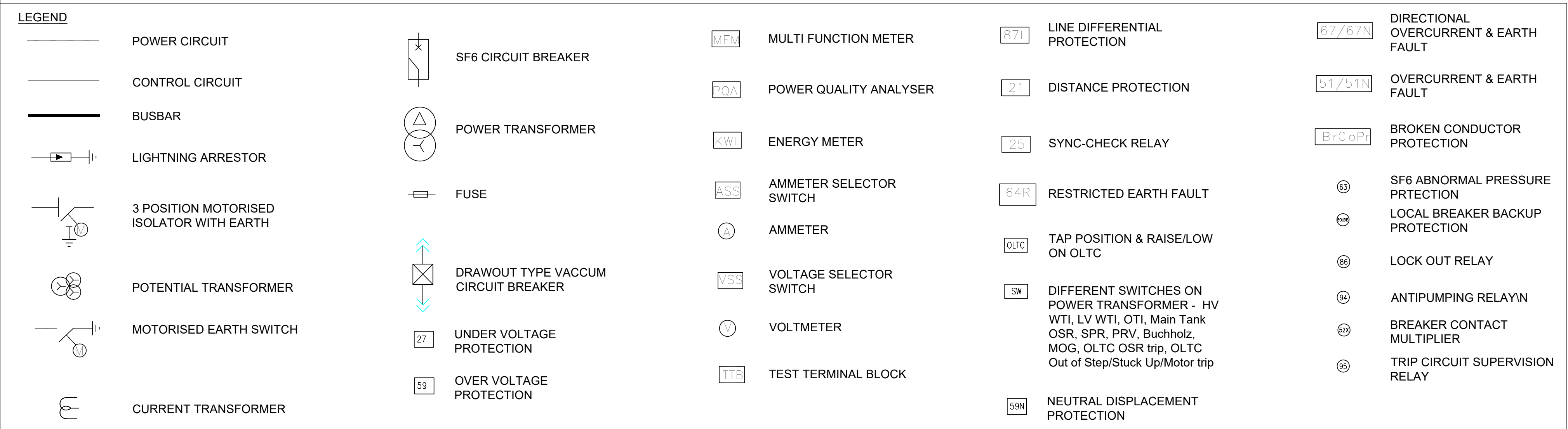


33KV
BRPL RSS
21MX10M

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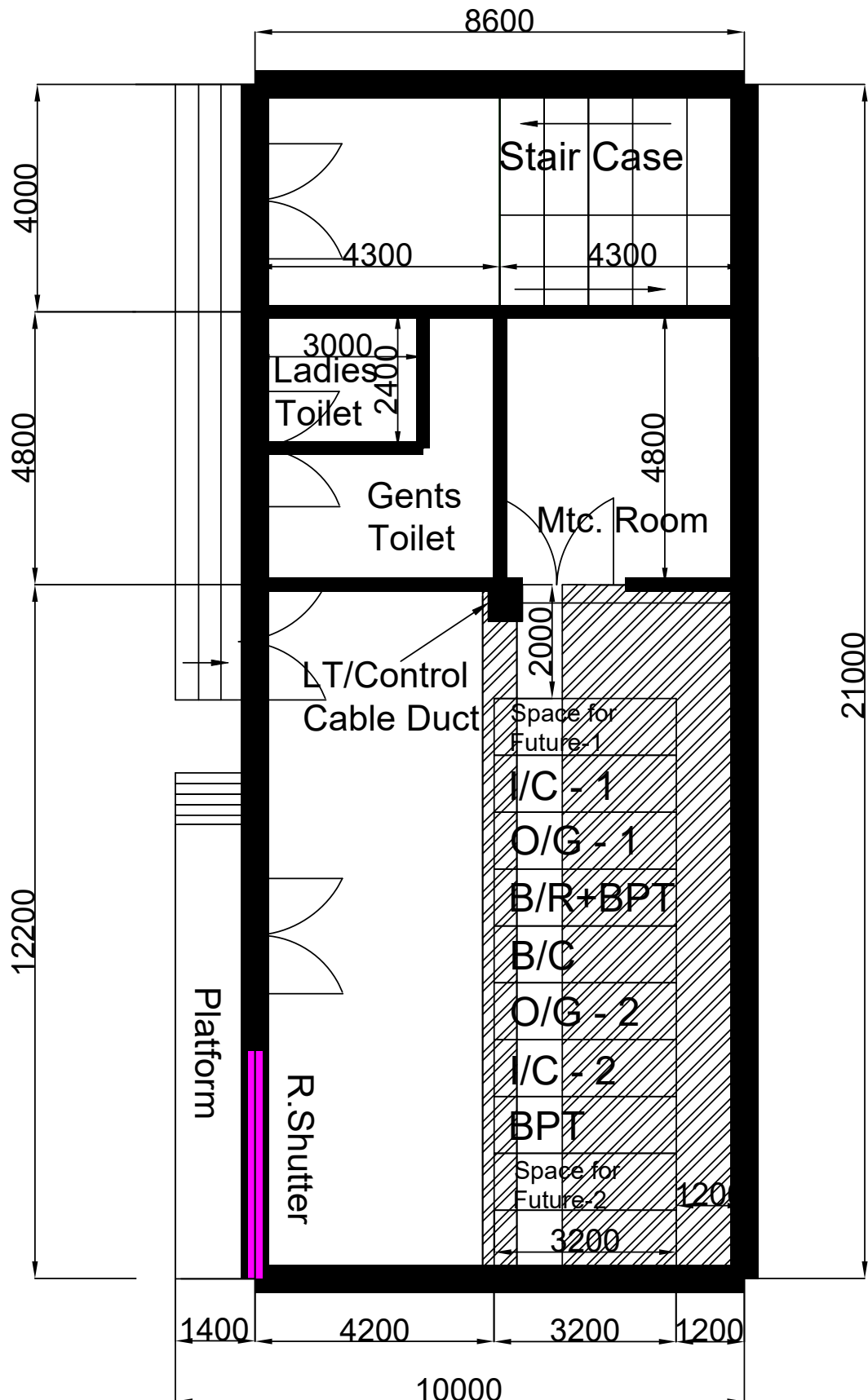
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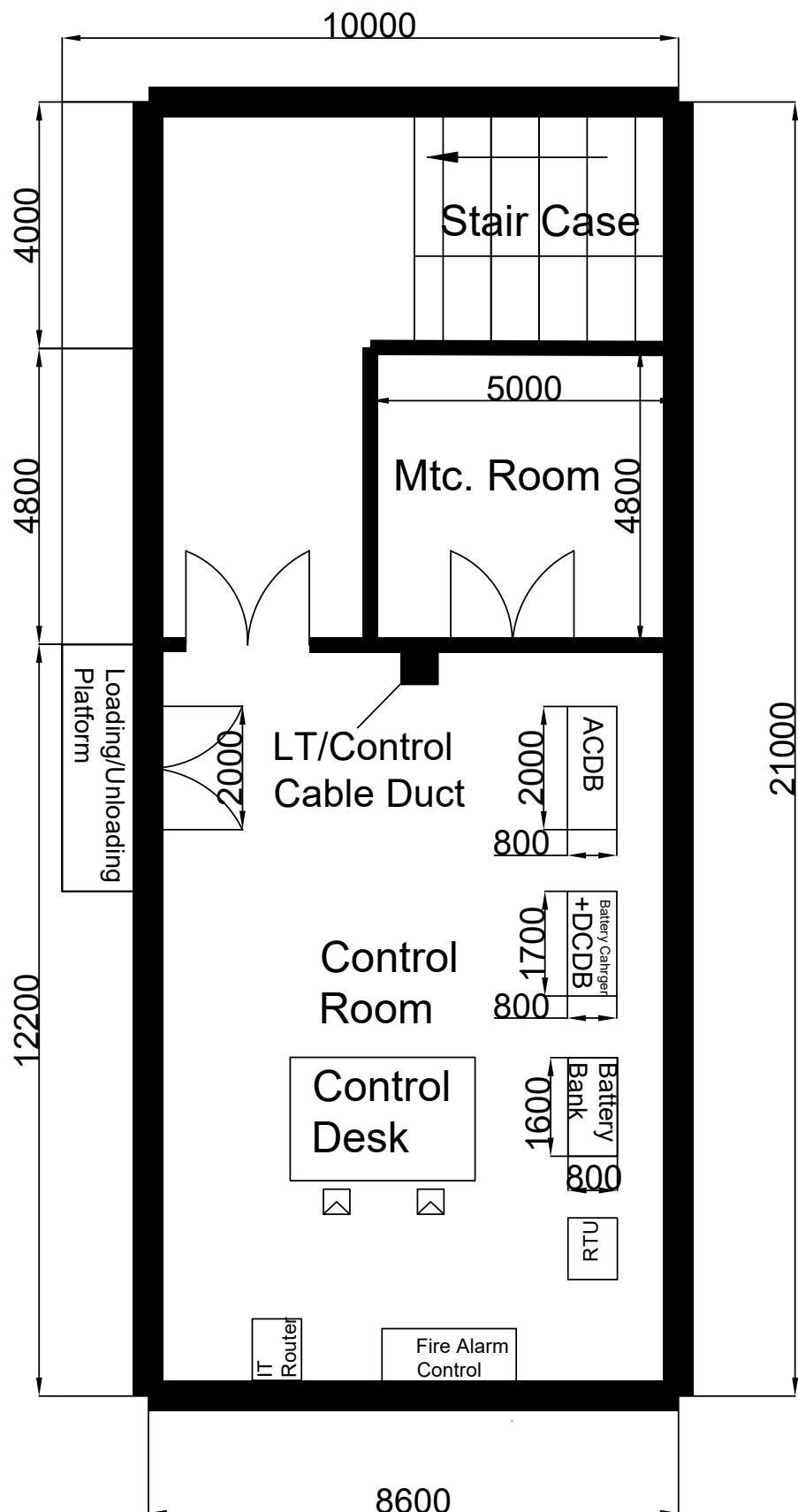
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2. Refer tender specification for further details.

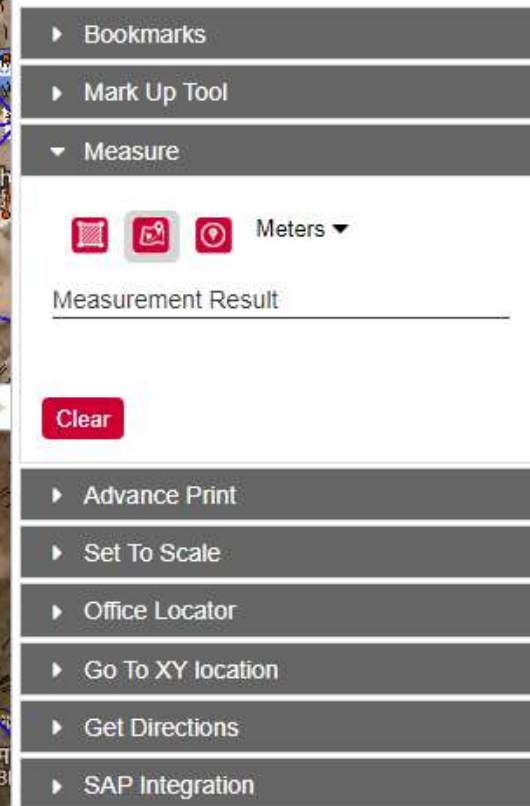
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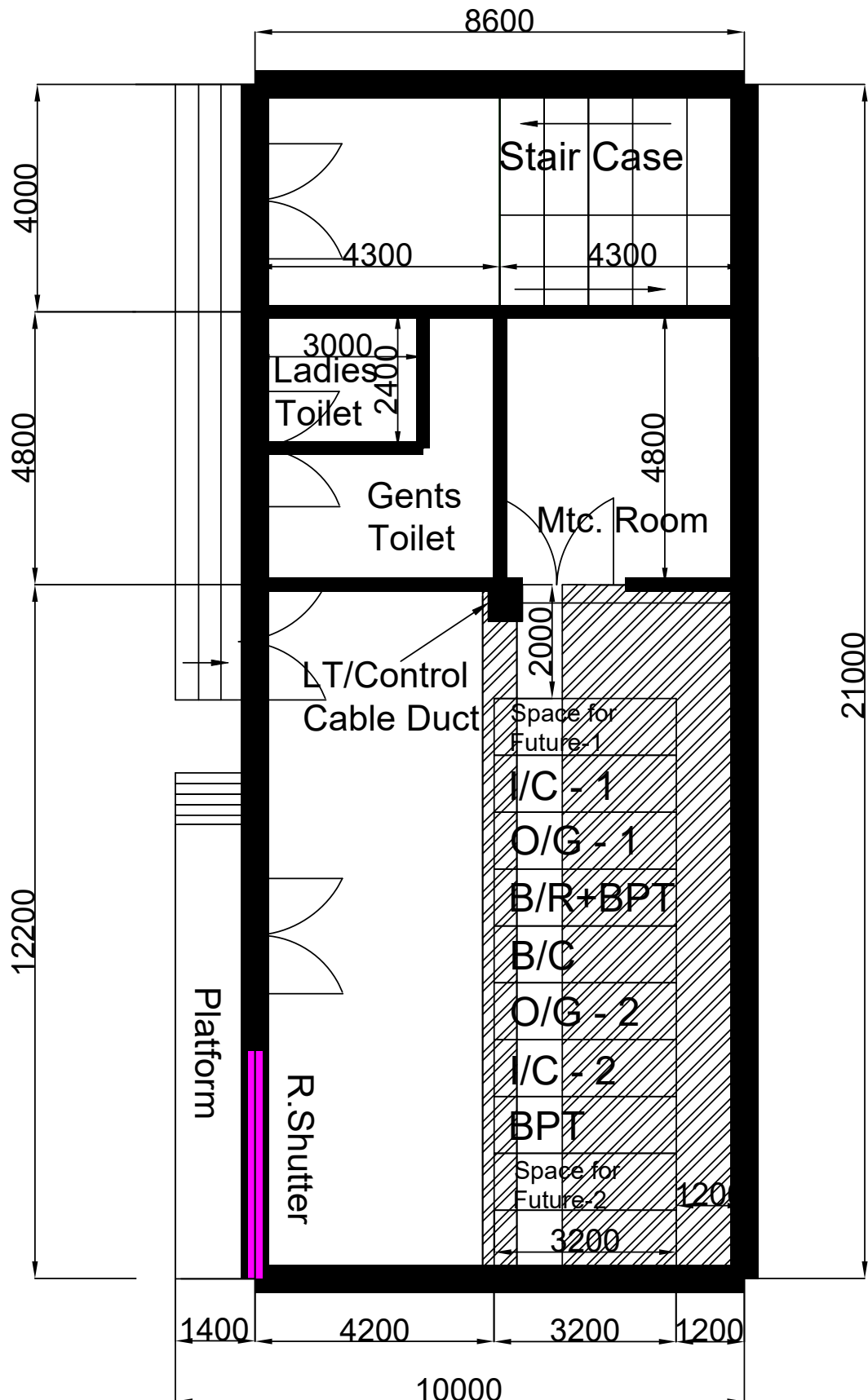
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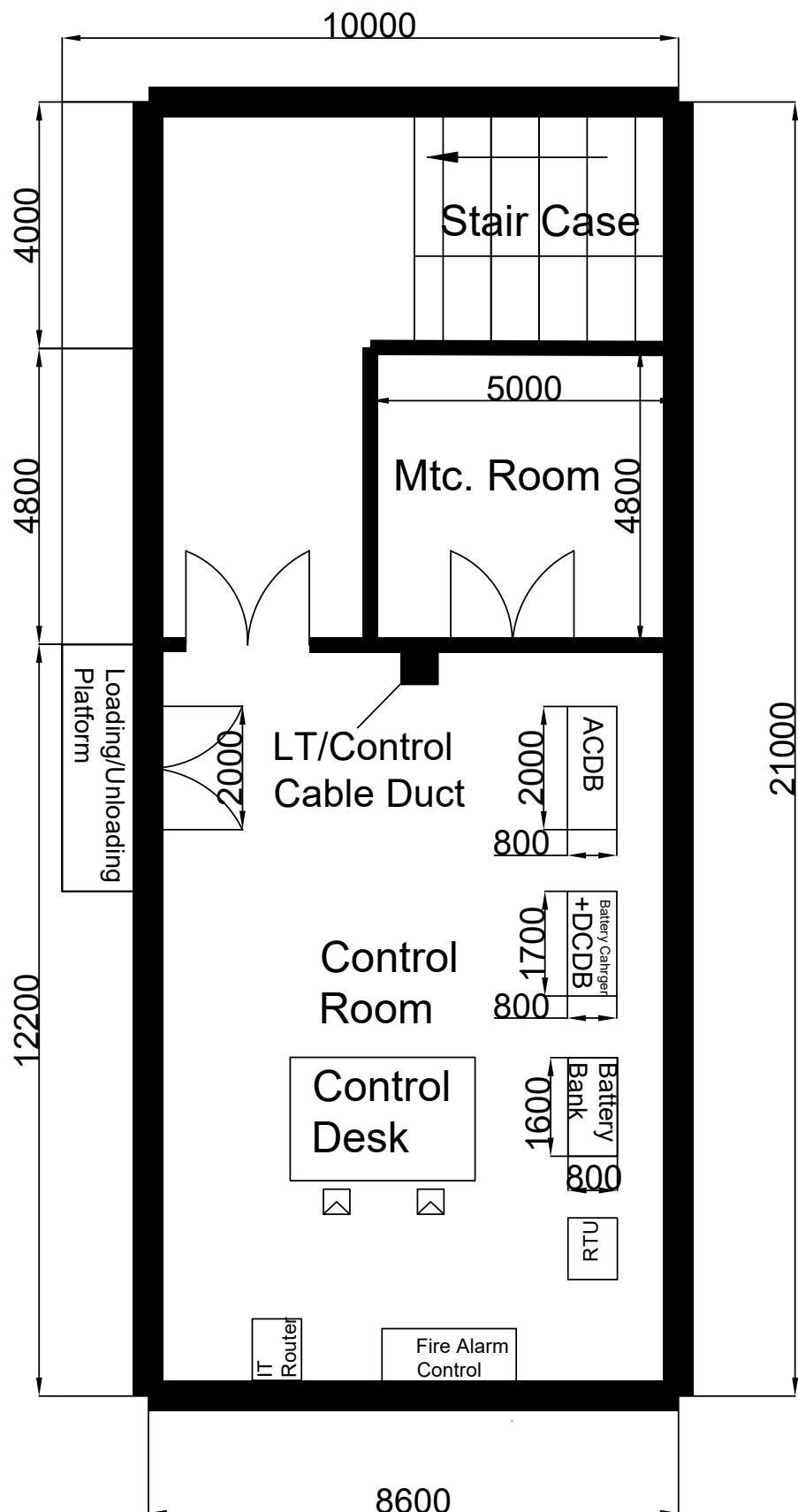


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DTC Nangloi , Peeragarhi, Sri Niwas Puri and Ambadkar Nagar - First Floor.





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तिरंगा मार्ग

Naresh maheshwari
vegetables shop

Pappu and sons
Temporarily closed

Jwalapuri
Vegetable Market
जवालापुरी
वेजिटेबल मार्केट

Rajinder Soni & Sons
राजिंदर
सोनी & संस

Bhim Nagar Sabji Mandi
भीम नगर
सब्जी मंडी
Fruit and vegetable store

Sejal mobile shop

Dhuruv Prasad & son's

Prince telecom

Sukhbir Raj
Temporarily closed

Tiranga Rd

Tiranga Rd

Tiranga Rd

Nangloi Depot
नांगलोई डिपो

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33KV
BRPL RSS
21MX10M



Aakarshak rubber door
mats and cage mats
आकर्षक रबर
दूर मैट्स एंड केज...

MARUTI LAWN
MOWERS UDYOG
मारुति लॉन
मावर्स उद्योग
Lawn mower store

K.K. TVS Service Centre
के.के. टीवीएस
सेवा केंद्र

Canara Bank
कैनरा बँक

DTDC Courier
Udyog Nagar

C 29, DSIDC COMPLEX,
UDYOG NAGAR...
सी 29, डीएसआईडीसी
कॉम्प्लेक्स...

Hanuman Mandir
हनुमान मंदिर

CANARA
SMALL &

Om Shree Trading -
All Kinds of Footwear...
ओम श्री ट्रेडिंग
ऑल किंड्स ऑफ फुटवेयर...

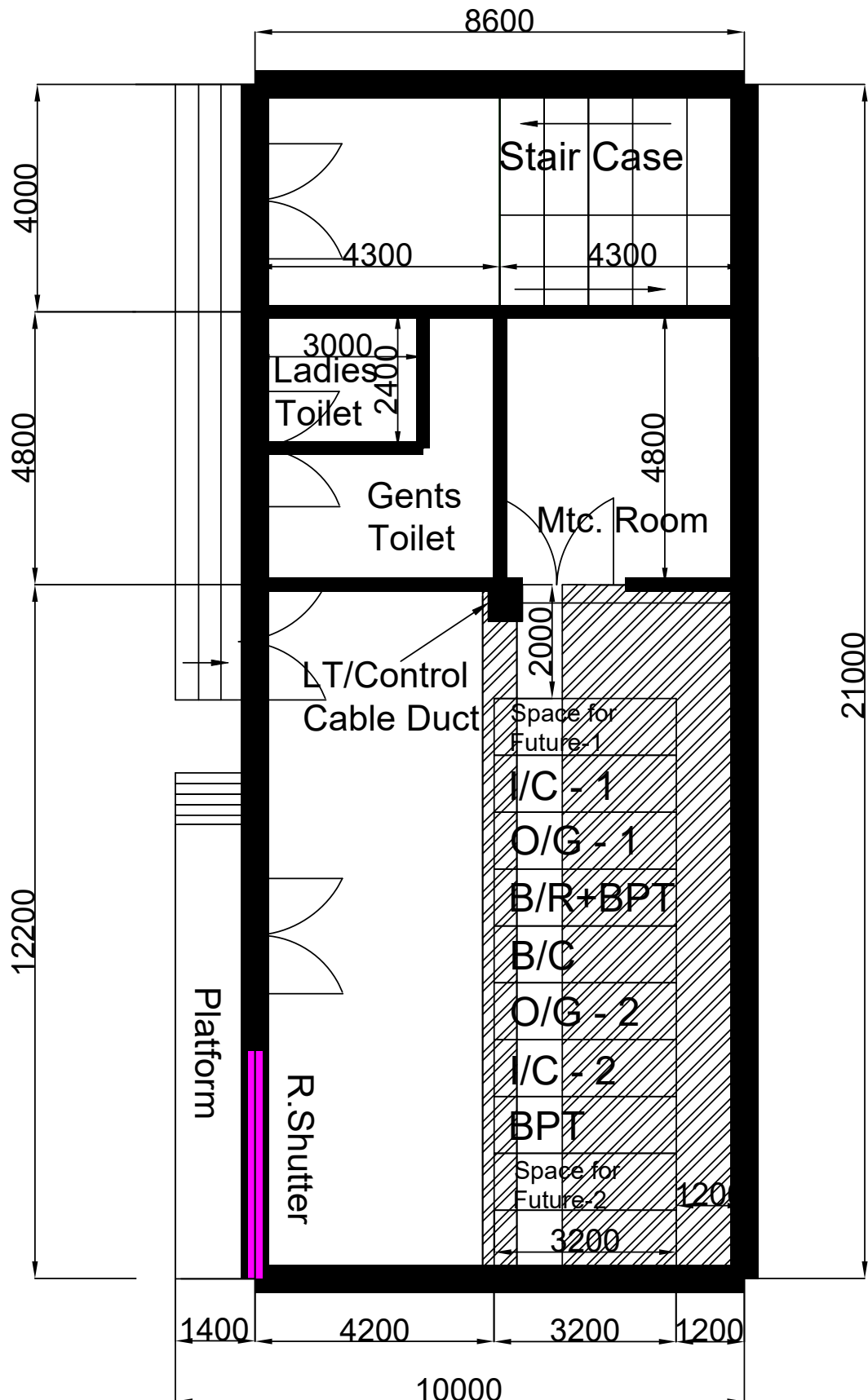
Manish Home Appliances
मनीष होम
एप्लायंस

Bunkar India Pvt
बुनकर इंडिया
पीवीटी एलटीडी
Home goods store

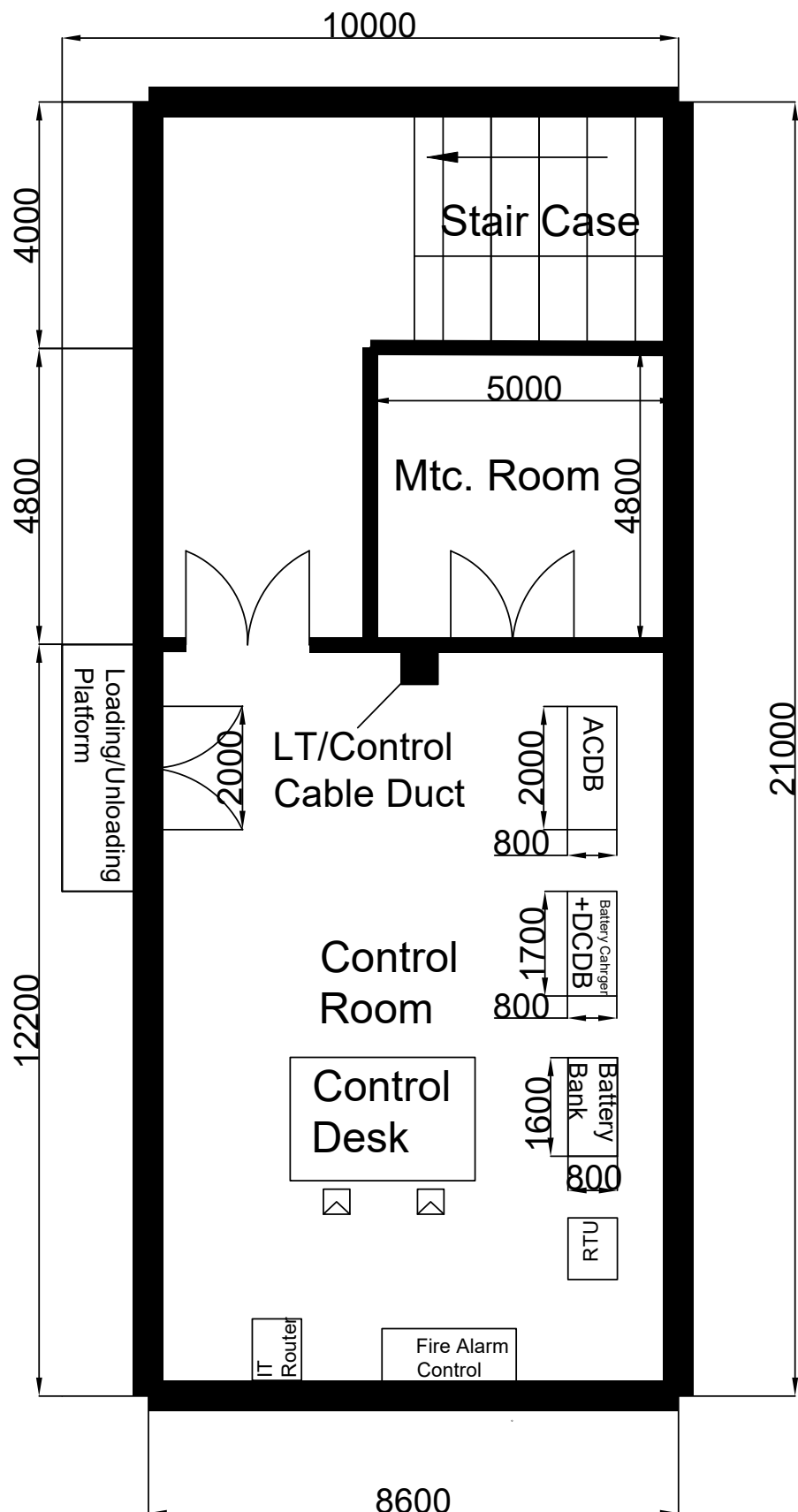
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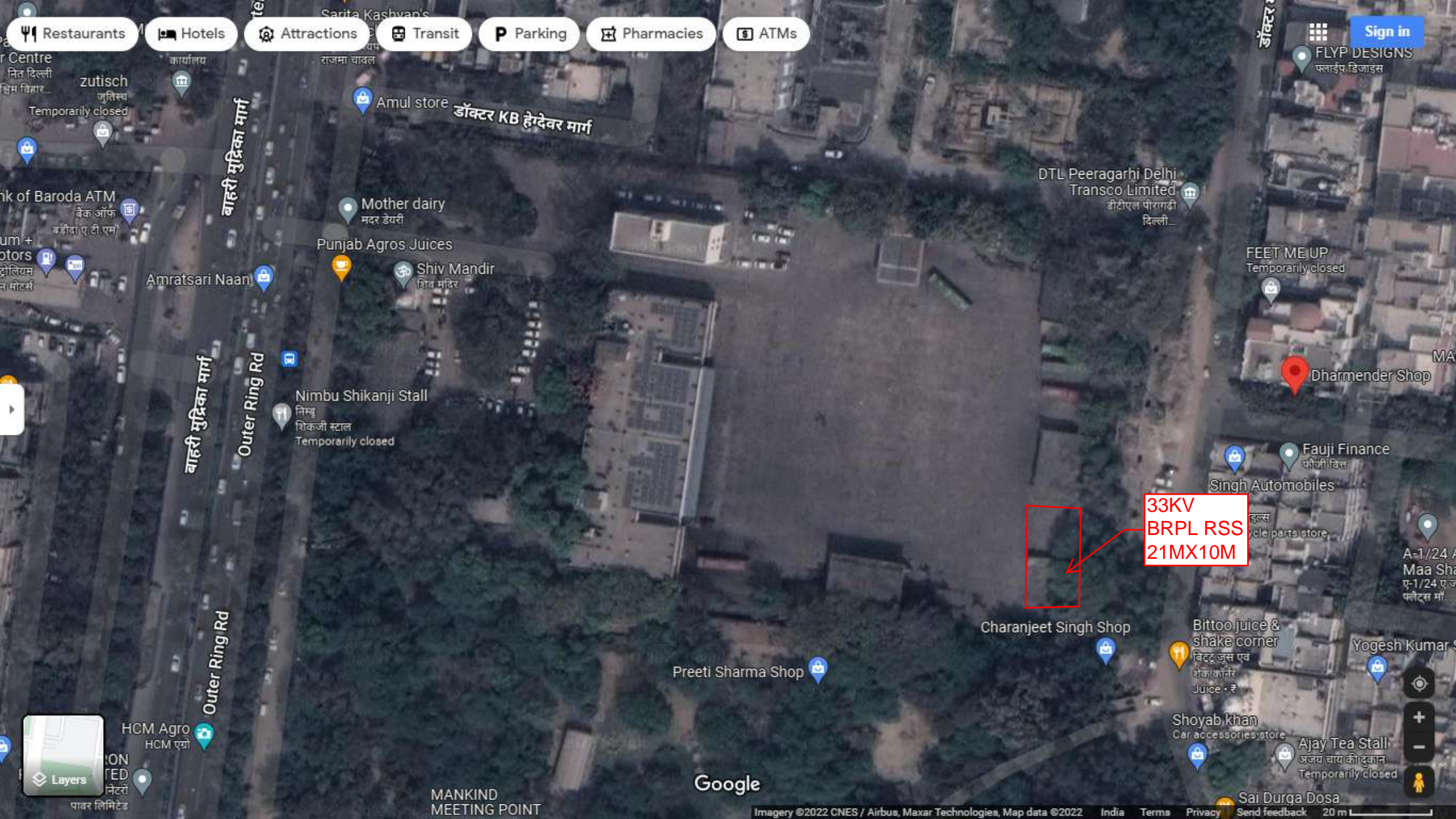
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DTC Nangloi , Peeragarhi, Sri Niwas Puri and Ambadkar Nagar - Ground Floor.



DTC Nangloi , Peeragarhi, Sri Niwas Puri and Ambadkar Nagar - First Floor.





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BSES RAJDHANI POWER LIMITED

ANNEXURE-IV

TECHNICAL SPECIFICATIONS



Technical Specification
For
Grounding and Lightning Protection System
Specification no – BSES-TS-76-GES-R0

| | | |
|-------------|--------------------|-------------|
| Rev: | | 0 |
| Date: | | 06 May 2022 |
| Prepared by | Bhanu Gehlot | |
| | Uttam Shukla | |
| Reviewed by | Abhinav Srivastava | |
| Approved by | Gopal Nariya | |

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TECHNICAL SPECIFICATION FOR GROUNDING AND LIGHTENING PROTECTION SYSTEM**1. SCOPE**

This specification covers the guidelines of earthing & lightning protection at 66/11, 33/11, 66/33/11 kV Grid substation and the technical requirements of material required for earthing system.

2. STANDARDS & CODES

| | | |
|-------|----------------------------------|--|
| 2.1. | CEA guidelines | Technical standards for construction of electrical plants and electrical lines |
| 2.2. | | IE Rules of 1956 |
| 2.3. | IEEE Std 80 | IEEE guide for safety in AC substation grounding |
| 2.4. | CBIP :2006 – publication no. 229 | Manual on substation layout |
| 2.5. | IS 3043: 1987 | Code of practice for earthing |
| 2.6. | IS 2629 (1985) | Recommended practice for hot dip galvanizing of Iron & Steel |
| 2.7. | IS 2633 (1986) | Method for testing uniformity of coating on zinc coated article |
| 2.8. | IS 5358 (1969) | Specification for hot dip galvanized coating on fasteners |
| 2.9. | IS 4759 (1996) | Specification of Hot dip zinc coatings on structural steel and other allied products |
| 2.10. | IS 1239 (2004) | Steel tubes, tubular and other wrought steel fittings- specification |
| 2.11. | IEC 62561-2 | Requirements for conductors and earth electrodes |
| 2.12. | IEC 62561-7 | Requirements for earthing enhancing compounds |
| 2.13. | UL 467 | Standard for safety - Grounding and bonding equipment |
| 2.14. | | Handbook on Electrical Earthing (Ministry of Railways) |

3. REQUIREMENT OF EARTHING

| | | |
|------|--------------------|--|
| 3.1. | Primary guidelines | <p>Following are primary guidelines for a good earthing system in a Grid substation:</p> <ul style="list-style-type: none">a. The impedance to ground should be as low as possible. In general it should not exceed 0.5ohm.b. The step and touch potentials shall be within safe limits.c. The contractor shall do the calculation for number of earthing rods being used in a substation for achieving the desired earth resistance. |
|------|--------------------|--|

TECHNICAL SPECIFICATION FOR GROUNDING AND LIGHTENING PROTECTION SYSTEM

| | | |
|------|----------------------|---|
| 3.2. | Design Parameters | <p>Earthing Calculation parameters shall be taken as:</p> <ol style="list-style-type: none"> 1) Duration of shock current $t_s=1\text{sec}$. 2) Top Gravel resistivity shall be 3000 Ohm Meter. 3) Split/ Diversion Factor shall be considered as 1 4) Earth conductor/ electrodes size calculation based upon corrosion considered for next 40 years. 5) The final diameter of earth conductors/rod shall be maximum of calculated dia or 25 mm (prescribed in clause 5) |
| 3.3. | Earthing lead size | <ol style="list-style-type: none"> a. The actual size of earthing lead will depend on the maximum fault current which the earthing lead will be required to carry safely. b. Please refer Annexure A1 for HT fault level. |
| 3.4. | Earthing type | <ol style="list-style-type: none"> a. Rod earthing shall be provided for the Grid substation. b. The size of the rod depends upon the current to be carried and the type of the soil. Soil resistivity testing will be carried out by vendor. c. The Earth Electrode should be embedded vertically. Wherever hard rock is encountered, the rod can be inclined at an angle of about 30deg to the horizontal as per clause 9.2.2 of IS 3043. d. The vertically driven rods shall be interconnected with each other using horizontal grid conductors. |
| 3.5. | Earth Pit | <ol style="list-style-type: none"> a. As per clause 20.5.2 of IS 3043, the minimum distance between the vertical earth electrodes shall not be less than the length of rod. b. Minimum of 1m distance of earth pit from electrical equipment and structures shall be maintained. c. The earth pits shall be backfilled with earth enhancing material as per Drawing . d. Treated Earth pits shall be used where earth resistance value is getting over the prescribed value in specification i.e. 0.5 ohms. e. Treated Pipe earthing required for 2 nos. each for PTR & Station TRF neutral and RTU/ SCADA. f. 50% quantity of the total earth electrodes to be provided with earth enhancing material (Terec++/ marconite). |
| 3.6. | Horizontal Conductor | <ol style="list-style-type: none"> a. The entire earth rod driven in ground vertically shall be interconnected with earth grid conductors horizontally under the ground. b. The Horizontal conductors shall be laid 600mm below FGL. c. Minimum earth coverage of 300 mm shall be provided between the Horizontal conductor and the bottom of trench/foundation/underground pipe at the crossing. d. Horizontal conductors around a building /switchyard fence shall be buried outside the boundary at a minimum distance of 2000 mm. e. Risers shall be provided 300mm above the ground level for equipment earthing. Two number treated earth pits shall be provided with riser for connection of transformer neutral. f. All the joints between rods flats shall be exothermic type for creating better electrical contact between two. Welding between rods to flat, flat to flat should be arc welding type. g. Wherever bolted connection is done, it shall be done through two bolts at each joint to ensure tightness and avoid loosening with passage of time. h. Where a 66 kV overhead line terminates at the substation, a |

TECHNICAL SPECIFICATION FOR GROUNDING AND LIGHTENING PROTECTION SYSTEM

| | | |
|------|-----------------------|---|
| | | <p>metallic continuity between the end tower and the substation earth grid should be established with two independent connections.</p> <p>i. To ensure good welding, it should be carried out only after scratching off the galvanization, dirt, grease etc by thorough cleaning of contact surface. After welding it will be made with anticorrosive zinc rich paint.</p> |
| 3.7. | Equipment earthing | <p>a. GI strips shall be used for the equipment earthing.</p> <p>b. Two separate and distinct earth connections shall be provided for earthing of electrical frameworks.</p> <p>c. The connection of GI strip with riser of earth mat shall be electric arc welding arrangement; connection of equipment with earthing end shall be double bolted arrangement.</p> <p>d. The transformer neutral shall be earthed with two independent grounding conductors connected to two separate earth pits.</p> <p>e. Fence within the earth grid shall be bonded to the plant earth system at regular interval not exceeding 10 meters. Fence gate shall be separately earthed with flexible Copper braid to permit movement.</p> <p>f. Bolted connection shall be made only for earthing of equipment/devices and for some removable structures. The contact surfaces shall be thoroughly cleaned before connection to ensure good electrical contact.</p> <p>g. Cable armor shall be earthed at both ends for multi core cables. For single core cables, the earthing shall be at switchgear end only.</p> <p>h. For prefabricated cable trays, a separate ground conductor shall run along the entire length of cable tray and shall be suitably clamped on each cable tray at periodic intervals. Each continuous laid out lengths of cable tray shall be earthed at minimum two places by GS flats to Owner's earthing system, the distance between earthing points shall not exceed 30 metre. Wherever earthmat is not available Contractor shall do the necessary connections by driving an earth electrode in the ground.</p> <p>i. Earthing conductor's crossings the road shall be installed at 1000 mm depth and where adequate earth coverage is not provided it shall be installed in Hume pipes. Earthing conductors embedded in the concrete floor of the building shall have approximately 50mm concrete cover.</p> <p>j. Metallic stairs and hand rails shall be earthed as for columns. Additionally a 25x6 GI flat shall run the entire length of the stairs. The GI flat shall be welded to the stairs and hand rails at intervals of 1500 mm.</p> <p>k. The main earth conductor shall be securely fixed to the columns /walls/trays by welding /clamping at the intervals not exceeding 1500 mm. The earth conductors shall be interconnected between them and to the main earth grid through risers.</p> <p>l. In case of GIS substation, earthing rods to be considered in RCC floor as per GIS OEM recommendation.</p> |
| 3.8. | Lightening protection | <p>a. Direct stroke lightning protection (DSLPL) shall be provided in the EHV switchyard by shield wires/ High mast spike gaurd. The final arrangement shall be decided after approval of the DSLPL calculations. The Contractor is required to carry out the DSLPL</p> |

TECHNICAL SPECIFICATION FOR GROUNDING AND LIGHTENING PROTECTION SYSTEM

| | | |
|--|--|---|
| | | <p>calculations and submit the same to the Owner for approval of the same at detailed engineering stage after award of contract.</p> <p>b. DSLP protection shall be provided for control room building as per design calculation following Indian standards. The down conductor should be high conductivity bare copper tape with minimum size of 75 sqmm.</p> <p>c. Connection between each down conductor & Test link shall be located approximately 2000mm above ground Level.</p> <p>d. Separate earth electrodes shall be provided for building DSLP connecting the down conductors to the risers & finally to the Earthmesh. Minimum electrodes to be provided – 4 Nos.</p> |
|--|--|---|

4. SPECIFICATION OF EARTHING MATERIALS

| | | |
|------|---|---|
| 4.1. | GI earthing strip | <p>a. Fully galvanized iron strips shall be used conforming to IS 2629.</p> <p>b. The zinc deposition shall not be less than 610gm/sqm of the galvanized surface area of the MS Earthing strips.</p> <p>c. The zinc coating used for the galvanization shall be of 9.99 % purity grade as per IS 209.</p> <p>d. All the galvanized material shall be checked for uniformity and weight as per IS.</p> <p>e. The standard length of galvanized iron earthing strip shall be minimum 7Mtrs.</p> |
| 4.2. | Vertical and Horizontal Earth Electrode | <p>a. Copper clad steel rod driven in the earth vertically shall be a high tensile-low carbon steel rod of adequate diameter(as per the clause 6.0 of the specs) and 3m length complying UL467, IEC62561-2 and IS 3043, molecularly bonded by 99.99% pure high conductivity copper on the outer surface with copper coating thickness 254 microns or more with sufficient amount of earth enhancement compound as per IEC 62561-7.</p> <p>b. Copper bonding must be UL/CPRI/ERDA certified.</p> <p>c. Rod shall be tested and certified from CPRI/ERDA for a short circuit current withstanding of desired value.</p> <p>d. There shall be following marking on the rod-Dimension Detail, product model no, Reference number of certification.</p> <p>e. It shall have high corrosion resistance and shall eliminate electrolytic action.</p> <p>f. The rod shall have thread profile at both the ends to ensure no copper is removed from the steel.</p> |

TECHNICAL SPECIFICATION FOR GROUNDING AND LIGHTENING PROTECTION SYSTEM
5. SIZES OF THE EARTHING MATERIALS FOR EQUIPMENT EARTHING

| S.No. | Title | Material | Sizes of the earthing | Type | UOM | No of Lead |
|-------|---------------------------|--------------------------|-----------------------|---------------------------------|----------|------------|
| | Main Earthing Grid | | | | | |
| 5.1 | Vertical Rods | MS Bonded Rods | 40 | Rod | mm (dia) | |
| 5.2 | Above Ground risers | GI | 50x10 | Flat | Sqmm | 2 |
| 5.3 | Horizontal Rods | MS Bonded Rods | 40 | Rod | mm (dia) | |
| 5.4 | Treated Earth Pit | MS Bonded Rods | 40 | Rod | mm (dia) | |
| | Power Transformers | | | | | |
| 5.5 | Frame | GI | 75X10 | Flat | Sqmm | 2 |
| 5.6 | Marshalling Box | GI | 50X6 | Flat | Sqmm | 2 |
| 5.7 | Radiator | GI | 50X6 | Flat | Sqmm | 2 |
| 5.8 | Neutral | GI | 75X10 | Flat | Sqmm | 2 |
| 5.9 | Fan | GI | | As per sizes mentioned for fans | | |
| | 11 KV System | | | | | |
| 5.10 | 11 KV Switchgear | GI | 50X6 | Flat | Sqmm | 2 |
| 5.11 | 11 KV Bus Duct | GI | 50X6 | Flat | Sqmm | 2 |
| 5.12 | 11 KV Cable Box | GI | 50X6 | Flat | Sqmm | 2 |
| | 415 V System | | | | | |
| 5.13 | ACDB | GI | 50X6 | Flat | Sqmm | 2 |
| 5.14 | Station Trafo Frame | GI | 50X6 | Flat | Sqmm | 2 |
| | DC System | | | | | |
| 5.15 | Battery Charger | GI | 50X6 | Flat | Sqmm | 2 |
| 5.16 | DCDB | GI | 50X6 | Flat | Sqmm | 2 |

TECHNICAL SPECIFICATION FOR GROUNDING AND LIGHTENING PROTECTION SYSTEM

| | Other Electrical Items | | | | | |
|------|---|----|------|------|------|-----------------------|
| 5.17 | Three phase receptacles, welding outlet | GI | 25x3 | Flat | Sqmm | 1 |
| 5.18 | C&R Panel | GI | 50X6 | Flat | Sqmm | 2 |
| 5.19 | Push Button | GI | 8 | Wire | Swg | 1 |
| 5.20 | Cable Trays(one run along the tray section) | GI | 50X6 | Flat | Sqmm | 1 |
| | Other Non Electrical Items | | | | | |
| 5.21 | Railway Tracks | GI | 25x6 | Flat | Sqmm | At suitable Points |
| 5.22 | Metallic noncurrent carrying structures like stair case | GI | 25x6 | Flat | Sqmm | 1 |
| 5.23 | Columns, Structures | GI | 50X6 | Flat | Sqmm | 2 |
| 5.24 | Steel pipe racks | GI | 25x6 | Flat | Sqmm | 1 |
| 5.25 | Fence/Gate | GI | 50X6 | Flat | Sqmm | As per clause 3.7 (e) |
| 5.26 | Hand Rail | GI | 8 | Wire | Swg | 1 |

6. TESTING AND INSPECTION

| | | |
|------|--------------------|---|
| 6.1. | Earthing materials | <ul style="list-style-type: none"> a. The purchaser reserves the right to inspect the material at the time of tests. All tests shall be performed in the presence of BYPL/BRPL representative. The bidder shall give intimation in advance to witness the test. b. Acceptance test for GI earthing strips – Tests for Visual examination, dimensional verification and galvanization shall be witnessed at the time of inspection. c. Acceptance test of Earth enhancement compound – Tests for leaching, sulphur determination, corrosion and resistivity shall be done as per IEC 62561-7 d. Type test reports of the earthing materials from CPRI/ERDA/Equivalent lab shall be submitted. The bidder shall submit UL-467/CPRI/ERDA test reports for copper clad steel rod. |
|------|--------------------|---|

TECHNICAL SPECIFICATION FOR GROUNDING AND LIGHTENING PROTECTION SYSTEM

| | | |
|------|---------------------------------|--|
| 6.2. | Measurement of Earth resistance | <p>a. After the completion of work ground resistance of each installation shall be measured by BYPL/BRPL/Contractor.</p> <p>b. The measurement of resistance shall be witnessed and signed by representative of BYPL/BRPL as well as the contractor. The test certificates shall be generated for each installation clearly indicating the details of the transformer, name of the substation, location, district, serial no. of testing equipment and name of testing engineer.</p> <p>c. The desired ground resistance shall be measured after interconnection of earth pits is completed. The value of earth resistance shall not be more than 0.5 ohm.</p> <p>d. In case where this value exceeds 0.5 ohms, the earthing design shall be redesigned. The pit location, earth electrode, soil treatment, earth conductor, GI strip used shall be checked whether properly used at site. If not, these shall be changed as per the redesigned plan.</p> |
|------|---------------------------------|--|

7. DEVIATIONS

| | | |
|------|-----------|---|
| 7.1. | 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. |
|------|-----------|---|

8. DOCUMENTS SUBMISSION

The bidder has to submit the following documents along with bid:-

| | |
|------|---|
| 8.1. | Complete earthing calculation |
| 8.2. | Complete product catalogue, Manual and calibration certificate of the equipment |
| 8.3. | Type test reports |
| 8.4. | Deviation Sheet (if any) |

9. GUARANTEED TECHNICAL PARTICULARS

| S. No | Parameter | BYPL/BRPL Requirement | Vendor Data |
|-------|--------------------------------------|-----------------------|-------------|
| 9.1 | Rod to rod welding | Exothermic | |
| 9.2 | Zinc deposition of GI earthing Strip | 610gm/sqm | |
| 9.3 | Length of GI Strip | 7m (Minimum) | |

TECHNICAL SPECIFICATION FOR GROUNDING AND LIGHTENING PROTECTION SYSTEM

| | | | |
|------|---|---|--|
| 9.4 | Diameter of Cu clad Rod | 25 mm or calculated Dia whichever is higher | |
| 9.5 | UL/CPRI/ERDA Certification of Cu Bonding | Test certificate to be provided | |
| 9.6 | Cu bonding | 250 Micron | |
| 9.7 | Length of Copper bonded rod | 3 m | |
| 9.8 | Purity of Copper | 99.99% | |
| 9.9 | Short circuit withstand test of Rod | 31.5kA | |
| 9.10 | Marking on the rod-Dimension Detail, product model no, Reference number of certification | Sample Required | |
| 9.11 | ROHS Certificate from NABL accredited lab for not having toxic chemical in earth enhance material | Test certificate to be provided | |
| 9.12 | Resistivity of earth enhancing material | 0.12 ohm-m(Max) | |
| 9.13 | Exothermic welding material | IEEE 837 Complied | |
| 9.14 | Make of Steel | SAIL/ESSAR/TATA | |

ANNEXURE A1 : REFERENCE FAULT LEVEL

| Voltage Level(kV) | Design Fault Level |
|--------------------------|---------------------------|
| 66/11 | 31.5 KA |
| 33/11 | 25 KA |



Technical Specification
of
Illumination and Lighting System
Specification no – BSES-TS-98-ILS-R0

| | | |
|-------------|--------------------|-------------|
| Rev | | 0 |
| Page | | 1 of 12 |
| Date | | 17 May 2022 |
| Prepared by | Bhanu Gehlot | |
| | Uttam Shukla | |
| Reviewed by | Abhinav Srivastava | |
| Approved by | Gopal Nariya | |

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TECHNICAL SPECIFICATION OF ILLUMINATION AND LIGHTING SYSTEM**1. SCOPE**

The specification covers the design, engineering, manufacture, assembly and testing at manufacturer's work, supply and installation of Illumination system for substation including normal distribution pillars, normal lighting board, emergency distribution pillar, emergency lighting board, Junction boxes, Illumination lamps with required lux level.

2. STANDARDS AND CODES

| Standard Code | Standard Description |
|----------------------|---|
| IS 16101 : 2012 | General Lighting -LEDs and LED modules – Terms and Definitions |
| IS16102(Part 1) 2012 | Self-Ballasted LED Lamps for General Lighting Services, Part 1 Safety Requirements |
| IS16102(Part 2) 2012 | Self-Ballasted LED Lamps for General Lighting Services, Part 2 Performance Requirements |
| IS16103(Part 1) 2012 | Led Modules for General Lighting, Part 1 Safety Requirements |
| IS16103(Part 2) 2012 | Led Modules for General Lighting, Part 2 Performance Requirements |
| IS15885(Part2/Sec13) | Safety of Lamp Control Gear , Part 2 Particular Requirements , Section 13 dc. or ac. Supplied Electronic Control gear for Led Modules |
| IS16104 : 2012 | d.c. or a.c. Supplied Electronic Control Gear for LED Modules - Performance Requirements |
| IS16105 : 2012 | Method of Measurement of Lumen Maintenance of Solid State Light (LED) Sources |
| IS16106 : 2012 | Method of Electrical and Photometric Measurements of Solid-State Lighting (LED) Products |
| IS 16107(Part 1)2012 | Luminaires Performance ,Part 1 General Requirements |
| IS 16107(Part 2)2012 | Luminaires Performance, Part 2 Particular Requirements ,Section 1 LED Luminaire |
| IS 16108 : 2012 | Photo biological Safety of Lamps and Lamp Systems |
| IS 10322 : 2012 | Luminaires: Part 5 Particular requirements, Section 3 Luminaires for road and street lighting |
| IS 5 | Colours for Ready Mixed Paints and Enamels |
| IS 613 | Copper Rods and Bars for electrical purposes |
| IS 694 | PVC Insulated cables for working voltages up to and including 1100 V |
| IS 2551 | Danger notice plates |
| IS 5082 | Wrought Aluminium and Aluminium alloy bars, rods, tubes and sections for electrical purpose |
| IS 6665 | Code of practice for industrial lighting |
| IS 13703 | LV Fuses for voltage not exceeding 1000V ac or 1500V dc |
| IS 10118 | Code of Practice for Selection, Installation and Maintenance of |

TECHNICAL SPECIFICATION OF ILLUMINATION AND LIGHTING SYSTEM

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| | Switchgear and Controlgear |
| International Standard | |
| IEC 62612 | Self-ballasted LED lamps for general lighting services for voltage above 50 V — Performance requirements |
| IEC : 60598-2-3 | Particular requirements - Luminaires for road and street lighting |
| IEC 62471 | Photo biological safety of lamps and lamp systems |
| IEC 62778 | Application of IEC 62471 for the assessment of blue light hazard to light sources and luminaires |
| IEC 61000-4-5 | Electromagnetic compatibility (EMC) - Part 4-5: Testing and measurement techniques - Surge immunity test |
| IEC 60439 | Low Voltage Switchgear and Controlgear assemblies - Type tested and partially type tested assemblies |
| IEC 60529 | Degrees of protection provided by enclosures (IP Code) |
| IEC 60947-1 | Low Voltage Switchgear and Controlgear - General Rules |
| IEC 60947-2 | Low Voltage Switchgear and Controlgear - Circuit breakers |
| IEC 61643 | Low-voltage surge protective devices |

3. ILLUMINATION SYSTEM

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| 3.1. | Lux level requirement | <p>3.1.1. The design of the illumination system shall ensure availability of the average illumination levels as specified below with the maximum possible uniformity in the entire substation. The illumination system shall consist of the normal lighting system and emergency lighting system. The minimum illumination levels shall be as specified below(Reference IS3646(Part II)).</p> <table> <tr> <td>3.1.1.1. Roads within substation</td><td>:</td><td>20 lux</td></tr> <tr> <td>3.1.1.2. Boundary wall of the substation</td><td>:</td><td>10 lux</td></tr> <tr> <td>3.1.1.3. Control room</td><td>:</td><td>300 lux</td></tr> <tr> <td>3.1.1.4. Switchgear Room</td><td>:</td><td>200 lux</td></tr> <tr> <td>3.1.1.5. Battery room</td><td>:</td><td>100 lux</td></tr> <tr> <td>3.1.1.6. Stair case</td><td>:</td><td>100 lux</td></tr> <tr> <td>3.1.1.7. Power Transformers</td><td>:</td><td>100 lux</td></tr> <tr> <td>3.1.1.8. Cable cellar/ Indoor trench</td><td>:</td><td>70 lux</td></tr> <tr> <td>3.1.1.9. Outdoor switchyard</td><td>:</td><td>70 lux</td></tr> <tr> <td>3.1.1.10. APFC/ station trafo</td><td>:</td><td>70 lux</td></tr> </table> <p>3.1.2. Contractor shall design the lighting system with the help of desired software. Owner shall verify the same post commissioning with lux meter to check the levels. In case desired lux levels are not met contractor has to install addition fitting in outdoor and indoor location as per requirement.</p> <p>3.1.3. Complete design calculation sheets for arriving at the number of luminaires required for the normal and emergency requirements shall be furnished by the bidder. Design calculation sheets for the selection of cables, MCB, HRC fuses, bus bars, etc. are also required to be furnished for Owner's approval.</p> | 3.1.1.1. Roads within substation | : | 20 lux | 3.1.1.2. Boundary wall of the substation | : | 10 lux | 3.1.1.3. Control room | : | 300 lux | 3.1.1.4. Switchgear Room | : | 200 lux | 3.1.1.5. Battery room | : | 100 lux | 3.1.1.6. Stair case | : | 100 lux | 3.1.1.7. Power Transformers | : | 100 lux | 3.1.1.8. Cable cellar/ Indoor trench | : | 70 lux | 3.1.1.9. Outdoor switchyard | : | 70 lux | 3.1.1.10. APFC/ station trafo | : | 70 lux |
| 3.1.1.1. Roads within substation | : | 20 lux | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.1.2. Boundary wall of the substation | : | 10 lux | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.1.3. Control room | : | 300 lux | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.1.4. Switchgear Room | : | 200 lux | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.1.5. Battery room | : | 100 lux | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.1.6. Stair case | : | 100 lux | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.1.7. Power Transformers | : | 100 lux | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.1.8. Cable cellar/ Indoor trench | : | 70 lux | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.1.9. Outdoor switchyard | : | 70 lux | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3.1.1.10. APFC/ station trafo | : | 70 lux | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

TECHNICAL SPECIFICATION OF ILLUMINATION AND LIGHTING SYSTEM

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| 3.2. | Illumination circuit | <p>3.2.1. The illumination system load and welding load in the substation area shall be supplied from 415/230 volt ACDBs to be provided in the substation control room. Requisite numbers of 3-phase, 4-wire, cable circuits for illumination system and welding socket outlets shall be extended from the above board. The laying of cables from the Board to the illumination system/welding socket outlets and their installation are included in the Bidder's scope.</p> <p>3.2.2. Each outgoing cable circuit for illumination loads from the 415 volt switchboard shall terminate in the respective outdoor pillar boxes located in the substation. Outgoing feeders from the illumination shall be taken to the various illumination points in the substation. Necessary fuses shall be provided near light fixtures in the substation.</p> <p>3.2.3. The emergency illumination load shall be supplied from the main emergency illumination board located in the control room. Necessary cable circuits with appropriate fuses shall be provided by the Contractor for the supply system for emergency illumination load of the substation.</p> <p>3.2.4. Emergency DC lighting system shall be provided in the substation wherever required. The emergency lighting shall be adequate for safe movement by the operating personnel in the substation in the event of failure of normal lighting system. Number of lights shall be decided at the time of detailed engineering. A total of minimum 12 no's individually controllable 18 watt LEDs shall be provided in the substation.</p> <p>3.2.5. 6 Nos. welding sockets to be provided, 4 Nos. in Outdoor Yard & 2 Nos. in Control room building.</p> <p>3.2.6. Illumination to be provided inside the Indoor trenches as per required lux level.</p> |
| 3.3. | Wiring | <p>3.3.1. All lighting fixtures and 5A convenience outlets shall be wired with 1.1 KV grade PVC insulated extra flexible, multistranded, copper conductor cables of size not less than 2.5 sq.mm.</p> <p>3.3.2. For 15A heavy-duty outlets copper conductor cables of size not less than 6 sq. mm shall be used.</p> <p>3.3.3. The wiring shall consist of phase, neutral and ground. For grounding the lighting fixtures/convenience outlets etc. Green CU wire of size 2.5 sqmm shall be used. The phase and neutral conductor shall be suitably colour coded. For DC black & white wires to be used.</p> <p>3.3.4. Supply shall be looped between the lighting fixtures of the same circuit by using junction boxes. For this purpose one (1) 100 mm x 100 mm square junction box shall be provided for each lighting fixture. For recessed lighting fixtures, supply shall be extended from the junction boxes to the fixtures by means of flexible conduits. The conduits shall be of HMS (High mechanical stress) type and of minimum dia 25 MM. While for stem-mounted/wall-mounted lighting fixtures the junction box shall be</p> |

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| | | <p>mounted below one of the mounting stems.</p> <p>3.3.5. For lighting branch circuits the nos. of lighting switches shall be decided keeping in mind the ease of control, as well as to limit the current to 2.5A per circuit.</p> <p>3.3.6. For convenience outlets, the bidder shall design the wiring scheme so as to limit 6 nos. of 5A outlets per branch circuit and two nos. of 15A outlets per branch circuit.</p> <p>3.3.7. All wiring materials such as terminals, crimping lugs, ferrules etc. shall also be provided by the Contractor.</p> <p>3.3.8. No section of the conduit shall be filled with more than 70% of its area. Any consumable material that is required for pulling the wires through conduit shall also be provided by the Contractor.</p> <p>3.3.9. Lighting fixtures coming in one area shall be evenly distributed between three phases so that tripping of one phase or two phases does not cause total loss of illumination in that area.</p> |
| 3.4. | Required documents to be submitted | Complete manufacturer's literature/catalogues, performance curves, illumination distribution curves, G.A. drawings, specification sheets, etc. as relevant in respect of all materials/equipment to be supplied shall be submitted by the Contractor. |
| 3.5. | Illumination system check after installation | After completion of installation of the illumination system in the substation, the actual illumination level at different locations shall be measured by the Contractor in the presence of Owner's authorised representative. If the average value of the measured illumination levels is found to fall short of the specified levels, the Contractor shall have to provide additional lighting fixtures so as to achieve the specified levels of illumination at no additional cost to the Owner. While measuring the illumination levels due allowance shall be made on account of maintenance factor. The specified lux levels shall be suitably increased to cover maintenance factor of 0.6 for outdoor areas. |

4. DISTRIBUTION PILLARS FOR NORMAL ILLUMINATION SYSTEM

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| 4.1. | Construction | <p>4.1.1. Distribution pillars of adequate dimensions shall be constructed from sheet steel having a thickness not less than 2 mm.</p> <p>4.1.2. The pillars shall be totally enclosed weather-proof, dustproof, vermin-proof, having hinged doors with locking arrangement and shall be capable of being mounted in the substation.</p> <p>4.1.3. The pillars suitable for cable entry at the bottom shall be designed for easy access of connections to terminals and inspection of equipment mounted therein.</p> <p>4.1.4. The degree of protection of the board shall be IP55.</p> <p>4.1.5. The enclosure shall be painted externally with Shade No., 692 of IS:5 and internally with brilliant white of semi-glossy finish of IS:5.</p> <p>4.1.6. Location of LDB, ELDB & PDB to be finalized during</p> |
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TECHNICAL SPECIFICATION OF ILLUMINATION AND LIGHTING SYSTEM

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| | | detailed engineering. |
| 4.2. | Configuration | <p>4.2.1. Each pillar shall accommodate the following:</p> <p>4.2.2. One incoming, 4-pole (3 phase and neutral) isolating switch with MCB of appropriate current rating.</p> <p>4.2.3. 3-phase and neutral bus bars of appropriate current rating.</p> <p>4.2.4. Single-pole earth leakage circuit breakers of suitable current ratings on all outgoing circuits.</p> <p>4.2.5. Neutral links for all outgoing circuits.</p> <p>4.2.6. Cable lugs, compression type cable glands, name plates, circuit numbers, earthing lugs, etc. to make the pillar complete in all respects.</p> <p>4.2.7. 20% spare outlets shall be provided for outgoing feeders.</p> <p>4.2.8. Three (3) indicating lamps with fuses to indicate that supply is 'ON'.</p> |

5. LIGHTING DISTRIBUTION BOARDS

| | | |
|------|---------------|---|
| 5.1. | Construction | <p>5.1.1. Metal-clad enclosure with minimum 2 mm CRCA sheets for load-bearing members and 1.6 mm for non load-bearing members suitably reinforced with structural.</p> <p>5.1.2. 3-phase, 4-wire bus bar system with high conductivity aluminium busbars mounting on FRP insulators having anti-tractive property with minimum 25 mm phase-to-phase and minimum 19 mm phase-to-earth clearances. The busbars shall be uniform throughout the length of the LDB and busbar joints shall be silver plated and covered with shrouds.</p> <p>5.1.3. All cables shall enter from the bottom.</p> <p>5.1.4. The degree of protection for the LDB shall be IP-54.</p> <p>5.1.5. The enclosure shall be painted externally with Shade No., 692 of IS:5 and internally with brilliant white of semi-glossy finish of IS:5.</p> |
| 5.2. | Configuration | <p>Each LDB shall accommodate the following:</p> <p>5.2.1. One incoming, 4-pole (3 phase and neutral) isolating switch with MCB of appropriate current rating.</p> <p>5.2.2. 3-phase and neutral bus bars of appropriate current rating.</p> <p>5.2.3. 4 Pole outgoing MCBs of appropriate rating</p> <p>5.2.4. Cable lugs, compression type cable glands, name plates, circuit numbers, earthing lugs, etc. to make the pillar complete in all respects.</p> <p>5.2.5. 20% spare outlets shall be provided for outgoing feeders.</p> <p>5.2.6. Three (3) Nos. indication lamps (Red, Yellow, Blue) shall be provided to indicate that the incoming supply is available. Similarly, 3 Nos. indication lamps shall be provided to indicate that the busbar is energised.</p> |
| 5.3. | Busbar | <p>5.3.1. The busbars shall be suitable for short-time current rating of 40KA for 1 Sec.</p> |

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| | | <p>5.3.2. The busbar temperature rise shall not exceed 35 Deg C over an ambient of 50 Deg C.</p> <p>5.3.3. The LDBs shall be provided with a continuous busbar of 25 x 6 sq.mm (electrolytic copper) with suitable hardware for connection to the main grounding grid</p> |
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6. MAIN EMERGENCY LIGHTING BOARD

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| 6.1. | Construction | <p>6.1.1. Metal-clad enclosure with minimum 2 mm CRCA sheets for load-bearing members and 1.6 mm for non load-bearing members suitably reinforced with structural.</p> <p>6.1.2. All cables shall enter from the bottom.</p> <p>6.1.3. The degree of protection for the LDB shall be IP-54.</p> <p>6.1.4. The enclosure shall be painted externally with Shade No., 692 to IS:5 and internally with brilliant white of semi-glossy finish to IS:5.</p> |
| 6.2. | Configuration | <p>6.2.1. Each Board shall accommodate the followings:</p> <p>6.2.2. Automatic changeover contactor.</p> <p>6.2.3. Voltage sensing relays.</p> <p>6.2.4. Time delay relay.</p> <p>6.2.5. Bus Bars.</p> <p>6.2.6. Two pole MCBs of adequate ratings for incoming and outgoing feeders.</p> <p>6.2.7. Test switch, push button type.</p> <p>6.2.8. Indicating lamps, ac - Green, dc - Red.</p> <p>6.2.9. Terminals for remote indication</p> <p>6.2.10. Cable lugs, compression type cable glands, name-plates, circuit numbers, earthing lugs and remote indication wiring upto substation 415V a.c. control board, to make the board complete in all respects.</p> |
| 6.3. | Changeover facility | The main emergency lighting board shall have an automatic changeover switch to energise the dc lighting system in the event of AC power failure. It shall have voltage-sensing relays to perform the changeover automatically when AC voltage of any one phase falls below 60 percent of 240 volts and continues at that low level for more than 10 seconds. These shall changeover from DC to AC again when 70 percent of 240 volt is restored and this continues for 10 seconds. |
| 6.4. | Emergency Lighting Pillar | Local Emergency Lighting Pillar shall be identical in details to Lighting Distribution Pillar specified in clause 4 except that it shall have two pole isolating switch fuse unit on the incoming side and only two busbars and shall be without neutral links. |

TECHNICAL SPECIFICATION OF ILLUMINATION AND LIGHTING SYSTEM**7. LUMINAIRES**

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| 7.1. | Luminaires type | <p>Luminaires for use in normal and emergency illumination systems in the substation shall be suitable for LED lamps. All the luminaires shall be supplied complete with all accessories and lamps. The LED lamps ratings shall be adequate to achieve the required Lux level and calculation for number of luminaires shall be in the bidder's scope. Minimum rating shall be as follows -</p> <p>7.1.1. Outdoor –90W minimum 7.1.2. Indoor –36W minimum</p> |
| 7.2. | Flood lights | The flood light luminaires in the substation shall be fixed at suitable height on the substation structures/ building, so as to provide the specified average illumination in the substation area without causing any glare to the operational/ maintenance staff working in the substation. While fixing the luminaires it shall be ensured that the stipulated electrical clearances are not violated. The Contractor shall supply and install suitable type of non-metalllic street light poles or octagonal galvanized poles required for installing the fittings for illuminating the roads, fence boundary wall etc. |
| 7.3. | Reliability | Substation lighting circuits shall be divided into two or three sections and provided with time switches of suitable ratings. |
| 7.4. | Design features for Outdoor Luminaires | |
| 7.5. | Fixture | <p>7.5.1. The luminaires housing shall be either extruded or pressure die casted aluminium of minimum 1.6 mm thickness. Body must be Corrosion Resistant Powder Coated and UV resistant.</p> <p>7.5.2. The entire housing shall be dust and waterproof having Ingress protection of housing as IP65 or above as per IEC 60529.</p> <p>7.5.3. Luminaire should be covered with suitable Glass or diffuser with high Transitivity. All luminaires shall be supplied with either clear toughened glass or clear polycarbonate cover for better IP retention and higher life.</p> |
| 7.6. | LED | <p>7.6.1. The luminous efficacy of LED luminaires shall be at least 85 lumen/watt.</p> <p>7.6.2. LED module efficacy shall not be less than 90 percent of the rated LED module Efficacy.</p> <p>7.6.3. Color Rendering Index (CRI) shall be at least 70</p> <p>7.6.4. Color Temperature shall be 5500-6500K</p> <p>7.6.5. Uniformity $E_{min}/E_{avg} > 0.4$, $E_{min}/E_{max} > 0.33$</p> |
| 7.7. | LED Driver | <p>LED driver shall have following features:</p> <p>7.7.1. LED driver shall be applicable for Power supply 240V AC $\pm 10\%$, at 50Hz $+3\% / -5\%$.</p> <p>7.7.2. Output voltage of the driver shall be designed to meet the</p> |

TECHNICAL SPECIFICATION OF ILLUMINATION AND LIGHTING SYSTEM

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| | | 7.7.3. Power Requirements of the system. Power factor of complete fitting shall be more than 0.90 at full load. |
| | | 7.7.4. Total Harmonic Distortion (THD) shall be < 10 % |
| 7.8. | General Requirements | <p>7.8.1. The connecting wires used inside the Luminaire, shall be low smoke halogen free, fire retardant e-beam cable and fuse protection shall be provided in input side.</p> <p>7.8.2. The lumen maintenance of all the LED fixtures shall not be less than 70% after 50,000 hours.</p> <p>7.8.3. Built in protection features for Short circuit, Surges (at least upto 5kV), and overvoltage shall be provided.</p> <p>7.8.4. High /Low voltage cut-off shall be provided.</p> <p>7.8.5. The whole luminaire shall be eco-friendly green technology based i.e. mercury free.</p> <p>7.8.6. No UV and IR radiations shall be produced.</p> <p>7.8.7. Access of driver for maintenance shall be provided at the top/side of the luminaire fixture.</p> <p>7.8.8. All fasteners must be of stainless steel.</p> |

8. JUNCTION BOXES/WALL BOXES

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| 8.1. | Size | 100 mm x 100 mm junction boxes and wall boxes of standard size shall be provided. |
| 8.2. | Construction | Wall boxes and junction boxes shall be made of FRP with a thickness of 2.0mm. Necessary conduit termination fittings such as bushings, locknuts etc. also be provided. |

9. AUTOMATIC LIGHTING CONTROLLER

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| 9.1. | Size | Contractor shall provide microprocessor based automatic lighting controller for controlling switching arrangement of indoor and outdoor lighting. The controller shall have provision of setting 52 week ON / OFF time as per astronomical clock or as per user requirement. All abnormal events shall be recorded in the controller. Secure / Genus or equivalent are approved makes. |
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10. SOCKETS & SWITCHES

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| 10.1. | Indoor | All sockets and switches shall be modular and universal type suitable for 5/15A |
| 10.2. | Outdoor | Two nos transformer oil filtration sockets shall be provided, one at each transformer bay. These sockets shall be three phase industrial type and rated for 100A. |

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11. NAMEPLATE & MARKING

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| 11.1. | Name plate details of LED housing | <p>Followings shall be clearly engraved/embossed on the die cast housing of LED: Rated voltage or voltage range (marked 'V' or 'Volt');</p> <p>11.1.1. Rated current (marked 'A' or 'Ampere'); 11.1.2. Rated wattage (marked 'W' or 'Watts'); 11.1.3. Rated frequency (marked in 'Hz') 11.1.4. Rated lumen 11.1.5. Indian/International Standards to which it is manufactured 11.1.6. Month and year manufacture 11.1.7. Customer Name - BSES Yamuna / Rajdhani Power Ltd 11.1.8. Fitting serial number 11.1.9. PO no and date 11.1.10. Guarantee period</p> |
| 11.2. | Panel nameplate and marking details | |
| 11.2.1. | Panel nameplate | <p>Panel shall have a nameplate clearly indicating the following:</p> <p>11.2.1.1. Panel Serial No.- 11.2.1.2. Customer Name - BSES Yamuna/Rajdhani Power Ltd 11.2.1.3. PO No. & date - 11.2.1.4. Panel Name - 11.2.1.5. Current rating - 11.2.1.6. Guarantee period -</p> |
| 11.2.2. | Feeder nameplate | Large and bold name plate carrying the feeder identification shall be provided on the top of each module. |
| 11.2.3. | Danger plate | Panel shall have a danger plate of anodized Aluminium clearly indicating the danger logo and voltage details. |
| 11.2.4. | Material | Anodized Aluminium 16SWG. Nameplates shall be satin silver in colour with black letters engraved on them. Stickers are not allowed. |
| 11.2.5. | Fixing | All nameplates shall be riveted to the panels at all four corners. Bolting/screwing is not acceptable. |

12. APPROVED MAKE OF COMPONENTS

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| 12.1. | Relays | ABB/Jyoti/Omran |
| 12.2. | HRC Fuse Links | GE/ Siemens/ L&T |
| 12.3. | AC Contractors/ DC contactor | L&T/Siemens/Telemecanique/GE/ABB |

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| 12.4. | Terminals | Connectwell/Elmex/Wago/Phoenix |
| 12.5. | Push buttons / Actuator | L&T/Siemens/Vaishno/Schneider |
| 12.6. | MCB | Legrand/Hager/Schneider/ABB |
| 12.7. | LED | NICHIA/ OSRAM/ CREE/ PHILIPS//EDISON |
| 12.8. | Luminaire fittings | GE/Philips/Crompton/Bajaj |
| 12.9. | Indicating lamps | Vaishno/Binay/Teknic/Siemens/Mimic/C&S |

13. INSPECTION & TESTING

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| 13.1. | Type test | All Equipment should be of type tested quality only, type test certificate to be submitted along with offer. If the manufacturer's lab is accredited by govt. / authorized body then it shall be acceptable for type testing. |
| 13.2. | Acceptance & Routine tests | As per relevant Indian standard |

14. DEVIATION

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| 14.1. | 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. |
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TECHNICAL SPECIFICATION
FOR
CABLE INSTALLATION & ACCESSORIES

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|-------------|--------------------|--|----------------------------------|
| Prepared by | Javed Ahmed | | Rev: 1 |
| Reviewed by | Abhinav Srivastava | | Date: 12 th June 2018 |
| Approved by | K.Sheshadri | | |

Technical Specification for Cable Installation and Accessories

1.0 INSTALLATION OF CABLES:

- 1.1 The cable shall be laid as per IS 1255. The Contractor shall prepare cable schedules for all the cable circuits associated with the equipment in the substation showing length, size and routing of each cable which shall be given suitable code numbers and submit the same for Owner's/Engineer's information/approval. Cable and Conduit laying shall be done strictly in accordance with the cable schedules.
- 1.2 The control and power cables shall be laid in conduits, concrete pipes, ducts, trays or cable trenches unless indicated otherwise. The power and control cables shall be laid in different trays. Cables shall be cleated to the cable tray after properly dressing.
- 1.3 Ducts shall be provided wherever cable trenches cross roads with provision of one spare duct for future use.
- 1.4 All civil works, viz, excavations, sand cover, providing brick cover on directly laid cables, construction of foundations, trenches with cable tray supports, cable ducts under roads, back filling, finishing associated with cabling work shall be duly completed.
- 1.5 The Contractor shall supply and install all the surface mounted/ embedded rigid and flexible conduits, their connections, and associated clamps, bushings, lock-nuts, caps etc required in the cabling work.
- 1.6 All conduits and their accessories shall be made of galvanized heavy gauge steel as per BIS Specification. The internal bore of all pipes shall be smooth and suitable for pulling PVC sheathed cables without damage.
- 1.7 The Contractor shall supply all fittings including ordinary tees and elbows, check nuts, male and female fittings pull boxes, junction boxes, conduit outlets, outlet boxes, splice boxes, terminal boxes, gaskets and box covers, saddles and all supporting steel work and all such arrangements which are required to complete the conduit installations.
- 1.8 Pre-fabricated junction boxes, conduit boxes and conduits shall be shop fabricated out of malleable iron or steel plates and shall be galvanized and provided with galvanized malleable iron or steel plate covers and rubber gaskets
- 1.9 All the apparatus, connections and cable work shall be designed and arranged to eliminate the risk of fire and minimize damage which might be caused in the event of fire. Wherever cables pass through floor or wall openings or other partitions, suitable bushes of approved type shall be supplied and put in position by the Contractor.
- 1.10 Standard cable grips, reels and rollers shall be utilized for cable pulling.
- 1.11 Each cable, whether power or control, shall be provided with a metallic or plastic tag of an approved type, bearing cable reference number indicated in the cable schedule prepared by the Contractor, at every 10 meter run and at both ends of the cable, adjacent to the

Technical Specification for Cable Installation and Accessories

terminations as well as where cables enter or leave ducts. Cable routing shall be so done that cables are accessible for identification and maintenance easily, and are arranged neatly.

- 1.12 In no case the cables shall be bent sharply or kinked with the radius of bending falling below 15D where D is the overall diameter of the cable.
- 1.13 When power cables are laid in the proximity of communication cables, the minimum horizontal and vertical separation between power and communication cables shall be 600 mm. Wherever possible the power and communication cables shall be located as far from each other as possible. The power and communication cables shall cross each other at right angles.
- 1.14 Wherever cables cross roads, water, oil, sewage or steam-lines, special care shall be taken while designing the trenches/ducts for protection of the cables.
- 1.15 In each cable run, some extra length shall be provided at a suitable location to enable making of one or two straight-through joints for carrying out repairs if the cable develops fault at a later date.
- 1.16 Cable splices shall not be permitted except where called for as per the construction drawings, or where permitted by the Engineer. Straight-through joints in the run of cables wherever unavoidable shall be through joint-boxes.
- 1.17 The termination of cables at various equipments shall be carefully made in accordance with the manufacturer's instructions and detailed connection diagrams.

Termination materials for all cables shall match with the type of cable insulation and have thermal and electrical ratings and chemical properties similar to those of the associated cable.

All terminating materials except for those already supplied with the electrical equipment shall be provided by the Contractor.

- 1.18 Control cable terminations shall be made in accordance with the color code marked wiring diagrams of control circuits. Multi-conductor control cable jackets shall be removed as required to train and terminate the conductors. The cable jacket shall be left on the cable, to the extent possible. The insulated conductors from which the jacket is removed shall be neatly trained in bundles and terminated. The bundles shall be firmly, but not tightly, tied utilizing plastic or nylon ties or specially treated fungus-proof cord.
- 1.19 The connectors for control cables shall preferably terminate in Ross Courteny terminals and washers and be covered with transparent insulating sleeves so as to prevent accidental contact with ground or adjacent terminals. The insulating sleeves shall be fire resistant and shall be long enough to overlap the conductor insulation.

Technical Specification for Cable Installation and Accessories

1.20 When control cables are to be fanned out and tied together with cord, the Contractor shall make connections to terminal blocks and test the equipment for proper operation before tying the cables together with cord.

1.21 Jointing of cables shall be made in accordance with the applicable Bureau of Indian Standards Code of practice, Owners approval and manufacturer's special instructions. The materials and tools required for cable jointing work shall be in the Contractor's scope.

1.22 The supply of joint boxes shall include all hardware fittings, compounds, tapes and other materials required for making the joints.

Special tools, clips and saddles, glands, seals, PVC sealing compound, locknut, etc, required for connection and termination of cables shall be in the Contractor's scope.

1.23 All cables shall be megger-tested before jointing. After jointing is completed all L.V cables shall be megger-tested.

Cable cores shall be tested for:

- i. Continuity.
- ii. Absence of cross phasing
- iii. Insulation resistance to earth.
- iv. Insulation resistance between conductors.

2.0 CABLE TRAYS, ACCESSORIES & TRAY SUPPORTS, CONDUITS, PIPES AND DUCTS

2.1 Cable trays shall be run either in concrete cable trench or overhead supported from building steel. The cable trays shall be ladder type for power cable and perforated type for Control cable. The trays shall be supplied with matching fittings and accessories.

2.2 Cable tray shall be fabricated out of rolled mild steel sheets free from flaws such as laminations, rolling marks, pitting etc. Minimum thickness of cable trays shall be 2.0mm.

2.3 Cables shall be clamped to the cable trays in the horizontal runs with 18 gauge GI wires. For vertical runs the cables shall be clamped with suitable site-fabricated clamps.

2.4 All cable trays including perforated sheet trays, weld mesh trays, vertical raceways shall be hot-dip galvanized and epoxy coated. The trays shall be of standard width of 150mm, 300mm, 450mm & 600mm and standard length of 2.5M. Trays upto 300mm shall be perforated type and above 300 mm shall be ladder type.

2.5 The conductors carrying AC and DC supplies shall not be bunched together in a conduit. Where single-core cables are individually drawn into separate pipes, HDPE pipes shall be used.

Technical Specification for Cable Installation and Accessories

- 2.6 Flexible metallic conduits shall be used for termination of connections to equipment to be disconnected at periodic intervals and also for termination of connections to level switches, limit switches, pressure switches etc.
 - 2.7 In order to minimize condensation or sweating inside the conduit, all outlets of the conduit system shall be properly drained and ventilated so to prevent entry of insects and water as far as possible.
 - 2.8 The conduits or pipes shall be run along walls, floor and ceilings, on steel supports, embedded in soil, floor, wall or foundation, in accordance with the relevant layout drawings, approved by the Owner.
 - 2.9 All fittings in the conduit systems having threaded connections shall be tightened with full thread engagement and with a minimum of wrench work in order to avoid wrench outs.
 - 2.10 Embedded conduits running parallel to a masonry surface shall, wherever possible, have a cover of at least 38 mm.
 - 2.11 The conduits shall be lead into terminal boxes through the entry points provided by the equipment manufacturers unless otherwise shown in the drawings or unless otherwise directed by the Engineer.
 - 2.12 While installing asbestos pipe or other fiber conduit, cracked pieces shall not be used. The sections cracked or broken during or after placement shall be replaced.
 - 2.13 For underground conduit runs the Contractor shall excavate and backfill as necessary.
 - 2.14 Exposed conduit shall be adequately supported by racks and clamps or straps or by other approved means.
 - 2.15 Where conduits are stubbed out of masonry for future extension outside the structure, they shall be specially protected against corrosion and shall be boxed in against possible physical damage.
 - 2.16 Each conduit run shall be marked with its designation as indicated on the drawings - 'Identification'.
 - 2.17 Where conduit and boxes in locations of severe exposure require, painting of galvanized surfaces with Alkyd Resin Zinc Dust paint following by a finish coat of Aluminum paint, shall be performed by the Contractor in a good and approved manner.
 - 2.18 The Contractor shall bond of metal pipes or conduits in which cables have been installed to the main earthing system.
 - 2.19 The conduits and accessories shall be adequately protected against mechanical damage as well as corrosion.
-

Technical Specification for Cable Installation and Accessories

3.0 TERMINATION AND STRIGHT THROUGH JOINTS

- 3.1 Termination and jointing kits for 11KV and 33KV grade XLPE insulated Aluminum cables shall be proven design and make already been extensively used and type tested. Termination kit and jointing kits shall be pre moulded type, taped type or heat shrinkable. The joints and termination shall be tested as per IS 13573. The kit contents shall be of proven design and type tested. Kit contents shall be supplied from the same source as were used for type tested. The kit shall be complete with Aluminum solderless crimping cable lugs and ferrules as DIN standard

The termination kit make and specification shall be strictly as per approval of the Owner.

- 3.2 The straight through and termination kit shall be suitable to withstand the fault level for 11KV and 33KV system

4.0 CABLE GLANDS, LUGS & ACCESSORIES

- 4.1 The cable shall be terminated using double compression type cable glands. The cable glands shall confirm to BS 6121 and of robust construction capable of clamping the cables and armour firmly without injury to the insulation. The cable glands shall be made out of heavy duty brass machine finished and nickel chrome plated. The thickness of plating shall not be less than 10 micron. The rubber component shall be made out of neoprene and tested quality.
- 4.2 The trefoil clamps for single core cables shall be pressurized die cast Aluminum or fiber Glass or Nylon and shall include necessary fixing accessories such as GI bolts and nuts. Trefoil clamps shall have adequate mechanical strength to withstand the forces generated by short circuit current.
- 4.3 Cable End seal (Roxtec/MCT Brattberg) shall be provided for all Control Cable and Power Cable (including outgoing HT panels) at all the points wherever cable entries in the control room building or between room to room. 30% Spare modules shall be provided along with centre core has to be provided. System shall take up variation margin of +/-3mm in diameter of Cable. For details refer specs.

5.0 DEVIATIONS

Deviation from this specification, if any, shall be clearly brought out in the offer. Unless owner explicitly accepts such deviations, it shall be considered that the offer fully complies with the specification.

TECHNICAL SPECIFICATION

FOR

**EXHAUST & VENTILATION SYSTEM
INCLUDING AIRCONDITIONING**

| | | | |
|-------------|--|--|--------|
| Prepared by | | | Rev: 0 |
| Reviewed by | | | Date: |
| Approved by | | | |

Technical Specification Exhaust and Ventilation System

1.0 INTENT OF SPECIFICATION

- 1.1 This specification is intended to cover the design, manufacture, assembly, testing at manufacturer's works, supply & delivery, properly packed for transport for site of Air Conditioning system and Ventilation system for substation control room building complete with all materials and accessories for efficient and trouble free operation
- 1.2 In the event of any discrepancy with the listed documents, the stipulation this specification shall govern.

2.0 SCOPE OF SUPPLY

The following equipment shall be furnished with all accessories.

- a) Exhaust Fan system.
- b) Air Conditioning
- c) All necessary components for operation of the above equipment.
- d) All wiring & accessories to complete the installation.
- e) All relevant drawings, data & instruction manuals.
- f) Mandatory spares.
- g) Commissioning spares and recommended spare part list for three (3)

3.0 GENERAL REQUIREMENT

- 3.1 All equipment and material shall be designed, manufactured and tested in accordance with the latest applicable Indian Standards except where modified and/or supplemented by this specification.
 - 3.2 Equipment and materials conforming to any other standard, which ensures equal or greater quality, may be accepted. In such case copies of the English version of the standard adopted shall be submitted along with the bid.
 - 3.3 In particular, the following standards and specifications are applicable.
 - 3.4 Air conditioners suitable for 230V, 50 Hz single phase AC supply shall be capable of performing the functions as cooling, dehumidifying, air circulating and filtering. The air conditioners shall be complete with automatic temperature control and cut-in and cutout etc. for temperature range 16 to 25 degree C.
 - 3.5 Outdoor unit of the air conditioners shall be fitted discharge cooled type rotary Compressor.
 - 3.6 Air Conditioner shall be 5 Star rated
-

Technical Specification Exhaust and Ventilation System

- 3.7 Air Conditioning shall maintain 22 Degree Celsius in summers and Winters, Environment condition shall be referred from General Design Criteria Chapter 1
- 3.8 Approved make of AC is Voltas/LG/Carrier.
- 3.9 The minimum thickness of the base in outdoor unit shall be 1.20 mm & sheet thickness for rest of the body shall be 0.70 mm (Min.) with galvanized coating thickness of 120 g/ sq. m and shall be provided with stiffeners for robust construction and shall have rounded corners.
- 3.10 The casing of the indoor units shall be made of ABS/HIPS/GS and shall be impact resistant. The control box of indoor unit shall withstand flame retardant.
- 3.11 Remote cordless control with LCD/LED Display for Air conditioner shall be provided with one On/Off timer, selecting fan speed (three speed) and setting up of temperature. Display shall be provided on indoor unit or on handset or on both.
- 3.12 Maximum power consumption of the split air conditioners shall be measured at capacity rating test conditions. Overall power factor of the unit shall be at least 0.85 at capacity rating test conditions

This specification shall be read and constructed in conjunction with the bid documents and annexure to determine the scope of work.

DESIGN CRITERIA

| | |
|--|---|
| | Air Conditioning shall be supplied in Control Room and Switchgear Room including GIS Room, maintenance room and SCADA room. Exhaust system shall be supplied in following rooms -Toilet – one Pantry- One Cable Celler- Industrial type numbers shall be as per calculation |
| Number and details of wall mounted/Ceiling fan | Battery room – 1 No Control room – 3 No's Switchgear Room – 6 No's GIS Room-As per Calculation, 6 Nos(Minimum). Note: Wall mounted fan shall be industrial type, domestic fans shall not be acceptable |
| Power Point & socket | Each room shall be provided with at least 2 No's 15 Ampere Switch socket and 2 no's 5 ampere switch sockets. Two no's industrial 16 ampere points shall be provided in control room for installation of air conditioning system for future. |

Technical Specification Exhaust and Ventilation System

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| | All equipment, accessories and wiring shall have fungus protection, involving special treatment of insulation and metal against fungus, insects and corrosion. |
|--|--|

4.0 DEVIATIONS

Deviation from this specification, if any, shall be clearly brought out in the offer. Unless owner explicitly accepts such deviations, it shall be considered that the offer fully complies with the specification.

TECHNICAL SPECIFICATION
FOR
FIRE EXTINGUISHER

| | | | | |
|-------------|--|--|--|----------------|
| Prepared by | | | | Rev: 1 |
| Reviewed by | | | | Date: 24.05.21 |
| Approved by | | | | |

Technical Specification Fire Extinguisher

1.0 INTENT OF SPECIFICATION:

This specification is intended to cover the design, manufacture, assembly, testing at manufacturer's works, supply & delivery, properly packed for transport FOR site of Portable wall and trolley mounted Fire extinguisher and fire buckets for substation control room building complete with all materials and accessories for efficient and trouble free operation.

In the even of any discrepancy with the listed documents, the stipulation of this specification shall govern.

2.0 SCOPE OF WORK

2.1 Scope of Supply

The following equipment shall be furnished with all accessories:-

- a) Wall mounted fire extinguisher-15 Nos. of 4.5kG (CO2 Type)
- b) Trolley mounted fire extinguisher- 5 Nos. of 22.5kg (CO2 Type)
- c) Sand buckets with stand- 4 Set with 4 bucket in each stand
- d) All installation hardware.
- e) All relevant drawings, data & instruction manuals.
- f) Mandatory spares.
- g) Commissioning spares and recommended spare part list for three (3) years of operation.
- h) Rubber Mat for entire Indoor equipments front and backside(as per latest IS)

3.0 GENERAL REQUIREMENT

3.1 Codes and Standard

All equipment and material shall be designed, manufactured and tested in accordance with the latest applicable Indian Standards except where modified and/or supplemented by this specification.

Equipment and materials conforming to any other standard which ensures equal or greater quality may be accepted. In such case copies of the English version of the standard adopted shall be submitted along with the bid.

In particular, the following standards and specifications are applicable.

Technical Specification Fire Extinguisher

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|--------------------------|--|
| Indian Electricity Rules | Relevant safety regulation of CEA |
| Indian electricity act | |
| IS 2190 | Selection, installation & maintenance of first aid, fire extinguisher. |
| | Tariff Advisory Committee Manual |
| IS 1646 | Code for practice for fire safety of buildings |
| IS 940 | Portable fire extinguisher, Water type - specification |
| IS 2878 | Fire extinguisher CO2 type |
| IS 2171 | Specification for fire extinguisher dry powder. |
| IS 10204 | Specification for fire extinguisher Mechanical foam type. |

This specification shall be read and constructed in conjunction with the bid documents and annexure to determine the scope of work.

4.0 DESIGN CRITERIA

| | |
|--------------|---|
| General | The contractor shall supply the required type and quantities of fire extinguisher and Sand buckets. The quantity shall be as per TAC recommendations. |
| Location | Fire extinguisher and sand buckets shall be installed in Control room, battery room, switchgear room, ACDB & battery charger room, Cable cellar, Transformer yard, Outdoor switchyard and Capacitor bank. |
| Distribution | The fire extinguishers in various locations shall be as per the guidelines of TAC-India. |
| Tests | All equipment shall be completely assembled wired, adjusted and routine tested at the factory as per relevant standards. |

5.0 DEVIATIONS

Deviation from this specification, if any, shall be clearly brought out in the offer. Unless owner explicitly accepts such deviations, it shall be considered that the offer fully complies with the specification.



TECHNICAL SPECIFICATION

FOR

VIDEO SURVEILLANCE SYSTEM

| | | | |
|-------------|--------------------|--|--------------------------------|
| Prepared by | Javed Ahmed | | Rev: 2 |
| Reviewed by | Abhinav Srivastava | | |
| Approved by | K.Sheshadri | | Date: 2 rd Feb 2021 |

Registered Office: BSES Bhavan, Nehru Place, Delhi - 110019

1. SCOPE:

Design, Engineering, procurement of bought out items, manufacture, integration, inspection, factory testing and supply of complete CCTV System for the entire plant as per requisition consisting of following including necessary hardware, software and accessories as applicable.

2. STANDARDS:

In accordance with Latest Relevant IS/IEC.

3. SCOPE OF SUPPLY:

- CCTV cameras suitable for remote operation with all necessary accessories and installation hardware consisting of, but not limited to the following:
 1. High speed zoom lens.
 2. 360 Degree Cameras
 3. Automatic Iris
 4. Pan & tilt unit
 5. Receiver unit
 6. Weatherproof junction box
 7. Weatherproof housing for unit camera.
 8. Glass Dome with reflector shield on outside.
 9. Night Vision.
 10. One set of 360 camera shall be installed before start of work
- System cabinet consisting of following:-
 1. Video encoder, network switches, etc.
 2. Central control unit with all control functions like pan, tilt, focus and consisting of switching unit.
 3. Video Motion Detection system
 4. Video recorder to record video images
- 2 Nos -21" FULL HD, LED Monitor with HDMI interface to CPU with Keyboard, Optical Mouse for monitoring at Main Control Room & Security Security Room.
- Monitoring unit also including Programming unit consisting of programming Monitor LED 21", keyboard and optical mouse, independent of monitoring unit with all required hardware and software for CCTV functioning.
- All furniture required in the Control room and Security Gate, to mount the CCTV equipment like TV, PC, keyboard , DVR, etc.
- All types of Cables (Video, Control/data, Optic Fiber and Power Supply etc.), cable glands, plugs, connectors and accessories, for interconnection of all the equipments supplied by vendor.
- Junction boxes, Power distribution boxes, repeaters, cable glands, etc. as necessary.
- Mounting poles for mounting the camera along with a climbing ladder.
- The Ladder to be provided with wheels & brakes for easy movement on roads.

- HDPE pipe with required pipe fittings for laying optical fiber cables between CCTV Cameras and main control room, and between main control room and security control room (gate / security house).
- Cable trays for CCTV cables within control rooms with required accessories in case required at site. Cable trays outside control room (where main cable duct is not available). Buried cable trench for cabling along the boundary walls.
- All necessary supports for installation of all items supplied by vendor.
- All mounting accessories required to mount various items supplied by vendor.
- Earthing material required for earthing of CCTV equipment installed by Vendor.
- Necessary base frame support for mounting CCTV cabinets in main control room.
- Any other item necessary but not specifically listed for successful operation of CCTV system.
- Packing, forwarding, transportation and storage at site of complete CCTV system and accessories.
- Supply of special instrument or tools needed for testing, calibration and maintenance of offered CCTV system.
- Supply of consumables and commissioning spares as per requisition for CCTV system.
- Any other item or/and activity not listed/indicated specifically but necessary for successful operation of CCTV system.
- CCTV monitoring of the site & image capture in case of an intrusion
- Future hardware expansion facility.
- The CCTV system shall be support high resolution viewing & recording.
- The images shall be transferred to a central location or on Mobile using Internet connectivity.
- The System shall be CE & FCC certified
- Complete system shall be from the same manufacturer.
- System should be design to work on low bandwidth WAN with following considerations:
 - 1) Camera stream : H.265
 - 2) Camera resolution : 4CIF (704x480)
 - 3) Video quality : Medium
 - 4) Number of cameras : 01
 - 5) Frame rate per camera at site :25FPS
 - 6) Frame rate per camera at Centre :15FPS
 - 7) Recording type : Continuous 24 Hours per day
 - 8) Desired days of storage per camera : 30 Days

All cameras should support dual stream and configured in such a way that one stream should provide feed to central control centre and other stream should be capable to support edge recording (memory card on camera or NVR). System should be intelligent to monitor WAN and whenever there is outage or central control centre not reachable camera should start recording on memory card or NVR present on camera and capable to restore the data to the central system in the missing area.

4. SCOPE OF SERVICE :

- Installation, integration of complete CCTV system and associated accessories including calibration, cabling, junction boxes, power supply, distribution boxes, etc.
- Installation of CCTV Cameras. The Cameras to be mounted on top of Pole, so as no blind spot is created due to pole.
- Installation of CCTV monitors for monitors located in main control room and monitors located in security control room (gate / security house).
- Installation of monitor located in MCR and security control room.
- Installation of mounting poles wherever applicable.
- Installation of CCTV cabinets for various units.
- Installation of programming unit PC.
- Installation of various junction boxes (signal, power, control) supplied by vendor.
- Laying of co-axial / optical fiber cable between CCTV Camera & Control Console Cabinets.
- Laying of power cable between CCTV Cameras and CCTV Cabinet in MCR.
- Laying of CCTV Cables (video, control, data, power).
- Laying of CCTV fiber optic Cables between MCR and security control room.
- Termination, ferruling and glanding at both ends and interconnection of various cables (video, optical, control, power) supplied by vendor for complete CCTV system.
- Distribution of power supply and reduction to required levels to various CCTV equipment supplied by vendor.
- Integration of CCTV Camera with BRPL Network

The entire IP surveillance system to be designed to control and monitor the locations provided based on following considerations:

- Camera to be of 4 MP (all to be integrated in the VMS present and future)
- CCTV system should be design to work on WAN with at lower bandwidth as low as (256Kbps per camera). Objects or persons should be identified under low bandwidth Scenario
- Bandwidth should be configurable

- System should be design to work and record on 15fps and 1 MP centrally
- System should be design with event based and continuous recording as and when required

Four types of cameras shall be considered to monitor the movement of the people as follows:

- 1) Indoor
 - 2) Outdoor
 - 3) PTZ
 - 4) 360 degrees outdoor
- All cameras shall be True Day/Night function IP camera
 - Analytics to be in built at camera side like – Face capture, Trip Wire, Counter, Object removal, Motion detection.
 - All accessories with the outdoor cameras like JB's, power supply, media converter etc. should be in water proof and dust proof housing
 - All cabling including LAN network will be in scope of vendor in case of open through ISI mark PVC / GI pipes or concealed through ISI mark PVC / HDPE pipe
 - L2 POE Cisco switches should be used to power-up the camera in case of 4 or more at a location else power adapter to be used to power up the cameras
 - Servers should be either HP / IBM
 - Servers should be planned in redundancy

5. TESTS.

All equipment with their terminal connectors, and other hardware etc., shall conform to type tests and shall be subjected to routine and acceptance tests in accordance with Latest Relevant IS .

6. COMPLETENESS OF EQUIPMENT:

Any fittings, accessories or apparatus which may not have been specifically mentioned in this specification but which are usually necessary for the satisfactory operation of the equipment, shall be deemed to have been included in this specification.

7. PACKINGS:

All material shall be suitably packed for transport, direct to site and Manufacturer shall be responsible for all damages/losses due to improper packing. All boxes shall be marked with signs indicating the up and down sides of the boxes along with the unpacking instructions, if considered necessary by the Manufacturers.

Note: All critical areas/rooms to be covered fully leaving no grey area. Placement of cameras shall be such that there should be no shadow portion.

TECHNICAL SPECIFICATION

FOR

FIRE DETECTION AND ALARM SYSTEM

| | | | | |
|-------------|--|--|--|--------|
| Prepared by | | | | Rev: 0 |
| Reviewed by | | | | Date: |
| Approved by | | | | |

Technical Specification Fire Detection and Alarm System

1.0 INTENT OF SPECIFICATION:

This specification is intended to cover the design, manufacture, assembly, testing at manufacturer's works, supply & delivery, properly packed for transport FOR site of Fire and smoke Detection & Alarm System for substation control room building complete with all materials and accessories for efficient and trouble free operation.

In the even of any discrepancy with the listed documents, the stipulation of this specification shall govern.

2.0 SCOPE OF WORK

2.1 Scope of Supply

The following equipment shall be furnished with all accessories :-

- a) Smoke and heat detectors and installation.
- b) Manual call point for the substation building.
- c) Fire detection alarm panels which shall be SCADA compatible along with its integration with SCADA.
- d) All wiring & accessories to complete the installation.
- e) All installation hardware.
- f) All relevant drawings, data & instruction manuals.

3.0 GENERAL REQUIREMENT

3.1 Codes and Standard

All equipment and material shall be designed, manufactured and tested in accordance with the latest applicable Indian Standards except where modified and/or supplemented by this specification.

Equipment and materials conforming to any other standard which ensures equal or greater quality may be accepted. In such case copies of the English version of the standard adopted shall be submitted along with the bid.

In particular, the following standards and specifications are applicable.

| | |
|--------------------------|--|
| Indian Electricity Rules | Relevant safety regulation of CEA |
| Indian electricity act | |
| CBIP manual | |
| IS 2189 | Code of practice for selection, installation & maintenance of automatic fire alarm system. |
| IS 2190 | Selection, installation & maintenance of first aid, fire extinguisher. |
| IS 1646 | Tariff Advisory Committee Manual |
| | Code for practice for fire safety of buildings |

Technical Specification Fire Detection and Alarm System

This specification shall be read and constructed in conjunction with the bid documents and annexure to determine the scope of work.

4.0 DESIGN CRITERIA

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|--------------------------|--|
| General | <ol style="list-style-type: none"> 1. The fire detection system shall consist of various types of fire detectors, control cabling, fire alarm panels, central monitoring station, annunciation/control panels, local panels. 2. The fire detection and alarm system shall be microprocessor based, analogue addressable system. 3. A central monitoring system shall be provided in the control room covering complete substation. 4. The control system shall be compatible to be interfaced with SCADA system through separate communication port. |
| Location | Fire detectors shall be provided for the entire substation building including control room, switchgear room, battery charger, corridors, Cable Celler etc. Fire detectors shall be located at strategic location in various rooms of the building. |
| Operation | <p>The operation of any of the fire detectors / manual call point should result in the following :</p> <ol style="list-style-type: none"> a) A visual signal exhibited in the alarm panel indicating the area where the fire is detected. b) An audible alarm (Hooter) sounded in the panel. c) An external alarm sounded in the building, location of which shall be decided during detailed engineering. d) An alarm should be signaled to the control room. |
| Detection & Alarm system | <ol style="list-style-type: none"> 1. Each zone shall be provided with two zone cards in the panel so that system will remain healthy even if one the cards become defective which shall be indicated at SCADA . 2. The control panel shall be suitable for 230V AC and 220V DC as power supply. |
| Cabling | The detector cable and the other control cable shall be armoured, screened and twisted FRLS type in external areas and shall be of unarmoured FRLS type inside building (in conduits) |
| Tests | <p>All equipment shall be completely assembled wired, adjusted and routine tested at the factory as per relevant standards.</p> <p>Following tests shall be performed on the system</p> <ol style="list-style-type: none"> a) Response characteristics of fire detectors. b) Performance test on fire extinguisher as required in the code. c) A comprehensive visual and functional check for the fire alarm panel. d) Verification of wiring as per approved schematic. e) Testing of fire detection panel as per BS3116 Part IV. |
| Site Test | All the detectors installed shall be tested for actuation by bringing a suitable smoke source near the detector creating a stream smoke over the detector. After each test smoky atmosphere should be cleared so that the detector shall reset. |

Technical Specification Fire Detection and Alarm System

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| | Certify proper operation of all detectors and call points. |
| | One of each type of extinguisher shall be tested for its performance. |

5.0 DEVIATIONS

Deviation from this specification, if any, shall be clearly brought out in the offer. Unless owner explicitly accepts such deviations, it shall be considered that the offer fully complies with the specification.



TECHNICAL SPECIFICATION

FOR

CABLE SEAL SOLUTION

Specification No- SP-GMS-01-R0

| | | | |
|-------------|--------------------------|--|-----------------------------------|
| Prepared by | Javed Ahmed | | Rev: 1 |
| Reviewed by | Abhinav Srivastava | | |
| Approved by | Sheshadri Krishnapura | | Date: 16 th April 2022 |

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1.0. SCOPE:

This specification covers design, engineering, manufacture, assembly, stage testing, inspection & testing before supply & delivery at site and installation testing and commissioning including handover the system to BRPL after successful execution of Cable Seal Solution

This Scope includes the following

- a) Supply of Cable Seal System including its transportation to BRPL Site
- b) Installation testing commissioning of Cable seal solutions with all the accessories including minor civil work if any.

2.0. Basic Features:

Following requirements shall be fulfilled and supported with valid test reports/certificates:

- 1. Minimum IP 65 Protection level Certificate for protection from Dust and Water.
- 2. Heat sink test report of Cable transit system.
- 3. Certificate/ Test Report for Protection from Rats and Rodents.
- 4. ATEX, PESO Approval for Explosive atmosphere.
- 5. NEMA Certificate as per UL 508A for the safety of Cabinets & Enclosures mandatory.
- 6. Material of Frame shall be of Stainless Steel.
- 7. System must have Bonding & grounding (Armour Earthing) feature as per IS 3043-1987 using a suitable Tin Plated Copper Braid to be used wherever required. It should be also tested for Impulse withstands as per IEC 62305-1 for minimum 50kA for 1 sec.
- 8. Manufacturer should have direct presence in India with all the after Sale & Service support from last 10 years.
- 9. Cable sealing system should have been tested for F- Rating Fire for 3 hrs as per UL 1479/ EN, Insulation and Integrity for 120 mins as mentioned in Indian National Building Code(EI 120) Certificate from BS 476 are mandatory.
- 10. Cable sealing system should have been tested for GAS tightness of 2.5 bar pressure.
- 11. EPDM modules in System must have Halogen content less than 200ppm with low smoke index-F1 Classification as per NF16-101 & NF16-102, Heat Radiation test in compliance with M2 classification, UV Ageing Test as per ISO-4892-2:2006 & ISO-815- 1:2008, Oxygen Index Test as per ASTM D 2863-00, Shock & Vibration Test as per NES 510.
- 12. System must have Bonding & grounding (Armour Earthing) feature as per IS 3043-1987 using a suitable Tin Plated Copper Braid to be used wherever required. It should be also tested for Impulse withstand as per IEC 62305-1 for minimum 50kA for 1 sec.
- 13. Smoke Index shall be low. Type test reports for the same shall be provided by the supplier.
- 14. Shelf life of module - 25 Years
- 15. Solubility – Insoluble in water.

3.0. SERVICE CONDITIONS:

| S.No | Particulars | Data |
|------|----------------------------------|--|
| 1 | Design Ambient temperature | 0°C to 50 °C |
| 2 | Seismic Condition | Zone IV as per IS 1893 |
| 3 | Wind Pressure | 195 kg/M ² upto elevation of 30 M as per IS 875 |
| 4 | Maximum Relative Humidity | 100% |
| 5 | Maximum Altitude above Sea level | 1000M |
| 6 | Rainfall | 750mm (concentrated in 4 months) |
| 7 | Pollution level | Heavy/Dry |
| 8 | Average of no thunderstorm days | 40 per annum |

4.0. SYSTEM DESIGN

1. Modules with concentric peel able/removable layered multi-diameter cable sealing system consisting of frames, blocks and accessories shall be installed where the cables enter or leave any type of Electrical Panel/Cabinet/Transformer cable box. Each concentric module shall have a minimum of 10 mm range between smallest and largest adaptable diameter. System should be designed with minimum +/- 3 mm design margin. System should have provision for usable spares of 30% with no loose/ hanging / add layer / plug in type or to be stored components of modules / seals, each spare module should be concentric peelable/removable multi-diameter layered with complete range installed on Frame and solid Block are not acceptable..
2. It Shall cover following openings

For all Cable entry from outside to control room building and between room to room

5.0. MAINTENANCE

Bidder shall furnish a maintenance manual and support maintenance activity.

6.0. APPROVED MAKES

Roxtec, MCT Brattberg

7.0. APPROVED MAKES

| | | |
|-------|--------------------------------|------------------------|
| 8.1 | Submissions along with the bid | |
| 8.1.1 | Duly filled GTP and copy of | 2 copies + 1 soft copy |

| | | |
|--|---------------|--|
| | specification | |
|--|---------------|--|

8.0. SHIPPING

| | | |
|-----|----------|--|
| 9.1 | Shipping | <p>The bidder shall ascertain at an early date and definitely before the commencement of manufacture, any transport limitations such as weights, dimensions, road culverts, Overhead lines, free access etc. from the Manufacturing plant to the project site. Bidder shall furnish the confirmation that the proposed Packages can be safely transported, as normal or oversize packages, up to the site.</p> <p>Any modifications required in the infrastructure and cost thereof in this connection shall be brought to the notice of the Purchaser.</p> <p>The Bidder shall be responsible for all transit damage due to improper packing.</p> |
|-----|----------|--|

9.0. HANDLING AND STORAGE

| | | |
|------|----------------------|--|
| 10.0 | Handling and Storage | <p>Manufacturer instruction shall be followed. Detail handling & storage instruction sheet / manual needs to be furnished before commencement of supply.</p> |
|------|----------------------|--|

10.0. QUALITY

| | | |
|------|---------------------|--|
| 11.1 | Vendor quality plan | To be submitted for purchaser approval |
| 11.2 | Inspection points | To be mutually identified & agreed in quality plan |

11.0. DEVIATION

| | | |
|------|-----------|---|
| 12.1 | Deviation | <p>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</p> |
|------|-----------|---|

| | | |
|--|--|--|
| | | the bidder complies fully with this specification. No deviation will be acceptable post order. |
|--|--|--|

12.0. TESTING AND INSPECTION

Shall be as per latest relevant standards

13.0. TRAINING

Training on installation, commissioning, operation and maintenance shall be included in the proposal.

- at factory/site- 1 Manday

SCHEDULE – C12
GROUNDING & LIGHTNING PROTECTION SYSTEM

| S.No. | Description | Unit | Data by vendor |
|----------|---|------|----------------|
| 1 | Earth mat | | |
| a | Material | | |
| b | Size of conductor | | |
| c | Fault withstand current & duration | | |
| | | | |
| 2 | Equipment Earthing | | |
| a | Material | | |
| b | Size of conductor | | |
| | | | |
| 3 | Earth Electrode | | |
| a | Material | | |
| b | Size | | |
| c | Length | | |
| | | | |
| 4 | Lightning Protection System | | |
| a | Material and size of horizontal air termination | | |
| b | Material and size of vertical air termination | | |
| c | Material and size of down conductor | | |
| d | Size of test link | | |
| e | Material of enclosure for test link | | |
| f | Material and size of earth electrode | | |

| | | |
|-----------------|--------------|---------|
| | Bidders Name | : _____ |
| | Signature | : _____ |
| | Name | : _____ |
| | Designation | : _____ |
| Seal of Company | Date | : _____ |

SCHEDULE – C13
CABLE ACCESSORIES

| | | |
|----------|-----------------------------|--|
| 1 | Cable Accessories | |
| 1.01 | Makes | |
| 1.02 | Termination kits | |
| 1.03 | Straight through joint kits | |
| 1.04 | Cable glands | |
| 1.05 | Cable lugs | |
| 1.06 | Termination blocks | |
| 1.07 | Types | |
| 1.08 | Termination kits | |
| 1.09 | Straight through joints | |
| 1.1 | Cable glands | |
| 1.11 | Cable lugs | |
| 1.12 | Terminal blocks | |

Bidders Name : _____

Signature : _____

Name : _____

Designation : _____

Seal of Company

Date : _____

SCHEDULE – C14

**CABLE TRAYS, ACCESSORIES AND TRAY SUPPORT, CONDUITS, PIPES
AND DUCTS**

| | | |
|----------|---|--|
| 1 | General | |
| a | Name of the Contractor | |
| b | Name of sub contractors, if any | |
| c | Applicable standards | |
| 2 | Cable Trays and Fittings | |
| a | Cable Trays and Fittings | |
| i. | Make | |
| ii. | Type | |
| iii. | Material | |
| | 1. Thickness (mm) | |
| | 2. Thickness of galvanization (microns) | |
| | 3. Zinc coating per sq meter (gms) | |
| 3 | Conduits , Fitting and Accessories | |
| a | Pipes with fitting | |
| i. | Make | |
| ii. | Type | |
| iii. | Material | |
| | 1. Thickness (mm) | |
| | 2. Thickness of galvanization (microns) | |
| b | Flexible conduits with fittings and accessories | |
| i. | Make | |
| ii. | Type | |
| iii. | Material | |
| | 1. Thickness (mm) | |
| | 2. Thickness of galvanization (microns) | |

Bidders Name : _____

Signature : _____

Name : _____

Designation : _____

Seal of Company

Date : _____