STATE BANK OF PAKISTAN
SBP BANKING SERVICES CORPORATION
HEAD OFFICE KARACHI

VOLUME-I

Technical Proposal

Bidding documents

For

ESTABLISHMENT OF SBP INNOVATION HUB AT SBP BSC NORTH NAZIMABAD, KARACHI

BIDDING AND CONTRACT DOCUMENT

INVITATION TO BID
INSTRUCTIONS TO BIDDERS
BIDDING DATA
FORM OF BID
QUALIFICATION CRITERIA
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SPECIFICATIONS

Nov-25

SBP BANKING SERVICES CORPORATION (BANK) NORTH NAZIMABAD KARACHI

Reference No: NN/ENG/346061/2025-26

INVITATION TO e-BID

1. SBP Banking Services Corporation (Bank) North Nazimabad Karachi, invites electronic bids from the suppliers/ contractors'/ service providers, registered with PPRA for E-Procurement on "e-Pak Acquisition and Disposal system (EPADS)", having Income Tax and Sales Tax registration for the following project(s);

S. No.	Title of Procurement	Date & Time of Bid Submission	Date & Time of Technical bid opening	Bid security to be Enclosed with Technical Bid (Rs.)
1.	Establishment of SBP Innovation Hub at SBP BSC North Nazimabad Karachi	15-12-25 till 03:00 PM	15-12-25 at 03:30 PM	1,800,000/-
2.	Supply of potable Sweet Water at SBP BSC (Bank) North Nazimabad Karachi	24-12-25 till 03:00 PM	24-12-25 at 03:30 PM	300,000/-

2. The Bidding shall be conducted in line with the Rule 36 (b) Single Stage - Two Envelope procedure. E-bidding documents as per regulations, containing detailed terms and conditions, specifications and requirements etc. are available for the registered bidders on EPADS at (www.eprocure.gov.pk).

3. Bid(s) must be accompanied by a Bid Security as mentioned in above table. The bidders shall upload scanned copy of Bid Security on EPADS. Original Bid Security must be submitted to the procuring agency on or before schedule mentioned in above table, failing which the bid shall be rejected.

4. The electronic bids, must be submitted by using EPADS on or before schedule mentioned in above table. Manual bids, shall not be accepted. Electronic Bids will be opened on the same day at schedule mentioned in above table. In case the bid opening date falls on a public holiday, the bids will be opened on the next working day at the same time.

Chief Manager
SBP BSC North Nazimabad
Shahrah e Noor Jehan, Karachi
Phone: +92-21-99005214/219

PID(K) No. 1809/25

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A. INTRODUCTION

1. Scope of Bid	1.1	The Procuring agency/Employer (PA), as indicated in the **Bid Data Sheet** (BDS) invites Bids for the execution of Works as specified in the BDS and **Section V- Works Requirements**. The name, identification, and number of lots (contracts) of this National/ International Competitive Bidding process are specified in BDS.
2. Source of Funds	2.1	Source of funds as referred in Bid Data Sheet.
3. Eligible Bidders	3.1	A bidder may be natural person, company or firm or public or semi-public agency of Pakistan or any foreign country**,** or any combination of them with a formal existing agreement (on Judicial Papers) in the form of a joint venture or consortium. In the case of a joint venture or consortium, all members shall be jointly and severally liable for the execution of the Contract in accordance with the terms and conditions of the Contract. The joint venture or consortium shall nominate a Lead Member as nominated in the BDS, who shall have the authority to conduct all business for and on behalf of any and all the members of the joint venture or consortium during the Bidding process, and in case of award of contract, during the execution of contract. *(The limit on the number of members of JV or Consortium may be prescribed in BDS, in accordance with the guidelines issued by the PPRA).*
	3.2	The appointment of Lead Member in the joint venture or consortium shall be confirmed by submission of a valid Power of Attorney to the Procuring agency/Employer
	3.3	Verifiable copy of the agreement that forms a joint venture or consortium shall be required to be submitted as part of the Bid.
	3.4	Any bid submitted by the joint venture or consortium shall indicate the part of proposed contract to be performed by each party and each party shall be evaluated (or post qualified if required) with respect to its contribution only, and the responsibilities of each party shall not be substantially altered without prior written approval of the Procuring agency/Employer and in line with any instructions issued by the Authority.
	3.5	The invitation for bids is open to all prospective bidder's subject to any provisions of incorporation or licensing by the respective national/ international incorporating agency or statutory body established for that particular trade or business.
	3.6 .	Foreign Bidders must be locally registered with the appropriate national incorporating body or the statutory body, before participating in the national/international competitive bidding with the exception of such procurements made by the foreign missions of Pakistan. For such purpose the bidder must have to initiate the registration process before the bid submission and the necessary evidence shall be submitted to the Procuring agency/Employer along with their bid, however, the final award will be subject to the complete registration process.
	3.7	A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidders may be considered to have a conflict of interest with one or more parties in this Bidding process, if they: a) are associated or have been associated in the past, directly or indirectly with a firm or any of its affiliates which have been engaged by the Procuring agency/Employer to provide consulting services for the preparation of design or technical specifications of the works that are the subject of the bid; or b) any of its affiliates has been hired (or is proposed to be hired) by the Procuring agency/Employer as Engineer for the Contract implementation; or c) The works to be executed are resulting from or directly related to consulting services for the preparation or implementation of the project that the bidder provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; d) have controlling shareholders in common; or e) receive or have received any direct or indirect subsidy from any of them; or f) have the same legal representative for purposes of this Bid; or g) have a relationship with each other, directly or through common third parties, that puts them in a position to have access to information about or influence on the bid of another bidder, or influence the decisions of the Procuring agency/Employer regarding this Bidding process; or h) Submit more than one bid in this bidding process.
	3.8	A Bidder may be ineligible if – (a) he is declared bankrupt or, in the case of company or firm, insolvent; (b) payments in favor of the bidder is suspended in accordance with the judgment of a court of law other than a judgment declaring bankruptcy and resulting (in accordance with the national laws) in the total or partial loss of the right to administer and dispose of its property;

		(c) legal proceedings are instituted against such bidder involving an order suspending payments and which may result, in accordance with the national laws, in a declaration of bankruptcy or in any other situation entailing the total or partial loss of the right to administer and dispose of the property; (d) the bidder is convicted, by a final judgment of a Court of Law or relevant Professional Statuary Body, of any offence involving professional conduct; (e) The bidder is debarred/ blacklisted by a national level Procuring agency/Employer and hence debarred due to involvement in corrupt and fraudulent practices, or performance failure or due to breach of bid securing declaration. (f) The bidder is blacklisted or debarred by a foreign country, international organization, or other foreign institutions for the period defined by them.
	3.9	Bidders shall provide to the Procuring agency/Employer evidence of their eligibility, proof of compliance with the necessary legal requirements to carry out the contract effectively.
	3.10	Bidders shall provide such evidence of their continued eligibility to the satisfaction of the Procuring agency/Employer, as the Procuring agency/Employer shall reasonably request.
	3.11	Bidders shall submit proposal relating to the nature, conditions and modalities of sub-contracting wherever the sub-contracting of any elements of the contract is envisaged.
4. Eligible Material and Equipment	4.1	All the material and equipment to be mobilized under the contract shall have their origin in eligible source countries, and all expenditures made under the contract will be limited to such materials and equipment. For this purpose, ineligible countries are stated in the section-IV titled as "Eligible Countries".
	4.2	For purposes of this Clause, "origin" means the place where the material, equipment is produced, manufactured, or processed, or through manufacture, procession, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its imported components or the place from where the services are/to be supplied.
	4.3	The nationality of the bidder shall not determine the origin of the material and equipment.
	4.4	To establish the eligibility of the material and equipment, Bidders shall fill the country-of-origin declarations included in the Form of Bid.
5. One Bid per Bidder	5.1	A bidder shall submit only one bid, in the same bidding process, either individually as a bidder or as a member in a joint venture or any similar arrangement.
	5.2	No bidder can be a sub-contractor while submitting a bid individually or as a member of a joint venture in the same bidding process.
6. Cost of Bidding	6.1	The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Procuring agency/Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

B. BIDDING DOCUMENTS

7. Contents of Bidding Documents	7.1	The scope of Works, bidding procedures, and terms and conditions of the contract are prescribed in the bidding documents. In addition to the Invitation for Bids, the bidding documents which should be read in conjunction with any addenda issued in accordance with **ITB 9.2** include: **Section I -**Invitation for Bids **Section II** Instructions to Bidders (ITBs) **Section III** Bid Data Sheet (BDS) **Section IV** Eligible Countries **Section V** Works Requirements Technical Specifications & Schedule of Requirements **Section VI** Standard Bidding Forms **Section VII** General Conditions of Contract (GCC) **Section VIII** Special Conditions of Contract (SCC) **Section IX** Contract Forms
	7.2	The number of copies to be completed and submitted with the Bid is specified in the **BDS.**
	7.3	The Procuring agency/Employer is not responsible for the completeness of the bidding documents and their addenda, if they were not obtained directly from the Procuring agency/Employer or the signed pdf version downloaded from the website of the Procuring agency/Employer or the Authority's website or e-Procurement System as the case may be. However, procuring agency/Employer shall place both the pdf and editable version of the same on its website and Authority's website or e-Procurement System to facilitate the bidder for filling the standard bidding forms.
	7.4	The bidder is expected to examine all instructions, forms, specifications, terms and conditions prescribed in the bidding documents. Failure to furnish all the information required in the bidding documents will be at the bidder's risk and may result in the rejection of his bid.

8. Clarification of Bidding Document, Pre-bid Meeting	8.1	A prospective bidder requiring any clarification of the bidding document may notify the Procuring agency/Employer in writing or in electronic form that provides record of the contents of communication at the Procuring agency/Employer's address indicated in the **BDS.**
	8.2	The Procuring agency/Employer will within three (3) working days after receiving the request for clarification, respond in writing or in electronic form to any request for clarification provided that such request is received not later than three (03) days prior to the deadline for the submission of Bids as prescribed in **ITB 24.1.** However, this clause shall not apply in case of alternate methods of procurement.
	8.3	Copies of the Procuring agency/Employer's response will be forwarded to all identified prospective bidders through an identified source of communication, including a description of the inquiry, but without specifying its source. In case of downloading of the bidding documents from the website of Procuring agency/Employer or e-Procurement System, the response of all such queries will also be available on the same platform available at the website.
	8.4	Should the Procuring agency/Employer deem it necessary to amend the bidding documents as a result of a clarification, it shall do so following the procedure as prescribed under **ITB 09.**
	8.5	If indicated **in the BDS**, the bidder's designated representative is invited at the bidder's cost to attend a pre-bid meeting at the place, date and time mentioned in the **BDS**. During this pre-bid meeting, prospective bidders may request clarification of the schedule of requirement, the evaluation criteria or any other aspects of the bidding documents.
	8.6	Minutes of the pre-bid meeting, if applicable, including the text of the questions asked by bidders, including those during the meeting (without identifying the source) and the responses given, together with any responses prepared after the meeting will be transmitted promptly to all prospective bidders who have obtained the bidding documents. Any modification to the bidding documents that may become necessary as a result of the pre-bid meeting shall be made by the Procuring agency/Employer exclusively through the use of an Addendum pursuant to **ITB 9.** Non-attendance at the pre-bid meeting will not be a cause for disqualification of a bidder.
	8.7	The bidder is advised to visit and examine the Site of Works and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. The costs of visiting the Site shall be at the bidder's own expense.
	8.8	The bidder and any of its authorized personnel will be granted permission by the Procuring agency/Employer to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the bidder and its personnel will release and indemnify the Procuring agency/Employer from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
9. Amendment of Bidding Documents	9.1	Before the deadline for submission of bids, the Procuring agency/Employer for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder or pre-bid meeting may modify the bidding documents by issuing addenda.
	9.2	Any addendum issued including the notice of any extension of the deadline shall be part of the bidding documents pursuant to **ITB 7.1** and shall be communicated in a timely manner and on equal opportunity basis. Where notification of such change, addition, modification or deletion becomes essential, such notification shall be made in a manner similar to the original advertisement. *Provided that the bidder who had either already submitted their bid or handed over the bid to the courier prior to the issuance of any such addendum shall have the right to withdraw his already filed bid and submit the revised bid prior to the original or extended bid submission deadline.*
	9.3	To give prospective bidders reasonable time in which to take an addendum/corrigendum into account in preparing their bids, the Procuring agency/Employer may, at its discretion, extend the deadline for the submission of bids: *Provided that the Procuring agency/Employer shall extend the deadline for submission of bid, if such an addendum is issued within last three (03) days of the bid submission deadline.*

C. PREPARATION OF BIDS

10. Language of Bid	10.1	The bid prepared by the bidder, as well as all correspondence and documents relating to the bid exchanged by the bidder and the Procuring agency/Employer shall be written in the English language unless specified in the B**DS.** Supporting documents and printed literature furnished by the bidder may be in another language provided they are accompanied by an accurate translation of the relevant pages in the English

		language unless specified in the **BDS**, in which case, for purposes of interpretation of the bidder, the translation shall govern.
11. Documents Establishing Eligibility of Material, Equipment and Works, their Conformity to Bidding Documents	11.1	The bid prepared by the bidder shall constitute the following components: - a) Documentary evidence established in accordance with **ITB 11** that the material, equipment and services to be provided by the Bidder are eligible material, equipment and services, and conform to the Bidding Documents; b) Documentary evidence established in accordance with **ITB 12** that the bidder has been authorized to carry out the Construction works; c) Documentary evidence established in accordance with **ITB 12** that the bidder is eligible and/or qualified for the subject bidding process; d) Form of Bid and Bid Prices completed in accordance with **ITB 14 and 15;** **e)** Completed schedules as required, including priced Bill of Quantities in accordance with **ITB 13 & 15.** **f)** Technical Proposal completed in all aspects in accordance with **ITB-17**. g) Bid security or Bid Securing Declaration furnished in accordance with **ITB 19;** h) Alternative bids, if permissible, in accordance with **ITB 20;** i) Duly Notarized Power of Attorney authorizing the signatory of the Bidder to submit the bid**;** and j) Any other document required in the **BDS**.
	11.2	In addition to the requirements, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement.
	11.3	The bidder shall furnish, as part of its bid, all those documents establishing the eligibility in conformity to the terms and conditions specified in the bidding documents for all material, equipment and works which the bidder proposes to execute.
	11.4	The documentary evidence of conformity of the material, equipment and works to the Bidding Documents may be in the form of literature, drawings, and data, and shall consist of: a) a detailed description of the work methodology, approach, schedule and resources to be mobilized at site; b) an item-by-item commentary on the Procuring agency/Employer's Technical Specifications demonstrating substantial responsiveness of the material, equipment and works to those specifications, or a statement of deviations and exceptions to the provisions of the Technical Specifications; c) any other procurement specific documentation requirement as stated in the **BDS**.
	11.5	The required documents and other accompanying documents must be in English. In case any other language than English is used the pertinent translation into English shall be attached to the original version.
12. Documents Establishing Eligibility and Qualification of the Bidder	12.1	The bidder shall furnish, as part of its bid, all those documents establishing the bidder's eligibility to participate in the bidding process and/or its qualification to perform the contract if its bid is accepted.
	12.2	The documentary evidence of the bidder's eligibility to bid shall establish to the satisfaction of the Procuring agency/Employer that the bidder, at the time of submission of its bid, is from an eligible country as defined in Section-IV titled as "Eligible Countries".
	12.3	The documentary evidence of the bidder's qualification to perform the contract if its bid is accepted shall establish to the satisfaction of Procuring agency/Employer that: a) The bidder has the financial and technical capability necessary to perform the Contract, meets the qualification criteria specified in Section-V, Evaluation and Qualification Criteria and **BDS**. b) In the case of a bidder not doing business within Pakistan, the bidder is or will be (if awarded the contract) represented by a local bidder (Joint Venture) in accordance with the PEC works bylaws, and in case of award of works such foreign firm is required to participate in the execution of works to carry out its obligations as prescribed in the Conditions of Contract and /or Technical Specifications. c) That the bidder meets the qualification criteria listed in Section-V, Evaluation and Qualification Criteria and **BDS.**
13. Letter of Bid and Schedules	13.1	The Letter of Bid (Technical or Financial as the case may be) and Schedules, including the Bill of Quantities, shall be prepared using the relevant forms furnished in Standard Bid Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under **ITB 22.** All blank spaces shall be filled in with the information requested.

14. Letter of Bid	14.1	The bidder shall fill the Letter of Bid (Technical or Financial as the case may be) furnished in the bidding documents. The Standard Bid Forms must be completed without any alterations to its format and no substitute shall be accepted.
15. Bid Prices	15.1	The bid prices quoted by the bidder in the Standard bid Forms, Bill of Quantities and in the Price Schedules shall conform to the requirements specified below or exclusively mentioned hereafter in the bidding documents.
	15.2	The bidder shall fill in rates and prices for all items of the Works described in the Bill of Quantities. If a Price Schedule shows items listed but not priced, their prices shall be construed to be included in the prices of other items in the Bill of Quantities and will not be paid for separately by the Procuring agency/Employer.
	15.3	Items not listed in the Price Schedule shall be assumed not to be included in the bid, and provided that the bid is still substantially responsive in their absence or due to their nominal nature, the corresponding average price of the respective item(s) of the remaining substantially responsive bidder(s) shall be construed to be the price of those missing item(s): Provided that: a) where there is only one (substantially) responsive bidder, or b) where there is provision for alternate proposals and the respective items are not listed in the other bids, The Procuring agency/Employer may fix the price of missing items in accordance with market survey, and the same shall be considered as final price.
	15.4	The Bid price to be quoted in the Form of Bid in accordance with **ITB 15.1** shall be the total price of the bid.
	15.5	Unless otherwise specified in the **BDS** and the Contract, the rates and prices quoted by the bidder are subject to adjustment during the performance of the Contract in accordance with the provisions of the Conditions of Contract.
	15.6	If so specified in **ITB 1.1**, bids may be invited for individual lots (contracts) or for any combination of lots (packages).
	15.7	Prices quoted by the Bidder shall be fixed during the bidder's performance of the contract and not subject to variation on any account. A bid submitted with an adjustable price will be treated as non-responsive and shall be rejected, pursuant to **ITB 30,** unless otherwise price adjustment is permissible under Conditions of the Contract.
	15.8	All duties, taxes, and other levies payable by the Contractor under the Contract, or for any other cause, as of the date twenty-eight (28) days prior to the deadline for submission of bids, shall be included in the rates and prices and the total bid price submitted by the bidder.
16. Currencies of Bid and Payment	16.1	The currency(ies) of the bid and the currency(ies) of payments shall be as specified in the **BDS.**
	16.2	For the purposes of comparison of bids quoted in different currencies, the price shall be converted into a single currency specified in the bidding documents. The rate of exchange shall be the selling rate, prevailing on the date of opening of (financial part of) bids specified in the bidding documents, as notified by the State Bank of Pakistan on that day.
	16.3	Bidders shall indicate details of their expected foreign currency requirements in the Bid, if prescribed in the BDS.
	16.4	Bidders may be required by the Procuring agency/Employer to clarify their foreign currency requirements, if prescribed in the BDS and to substantiate that the amounts included in Lump Sum and in the **SCC** are reasonable and responsive to **ITB 16.1**.
17. Documents Comprising the Technical Proposal	17.1	The bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in **Section IV – Standard Bid Forms**, in sufficient detail to demonstrate the adequacy of the bidder's proposal to meet the work requirements and the completion time.
18. Bid Validity Period	18.1	Bids shall remain valid for the period specified in the **BDS** after the bid submission deadline prescribed by the Procuring agency/Employer. A bid valid for a shorter period shall be rejected by the Procuring agency/Employer as non-responsive**.** The period of bid validity will be determined from the complementary bid securing instrument i.e. the expiry period of bid security or bid securing declaration as the case may be.
	18.2	Under exceptional circumstances, prior to the expiration of the initial bid validity period, the Procuring agency/Employer may request the bidders' consent to an extension of the period of validity of their bids only once, for the period not more than the period of initial bid validity. The request and the bidders' responses shall be made in writing or in electronic forms that provide record of the content of communication. The Bid Security provided under **ITB 19** shall also be extended 28 days beyond the deadline of extended bid validity period. A bidder may refuse the request for the extension of his bid without forfeiting his bid security or causing to be executed his Bid Securing Declaration. A bidder

		agreeing to the request will not be required nor permitted to modify its bid, but will be required to extend the validity of its Bid Security or Bid Securing Declaration for the period of the extension, and in compliance with **ITB 19** in all respects.
19. Bid Security or Bid Securing Declaration	19.1	Pursuant to **ITB 11.1** unless otherwise specified in the **BDS**, the bidder shall furnish as part of its bid, a Bid Security in form of fixed amount not exceeding five percent of the estimated value of procurement determined by the Procuring agency/Employer and in the amount and currency specified in the **BDS** or Bid Securing Declaration as specified in the **BDS** in the format provided in **Section VI (Standard Bidding Forms)**. In case Procuring agency/Employer is inviting bids in lots / packages, the bidder shall be required to submit his bid security against the respective lot/ package for which he is submitting his bid, which shall not exceed five percent of the estimated value of that particular lot/ package.
	19.2	The Bid Security or Bid Securing Declaration is required to protect the Procuring agency/Employer against the risk of Bidder's conduct before award of the contract to the most advantageous bidder which would warrant the security's forfeiture, pursuant to **ITB 19.9.**
	19.3	The Bid Security shall be denominated in the local currency or in another freely convertible currency, and it shall be in the form specified in the **BDS** which shall be in any of the following: a) A bank guarantee, an irrevocable letter of credit issued by a Scheduled bank in the form provided in the Bidding Documents or another form acceptable to the Procuring agency/Employer and valid for twenty-eight (28) days beyond the end of the validity of the Bid. This shall also apply if the period for Bid Validity is extended. In either case, the form must include the complete name of the bidder; b) A cashier's or certified cheque; or c) Another security as indicated in the **BDS.**
	19.4	The Bid Security or Bid Securing Declaration shall be in accordance with the Form of the Bid Security or Bid Securing Declaration included in **Section VI (Standard Bidding Forms)** or another form approved by the Procuring agency/Employer prior to the bid submission.
	19.5	The Bid Security shall be payable promptly upon written demand by the Procuring agency/Employer in case any of the conditions listed in **ITB 19.9** are invoked.
	19.6	Any bid not accompanied by a Bid Security or Bid Securing Declaration in accordance with **ITB 19.1 or 19.3** shall be rejected by the Procuring agency/Employer and shall be declared as non-responsive bid, pursuant to **ITB 30**.
	19.7	Unsuccessful bidders' Bid Security will be discharged or returned as promptly as possible, however in no case later than thirty (30) days after the expiration of the period of Bid Validity prescribed by the Procuring agency/Employer pursuant to **ITB 18**. The Procuring agency/Employer shall make no claim to the amount of the Bid Security, and shall promptly return the Bid Security document, after whichever of the following that occurs earliest: (a) The expiry of the Bid Security; (b) The entry into force of a procurement contract and the provision of a performance security (or guarantee), for the performance of the contract if such a security (or guarantee), is required by the Biding documents; (c) The rejection by the Procuring agency/Employer of all Bids; (d) The withdrawal of the bid prior to the deadline for the submission of bids, unless the biding documents stipulate that no such withdrawal is permitted.
	19.8	The successful bidder's Bid Security will be discharged upon the bidder signing the contract pursuant to **ITB 47,** or furnishing the performance security (or guarantee), pursuant to **ITB 48**.
	19.9	The Bid Security may be forfeited or the Bid Securing Declaration executed: a) if a Bidder: i) Withdraws its Bid during the period of Bid Validity as specified by the Procuring agency/Employer, and referred by the bidder on the Form of Bid except as provided for in **ITB 18.2**; or ii) Does not accept the correction of errors pursuant to **ITB 32;** or b) In the case of a successful bidder, if the bidder fails: i) to sign the contract in accordance with **ITB 47**; or ii) to furnish performance security (or guarantee) in accordance with **ITB 48.**
	19.10	In case of Bid Security issued by the foreign bank is allowed by the Procuring agency/Employer, the same should be counter guaranteed by a corresponding bank in Pakistan. Furthermore, in case of joint venture, it should be in the name of Joint venture to ensure joint responsibility.
20. Alternative Bids by Bidders	20.1	Bidders shall submit offers that comply with the requirements of the bidding documents, including the basic bidder's technical design as indicated in the specifications and Bill of Quantities. Alternatives will not be considered, unless specifically allowed for in the **BDS**. If so allowed, **ITB 20** shall prevail.
	20.2	When alternative schedule for execution of works is explicitly invited, a statement of that effect will be included in the **BDS** as will the method for evaluating different schedule for execution of works.

	20.3	If so allowed in the **BDS**, bidders wishing to offer technical alternatives to the requirements of the bidding documents must also submit a bid that complies with the requirements of the bidding documents, including the basic technical design as indicated in the specifications. In addition to submitting the basic bid, the bidder shall provide all information necessary for a complete evaluation of the alternative by the Procuring agency/Employer, including technical specifications, breakdown of prices, and other relevant details. Only the technical alternatives, if any, of the Most Advantageous Bidder conforming to the basic technical requirements (without altering the bid price) shall be considered by the Procuring agency/Employer.
21. Withdrawal of Bids	21.1	Before bid submission deadline, any bidder may withdraw, substitute, or modify its bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and the corresponding must accompany the respective written notice.
	21.2	Bids requested to be withdrawn in accordance with **ITB 21.1** shall be returned unopened to the bidders.
22. Format and Signing of Bid	22.1	The Bidder shall prepare an original and the number of copies of the bid as indicated in the **BDS**, clearly marking each **"ORIGINAL"** and **"COPY"** as appropriate. In the event of any discrepancy between them, the original shall prevail: *Provided that except in Single Stage One Envelope Procedure, the bid shall include only the copies of technical proposal.*
	22.2	The original and the copy (ies) 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. This authorization shall consist of a written confirmation as specified in the **BDS** and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid, except for un-amended printed literature, shall be initialed by the person or persons signing the bid.
	22.3	Any interlineations, erasures, or overwriting shall be valid only if they are signed by the person(s) authorized for signing the Bid.

D. SUBMISSION OF BIDS

23. Sealing and Marking of Bids	23.1	In case of Single Stage One Envelope Procedure, the bidder shall seal the original and each copy of the bid in separate envelopes, duly marking the envelopes as **"ORIGINAL"** and **"COPY".** The envelopes shall then be sealed in an outer envelope securely sealed in such a manner that opening and resealing cannot be achieved undetected. **Note:** *The envelopes shall be sealed and marked in accordance with the bidding procedure adopted as referred in Rule-36 of Public Procurement Rules,2004.*
	23.2	The inner and outer envelopes shall: a) be addressed to the Procuring agency/Employer at the address given in the **BDS**; and b) bear the title of the subject procurement or project name, as the case may be as indicated in the **BDS**, the Invitation for Bids (ITB) title and number indicated in the **BDS**, and a statement: **"DO NOT OPEN BEFORE",** to be completed with the time and the date specified in the **BDS**, pursuant to **ITB 24.1.**
	23.3	In case of Single Stage Two Envelope Procedure, The Bid shall comprise two envelopes submitted simultaneously, one called the Technical Proposal and the other Financial Proposal. Both envelopes to be enclosed together in an outer single envelope called the Bid. Each Bidder shall submit his bid as under: a) Bidder shall submit his **TECHNICAL PROPOSAL** and **FINANCIAL PROPOSAL** in separate inner envelopes and enclosed in a single outer envelope. b) **ORIGINAL** and each copy of the Bid shall be separately sealed and put in separate envelopes and marked as such. c) The envelopes containing the **ORIGINAL** and copies will be put in one sealed envelope and addressed / identified as given in **ITB 23.2.**
	23.4	The inner and outer envelopes shall: a) be addressed to the Procuring agency/Employer at the address provided in the **BDS**; b) bear the name and identification number of the contract as defined in the **BDS**; and provide a warning not to open before the time and date for bid opening, as specified in the **BDS** pursuant to **ITB 24.1.** c) In addition to the identification required in **ITB 23** hereof, the inner envelope shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared "late" pursuant to **ITB 25.**
	23.5	If all envelopes are not sealed and marked as required by **ITB 23.2**, **ITB 23.3** and **ITB 23.4** or incorrectly marked, the Procuring agency/Employer will assume no responsibility for the misplacement or premature opening of bid.

24. Deadline for Submission of Bids	24.1	Bids shall be received to the Procuring agency/Employer no later than the date and time specified in the **BDS.**
	24.2	The Procuring agency/Employer may, under exceptional circumstances and at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with **ITB 9**, in which case all rights and obligations of the Procuring agency/Employer and bidders previously subject to the deadline will thereafter be subject to the new deadline.
25. Late Bids	25.1	The Procuring agency/Employer shall not consider for evaluation of any bid that arrives after the deadline for submission of bids, in accordance with **ITB 24**.
	25.2	Any bid received by the Procuring agency/Employer after the deadline for submission of bids shall be declared late, recorded, rejected and returned unopened to the bidder.
26. Substitution and Modification of bids	26.1	A bidder may substitute or modify his bid after it has been submitted, provided that written notice of the substitution or modification of the bid, is received by the Procuring agency/Employer prior to the deadline for submission of bids.
	26.2	Revised bid may be submitted after the substitution or modification made in the original bid in accordance with the provisions referred in **ITB 22.**

E. OPENING AND EVALUATION OF BIDS

27. Opening of Bids	27.1	The Procuring agency/Employer will open all bids, in public, in the presence of bidders' or their representatives who choose to attend, and other parties with a legitimate interest in the bid proceedings at the place, on the date and at the time, specified in the **BDS**. The bidders' representatives present shall sign a attendance sheet as a proof of their attendance.
	27.2	First, envelopes marked **"WITHDRAWAL"** shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening.
	27.3	Second, outer envelopes marked **"SUBSTITUTION**" shall be opened. The inner envelopes containing the Substitution Bid shall be exchanged for the corresponding Original Bid being substituted, which is to be returned to the bidder unopened. No envelope shall be substituted unless the corresponding Substitution Notice contains a valid authorization to request the substitution and is read out and recorded at bid opening.
	27.4	Next, outer envelopes marked **"MODIFICATION"** shall be opened. No Technical Proposal and/or Financial Proposal shall be modified unless the corresponding Modification Notice contains a valid authorization to request the modification and is read out and recorded at the opening of the bids. Any modification shall be read out along with the Original Bid except in case of Single Stage Two Envelope Procedure where only the Technical Proposal, both Original as well as Modification, are to be opened, read out, and recorded at the opening. Financial Proposal, both Original and Modification, will remain unopened till the prescribed financial bid opening date.
	27.5	Other envelopes holding the bids shall be opened one at a time, in case of Single Stage One Envelope Procedure, the bidders' names, the bid prices, the total amount of each bid and of any alternative bid (if alternatives have been requested or permitted), the presence or absence of Bid Security, Bid Securing Declaration and such other details as the Procuring agency/Employer may consider appropriate, will be announced by the Procurement Evaluation Committee.
	27.6	In case of Single Stage Two Envelope Procedure, the Procuring agency/Employer will open the Technical Proposals in public at the address, date and time specified in the **BDS** in the presence of bidders' designated representatives who choose to attend and other parties with a legitimate interest in the bid proceedings. The Financial Proposals will remain unopened and will be held in custody of the Procuring agency/Employer until the specified time of their opening.
	27.7	The envelopes holding the Technical Proposals shall be opened one at a time, and the following read out and recorded: (a) the name of the bidder; (b) whether there is a modification or substitution; (c) the presence of a Bid Security or Bid Securing Declaration, if required; and (d) Any other details as the Procuring agency/Employer may consider appropriate.
	27.8	Bids not opened and not read out at the bid opening shall not be considered further for evaluation, irrespective of the circumstances.
	27.9	Bidders are advised to send in a representative with the knowledge of the content of the bid who shall verify the information read out from the submitted documents. Failure to send a representative or to point out any un-read information by the sent bidder's representative shall indemnify the Procuring agency/Employer against any claim or failure to read out the correct information contained in the bidder's bid.
	27.10	No bid will be rejected at the time of bid opening except for late bids which will be returned unopened to the bidder, pursuant to **ITB 25.**

	27.11	The Procuring agency/Employer shall prepare minutes of the bid opening. The record of the bid opening shall include, as a minimum: the name of the bidder and whether or not there is a withdrawal, substitution or modification, the bid price if applicable and the presence or absence of a Bid Security or Bid Securing Declaration.
	27.12	The bidders' representatives who are present shall be requested to sign on the attendance sheet. The omission of a bidder's signature on the record shall not invalidate the contents and affect the record. A copy of the record shall be distributed to all the bidders.
	27.13	A copy of the minutes of the bid opening shall be furnished to individual bidders upon request.
	27.14	In case of Single Stage -Two Envelop Bidding Procedure, after the announcement of technical evaluation report, the Procuring agency/Employer, shall at a time within the bid validity period, publicly open the financial proposals of the technically responsive bidder only. The financial proposal of bidders found technically non-responsive shall be returned un-opened to the respective bidders after seven days of the announcement of technical evaluation report, except those aggrieved bidder(s) whose complaints are pending before the Grievance Redressal Committee.
28. Confidentiality	28.1	Information relating to the examination, clarification, evaluation and comparison of bids and recommendation of contract award shall not be disclosed to bidders or any other persons not officially concerned with such process until the time of the announcement of the respective evaluation report.
	28.2	Any effort by a bidder to influence the Procuring agency/Employer processing of bids or award decisions may result in the rejection of its bid.
	28.3	Notwithstanding **ITB 28.2** from the time of bid opening to the time of contract award, if any bidder wishes to contact the Procuring agency/Employer on any matter related to the bidding process, it should do so in writing or in electronic forms that provides record of the content of communication.
29. Clarification of Bids	29.1	To assist in the examination, evaluation and comparison of bids, the Procuring agency/Employer may, ask any bidder for a clarification of its bid including breakdown of prices invariably in writing. Any clarification submitted by a bidder that is not in response to a request by the Procuring agency/Employer shall not be considered.
	29.2	The request for clarification and the response shall be in writing or in electronic forms that provide record of the content of communication. No change in the prices or substance of the bid shall be sought, offered, or permitted, except clarification for the correction of arithmetic errors discovered by the Procuring agency/Employer during the evaluation of bids which shall be sought in accordance with **ITB 32**.
	29.3	The alteration or modification in the bid which in any case affect the following parameters will be considered as a change in the substance of a bid: a) evaluation & qualification criteria; b) required scope of work; c) contract price; d) all securities requirements; e) tax requirements; f) terms and conditions of bidding documents. g) change in the ranking of the bidder
	29.4	From the time of bid opening to the time of Contract award if any bidder wishes to contact the Procuring agency/Employer on any matter related to the bid it should do so in writing or in electronic forms that provide record of the content of communication.
30. Preliminary Examination of Bids	30.1	Prior to the detailed evaluation of bids, the Procuring agency/Employer will determine whether each bid: a) meets the eligibility criteria defined in **ITB 3** and **ITB 4**; b) has been prepared as per the format and contents defined by the Procuring agency/Employer in the bidding documents; c) has been properly signed; d) is accompanied by the required securities; and e) is substantially responsive to the requirements of the bidding documents. The Procuring agency/Employer's determination of a bid's substantial responsiveness will be based on the contents of the bid itself.
	30.2	A substantially responsive Bid is one which conforms to all the terms, conditions, and specifications of the Bidding Documents, without material deviation or reservation. A material deviation or reservation is one that: - a) affects in any substantial way the scope, quality, or performance of the Works; b) limits in any substantial way, inconsistent with the bidding documents, the Procuring agency/Employer's rights or the bidders' obligations under the Contract; or c) if rectified, would affect unfairly the competitive position of other bidders presenting substantially responsive bids.

	30.3	The Procuring agency/Employer will confirm that the documents and information specified under **ITB 11, 12** and **13** have been provided in the bid. If any of these documents or information is missing, or is not provided in accordance with the Instructions to Bidders, the bid shall be rejected.
	30.4	The Procuring agency/Employer may waive-off any minor informality, nonconformity, or irregularity in a bid which does not constitute a material deviation, provided such waiver does not prejudice or affect the relative ranking of any Bidder. ***Explanation:*** *A minor informality, non-conformity or irregularity is one that is merely a matter of form and not of substance. It also pertains to some immaterial defect in a Bid or variation of a bid from the exact requirements of the invitation that can be corrected or waived without being prejudicial to other bidders. The defect or variation is immaterial when the effect on quantity, quality, or delivery is negligible when contrasted with the total cost or scope of the works. The Procuring agency/Employer either shall give the bidder an opportunity to cure any deficiency resulting from a minor informality or irregularity in a bid or waive the deficiency, whichever is advantageous to the Procuring agency/Employer. Examples of minor informalities or irregularities include failure of a bidder to –* (a) *Submit the number of copies of signed bids required by the invitation;* (b) *Furnish required information concerning the number of its employees;* (c) *the firm submitting a bid has formally adopted or authorized, before the date set for opening of bids, the execution of documents by typewritten, printed, or stamped signature and submits evidence of such authorization and the bid carries such a signature.*
	30.5	Provided that a Technical Bid is substantially responsive, the Procuring agency/Employer may request the bidder to submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the Technical Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any such aspect of the technical Proposal linked with the ranking of the bidders. Failure of the bidder to comply with the request may result in the rejection of its bid.
	30.6	Provided that a Technical Bid is substantially responsive, the Procuring agency/Employer shall rectify quantifiable nonmaterial nonconformities or omissions related to the Financial Proposal. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of the missing or nonconforming item or component.
	30.7	If a bid is not substantially responsive, it will be rejected by the Procuring agency/Employer and may not subsequently be evaluated for complete technical responsiveness.
31. Examination of Terms and Conditions; Technical Evaluation	31.1	The Procuring agency/Employer shall examine the bid to confirm that all terms and conditions specified in the **GCC** and the **SCC** have been accepted by the bidder without any material deviation or reservation. For this purpose: "Deviation" means departure from the requirements specified in the Bidding Document. "Reservation" means setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document.
	31.2	The Procuring agency/Employer shall evaluate the technical aspects of the bid submitted in accordance with **ITB 31,** to confirm that all requirements specified in **Section V – Works Requirement**, **Technical Specifications of** the Bidding Documents have been met without material deviation or reservation.
	31.3	If after the examination of the terms and conditions and the technical evaluation, the Procuring agency/Employer determines that the bid is not substantially responsive in accordance with **ITB 30,** it shall reject the bid.
32. Correction of Arithmetic Errors	32.1	Bids determined to be substantially responsive will be checked for any arithmetic errors. Errors will be corrected as follows: - a) if there is a discrepancy between unit prices and the sub-total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the sub-total price shall be corrected, unless in the opinion of the Procuring agency/Employer there is an obvious misplacement of the decimal point in the unit price, in which the total price as quoted shall govern and the unit price shall be corrected; b) if there is an error in a total corresponding to the addition or subtraction of sub-totals, the sub-totals shall prevail, and the total shall be corrected; and c) where there is a discrepancy between the amounts in figures and in words, the amount in words will govern. d) Where there is discrepancy between grand total of price schedule and amount mentioned on the Form of Bid, the amount referred in Price Schedule shall be treated as correct subject to elimination of other errors.
	32.2	The amount stated in the Bid will, be rectified by the Procuring agency/Employer in accordance with the above procedure for the correction of errors and, with, the concurrence of the bidder, shall be considered as binding upon the bidder. If the bidder does not accept the corrected amount, its bid shall be rejected after

		forfeiture of Bid Security or execution of the Bid Securing Declaration, as the case may be, in accordance with **ITB 19.9.**
33. Conversion to Single Currency	33.1	The unit rates and the prices shall be quoted by the bidder entirely in Pak rupees. A bidder expecting to incur expenditures in other currencies for inputs to the Works from outside the Procuring agency/Employer's country (referred to as the "Foreign Currency Requirements") shall indicate the same in the letter of bid-financial proposal. The proportion of the Bid Price (excluding Provisional Sums) needed by him for the payment of such Foreign Currency Requirements either (i) entirely in the currency of the Bidder's home country or, (ii) at the bidder's option, entirely in Pak rupees provided always that a bidder expecting to incur expenditures in a currency or currencies other than those stated in (i) and (ii) above for a portion of the foreign currency requirements, and wishing to be paid accordingly, shall indicate the respective portions in his bid.
	33.2	To facilitate evaluation and comparison, the Procuring agency/Employer will convert all bid prices expressed in the amounts in various currencies in which the bid prices are payable. For the purposes of comparison of bids quoted in different currencies, the price shall be converted into a single currency specified in the bidding documents. The rate of exchange shall be the selling rate, prevailing on the date of opening of (financial part of) bids specified in the bidding documents, as notified by the State Bank of Pakistan on that day.
	33.3	The currency selected for converting bid prices to a common base for the purpose of evaluation, along with the source and date of the exchange rate, are specified in the **BDS**.
34. Evaluation of Bids	34.1	The Procuring agency/Employer shall evaluate and compare only the bids determined to be substantially responsive, pursuant to **ITB 30**.
	34.2	In evaluating the Technical Proposal of each Bid, the Procuring agency/Employer shall use the criteria and methodologies listed in the **BDS** and in terms of works requirement. No other evaluation criteria or methodologies shall be permitted.
	34.3	The Procuring agency/Employer's evaluation of a bid will take into account: a) the bid price, excluding provisional sums and the provision, if any, for contingencies in the summary bill of quantities, but including day work items, where priced competitively; b) price adjustment for correction of arithmetic errors in accordance with **ITB 32.1;** c) converting the amount resulting from applying (a) and (b) above, if relevant, to a single currency in accordance with **ITB 33**;
	34.4	The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
	34.5	If these bidding documents allow bidders to quote separate prices for different lots, and the award to a single bidder of multiple lots, the methodology of evaluation to determine the lowest evaluated lot combinations in the Form of Bid, is specified in the **BDS.**
	34.6	If the bid, which results in the Evaluated Bid Price (Most Advantageous Bid), is seriously unbalanced or front loaded in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Bill of Quantities, to demonstrate the internal consistency of those prices with the construction methods and schedule proposed. After evaluation of the price analyses, taking into consideration the schedule of estimated Contract payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract. **Explanation:** *"Unbalanced" or "front-loaded" bids consist of deliberately submitting bids with artificially high prices or unit rates for the early stages of a construction project, offset by artificially low prices or unit rates for the later stages of the project, to improve the contractor's cash flow.*
35. Domestic Preference	35.1	If the **BDS** so specifies, the Procuring agency/Employer will grant a margin of preference to the domestic contractor in line with the rules, regulations, regulatory guides or instructions issued by the Authority from time to time.
36. Determination of Most Advantageous Bid	36.1	The Procuring agency/Employer shall compare the evaluated bids in accordance with the predefined bidding procedure, of all substantially responsive bids to determine the Most Advantageous bidder.
37. Qualification of Bidder	37.1	The Procuring agency/Employer shall determine to its satisfaction whether the bidder is substantially responsive and whose bid is declared as most advantageous bid either continues to meet (if prequalification applies) or meets (if post-qualification applies) the qualifying criteria specified in Evaluation and Qualification Criteria. *Note: In case of International bidding, the parameters for incorporation or licensing within Pakistan may be fulfilled as part of post qualification.*
	37.2	The determination shall be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the bidder, pursuant to **ITB 12**.

	37.3	Prior to contract award, the Procuring agency/Employer will verify that the successful bidder (including each member of a JV) is not blacklisted/debarred. The Procuring agency/Employer will conduct the same verification for each sub-contractor proposed by the successful bidder.
38. Sub-Contractors	38.1	The bidder shall provide details regarding any specialized sub-contractor to the Procuring agency/Employer. In case change of sub-contractors, the bidder shall promptly notify the Procuring agency/Employer and obtain approval for replacement of sub-contractors.
	38.2	Bidders may propose sub-contracting up to the percentage of total value of contracts or the volume of works as specified in the **BDS.**
39. Abnormally Low Financial Bid	39.1	Where the bid price is considered to be abnormally low, the Procuring agency/Employer shall perform price analysis either during determination of Most Advantageous Bid or as a part of the post-qualification process. The following process shall apply: a) The Procuring agency/Employer may reject a bid if the Procuring agency/Employer has determined that the price in combination with other constituent elements of the bid is abnormally low in relation to the subject matter of the procurement (i.e. scope of the procurement or ancillary services) and raises concerns as to the capability and capacity of the respective Bidder to perform that contract; b) Before rejecting an abnormally low bid the Procuring agency/Employer shall request the bidder an explanation of the bid or of those sections which it considers contribute to the bid being abnormally low; take account of the evidence provided in response to a request in writing; and subsequently verify the bid or parts of the bid being abnormally low; c) The decision of the Procuring agency/Employer to reject a bid and reasons for the decision shall be recorded in the procurement proceedings and promptly communicated to the bidder concerned; d) The Procuring agency/Employer shall not incur any liability solely by rejecting abnormally bid; and e) An abnormally low bid means, in the light of the Procuring agency/Employer's estimate and of all the bids submitted, the bid appears to be abnormally low by not providing a margin for normal levels of profit. **Guidance for Procuring agency/Employer:** In order to identify the Abnormally Low Bid (ALB) following approaches can be considered to minimize the scope of subjectivity: (i) Comparing the bid price with the cost estimate; (ii) Comparing the bid price with the bids offered by other bidders submitting substantially responsive bids; and (iii) Comparing the bid price with prices paid in similar contracts in the recent past either government- or development partner-funded.
	39.2	The Procuring agency/Employer will determine to its satisfaction whether the bidder that is selected as having submitted the most advantageous bid is qualified to perform the contract satisfactorily, in accordance with the criteria listed in **ITB 12**
	39.3	The determination will take into account the bidder's financial and technical capabilities. It will be based upon an examination of the documentary evidence of the bidder's qualifications submitted by the bidder, pursuant to **ITB 12,** as well as such other information as the Procuring agency/Employer deems necessary and appropriate. Factors not included in these bidding documents shall not be used in the evaluation of the bidders' qualifications.
	39.4	Procuring agency/Employer may seek "Certificate for Independent Price Determination" from the bidder and the results of reference checks may be used in determining award of contract. ***Explanation:*** *The Certificate shall be furnished by the bidder. The bidder shall certify that the price is determined keeping in view of all the essential aspects such as raw material, its processing, value addition, optimization of resources due to economy of scale, transportation, insurance and margin of profit etc.*
	39.5	An affirmative determination will be a prerequisite for award of the contract to the bidder. A negative determination will result in rejection of the bidder's bid, in which event the Procuring agency/Employer will proceed to the next ranked bidder to make a similar determination of that bidder's capabilities to perform satisfactorily.

F. AWARD OF CONTRACT

40. Criteria of Award	40.1	Subject to **ITB 36** and **37**, the Procuring agency/Employer will award the Contract to the bidder whose bid has been determined to be substantially responsive to the bidding documents and who has been declared as Most Advantageous Bidder, provided that such bidder has been determined to be: a) eligible in accordance with the provisions of **ITB 3;** b) is determined to be qualified to perform the Contract satisfactorily; and c) Successful negotiations have been concluded, if any.
41. Negotiations	41.1	The Committee of the Procuring agency/Employer may negotiate with the Most Advantageous Bidder relating to the following areas: (a) a minor alteration to the technical (drawings, design technical specifications) details of the statement of works; (b) Methodology, work plan, staffing in view to streamline the work; (c) a minor amendment to the special conditions of Contract; (d) finalizing payment arrangements; (e) clarifying details that were not apparent or could not be finalized at the time of Bidding;
	41.2	Where negotiation fails to result into an agreement, the Procuring agency/Employer may invite the next ranked bidder for negotiations. Where negotiations are commenced with the next ranked bidder, the Procuring agency/Employer shall not reopen earlier negotiations.
42. Procuring agency/Employer's Right to reject All Bids	42.1	Notwithstanding **ITB 37**, the Procuring agency/Employer reserves the right to reject all the bids, and to annul the bidding process at any time prior to acceptance of bid, without thereby incurring any liability to the affected bidder(s). However, the Authority (i.e. PPRA) may call from the Procuring agency/Employer the justification of those grounds.
	42.2	Notice of the rejection of all bids shall be given promptly to all bidders that have submitted bids.
	42.3	The Procuring agency/Employer shall upon request communicate to any bidder the grounds for its rejection of its bids, but is not required to justify those grounds.
43. Variations	43.1	The Engineer shall make any variation in the quantity of the Works or any part thereof that may, in his opinion, be necessary and for that purpose, or if for any other reason it shall, in his opinion, be appropriate, he shall have the authority to instruct the Contractor to do and the Contractor shall do any of the following: a) increase or decrease the quantity of any work included in the Contract, b) omit any such work (but not if the omitted work is to be carried out by the Employer or by another contractor), c) change the character or quality or kind of any such work, d) change the levels, lines, position and dimensions of any part of the Works, e) execute additional work of any kind necessary for the completion of the Works, or f) change any specified sequence or timing of construction of any part of the Works. No such variation shall in any way vitiate or invalidate the Contract, but the effect, if any, of all such variations shall be valued in accordance with **ITB 15**. Provided that where the issue of an instruction to vary the Works is necessitated by some default of or breach of contract by the Contractor or for which he is responsible, any additional cost attributable to such default shall be borne by the Contractor.
44. Instructions for variations	44.1	The Contractor shall not make any such variation without an instruction of the Engineer. Provided that no instruction shall be required for increase or decrease in the quantity of any work where such increase or decrease is not the result of an instruction given under this Clause, but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities.
45. Valuation of Variations	45.1	All variations and any additions to the Contract Price which are required to be determined in accordance with **ITB 15** (for the purposes of this Clause referred to as "varied work"), shall be valued at the rates and prices set out in the Contract if, in the opinion of the Engineer, the same shall be applicable. If the Contract does not contain any rates or prices applicable to the varied work, the rates and prices in the Contract shall be used as the basis for valuation so far as may be reasonable, failing which, after due consultation by the Engineer with the Procuring agency/Employer and the Contractor, suitable rates or prices shall be agreed upon between the Engineer and the Contractor. In the event of disagreement, the Engineer shall fix such rates or prices as are, in his opinion, appropriate and shall notify the Contractor accordingly, with a copy to the Employer. Until such time as rates or prices are agreed or fixed, the Engineer shall determine provisional rates or prices to enable on-account payments to be included in certificates issued in accordance with **ITB 15.**
46. Notification of Award	46.1	Prior to the award of contract, the Procuring agency/Employer shall issue a Final Evaluation Report giving justification for acceptance or rejection of the bids.
	46.2	Where no complaints have been lodged, the bidder whose bid has been accepted will be notified of the award by the Procuring agency/Employer prior to expiration of the bid validity period in writing or through electronic means that provide record of the content of communication. However, the Procuring

		agency/Employer shall not award any procurement contract atleast for fifteen (15) days after the acceptance of bid. The notification letter (herein after and in the condition of the contract and contract form called "Letter of Acceptance" will specify the sum that the Procuring agency/Employer will pay the successful bidder in consideration for the execution and completion of the works as prescribed by the Contract (hereinafter and in the Contract called the "Contract Price).
	46.3	The notification of award will constitute the formation of the Contract, subject to the bidder furnishing the Performance Security (or guarantee) in accordance with **ITB 48** and signing of the contract in accordance with **ITB 47.**
	46.4	Upon the successful bidder's furnishing of the performance security (or guarantee) pursuant to **ITB 48**, the Procuring agency/Employer will promptly notify each unsuccessful bidder, the name of the successful bidder and the Contract amount and will discharge the Bid Security or Bid Securing Declaration of the bidder(s) pursuant to **ITB 19**.
47. Signing of Contract	47.1	Promptly after notification of award, Procuring agency/Employer shall send the successful bidder the draft agreement, incorporating all terms and conditions as agreed by the parties to the contract.
	47.2	Immediately after the Redressal of grievance by the GRC, and after fulfillment of all conditions precedent of the Contract Form, the successful bidder and the Procuring agency/Employer shall sign the contract.
	47.3	Where no formal signing of a contract is required, work order issued to the bidder shall be construed to be the contract.
48. Performance Security (or Guarantee)	48.1	After the receipt of the Letter of Acceptance, the successful bidder, within the specified time, shall deliver to the Procuring agency/Employer a Performance Guarantee in the amount and in the form stipulated in the **BDS and SCC**, denominated in the type and proportions of currencies in the Letter of Acceptance and in accordance with the Conditions of Contract.
	48.2	If the Performance Guarantee is provided by the successful bidder and it shall be in the form specified in the **BDS** which shall be in any of the following: (a) certified cheque, cashier's or manager's cheque, or bank draft; (b) irrevocable letter of credit issued by a scheduled bank of Pakistan or in the case of an irrevocable letter of credit issued by a foreign bank, the letter shall be confirmed or authenticated by a scheduled bank of Pakistan; (c) bank guarantee confirmed by a reputable local bank or, in the case of a successful foreign bidder, bonded by a foreign bank; or (d) surety bond callable upon demand issued by any reputable surety or insurance company. Any Performance Guarantee submitted shall be enforceable in Pakistan.
	48.3	Failure of the Most Advantageous Bidder to comply with the requirement of **ITB 47** shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security or declare blacklisted (in case bid securing declaration is submitted) in which event the Procuring agency/Employer may make the award to the next most advantageous bidder or reinitiate the procurement process afresh (as a case may be).
49. Advance Payment	49.1	Advance payment will be provided to the bidder in percentage and in the manner as agreed by the both parties in terms of Conditions of the Contract.
	49.2	The Procuring agency/Employer will provide an advance payment as stipulated in the Conditions of Contract, subject to a maximum amount, as stated and/or Conditions of the Contract. The advance payment request shall be accompanied by an advance payment security (guarantee) in the form provided in Section X. For the purpose of receiving the advance payment, the bidder shall make and estimate of, and include in its bid, the expenses that will relate to the purchase of equipment, machinery, materials, and on the engagement of labor during the first month beginning with the date of the Procuring agency/Employer's "Notice to Commence" as specified in the **SCC.**
50. General Performance of the Bidders	50.1	The Procuring agency/Employer reserves the right to obtain information regarding performance of the bidders on their previously awarded contracts / works. The Procuring agency/Employer may seek information / report from the previous employer for consideration. However, the Procuring agency/Employer shall incorporate such parameters in the evaluation criteria and accordingly decide the fate of the bid submitted.
51. Corrupt & Fraudulent Practices	51.1	Procuring agencies (including beneficiaries of Government funded projects and procurement) as well as Bidders/Suppliers/Contractors under Government financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts, and will avoid to engage in any corrupt and fraudulent practices.

F. GRIEVANCE REDRESSAL & COMPLAINT REVIEW MECHANISM

52. Constitution of Grievance Redressal	52.1	Procuring agency/Employer shall constitute a Grievance Redressal Committee (GRC) comprising of odd number of persons with proper power and authorization to address the complaint. The GRC shall not have any of the members of Procurement Evaluation Committee. The committee must have one subject specialist depending the nature of the procurement.
53. GRC Procedure	53.1	Any party can file its written complaint against the eligibility parameters or any other terms and conditions prescribed in the prequalification or bidding documents found contrary to provision of Procurement Regulatory Framework, and the same shall be addressed by the GRC well before the bid submission deadline.
	53.2	Any bidder feeling aggrieved by any act of the Procuring agency/Employer after the submission of his bid may lodge a written complaint concerning his grievances not later than seven days of the announcement of technical evaluation report and five days after issuance of final evaluation report.
	53.3	In case, the complaint is filed against the technical evaluation report, the GRC shall suspend the procurement proceedings.
	53.4	In case, the complaint is filed after the issuance of the final evaluation report, the complainant cannot raise any objection on technical evaluation of the report: Provided that the complainant may raise the objection on any part of the final evaluation report in case where single stage one envelope bidding procedure is adopted.
	53.5	The GRC, in both the cases shall investigate and decide upon the complaint within ten days of its receipt.
	53.6	Any bidder or the Procuring agency/Employer not satisfied with the decision of the GRC may file Appeal before the Appellate Committee of the Authority on prescribed format after depositing the Prescribed fee.
	53.7	The Committee, upon receipt of the Appeal against the decision of the GRC complete in all respect shall serve notices in writing upon all the parties to Appeal.
	53.8	The committee shall call the record from the concerned Procuring agency/Employer or the GRC as the case may be, and the same shall be provided within prescribed time.
	53.9	The committee may after examination of the relevant record and hearing all the concerned parties, shall decide the complaint within fifteen (15) days of receipt of the Appeal.
	53.10	The decision of the Committee shall be in writing and shall be signed by the Head and each Member of the Committee. The decision of the committee shall be final.

G. MECHANISM OF BLACKLISTING

54. Mechanism of Blacklisting	54.1	The Procuring agency/Employer shall bar for not more than the time prescribed in Rule-19 of the Public Procurement Rules, 2004, from participating in their respective procurement proceedings, bidder or contractor who either: Involved in corrupt and fraudulent practices as defined in Rule-2 of Public Procurement Rules; i) Fails to perform his contractual obligations; and ii) Fails to abide by the id securing declaration;
	54.2	The show cause notice shall contain: (a) precise allegation, against the bidder or contractor; (b) the maximum period for which the Procuring agency/Employer proposes to debar the bidder or contractor from participating in any public procurement of the Procuring agency/Employer; and (c) the statement, if needed, about the intention of the Procuring agency/Employer to make a request to the Authority for debarring the bidder or contractor from participating in public procurements of all the procuring agencies.
	54.3	The Procuring agency/Employer shall give minimum of seven days to the bidder or contractor for submission of written reply of the show cause notice.
	54.4	In case, the bidder or contractor fails to submit written reply within the requisite time, the Procuring agency/Employer may issue notice for personal hearing to the bidder or contractor/ authorize representative of the bidder or contractor and the Procuring agency/Employer shall decide the matter on the basis of available record and personal hearing, if availed.
	54.5	In case the bidder or contractor submits written reply of the show cause notice, the Procuring agency/Employer may decide to file the matter or direct issuance of a notice to the bidder or contractor for personal hearing.
	54.6	The Procuring agency/Employer shall give minimum of seven days to the bidder or contractor for appearance before the designated officer of the Procuring agency/Employer for personal hearing. The designated officer shall decide the matter on the basis of the available record and personal hearing of the bidder or contractor, if availed.

	54.7	The Procuring agency/Employer shall decide the matter within fifteen (15) days from the date of personal hearing unless the personal hearing is adjourned to a next date and in such an eventuality, the period of personal hearing shall be reckoned from the last date of personal hearing.
	54.8	The Procuring agency/Employer shall communicate to the bidder or contractor the order of debarring the bidder or contractor from participating in any public procurement with a statement that the bidder or contractor may, within thirty (30) days, prefer a representation against the order before the Authority.
	54.9	Such blacklisting or barring action shall be communicated by the Procuring agency/Employer to the Authority and respective bidder or bidders in the form of decision containing the grounds for such action. The same shall be publicized by the Authority after examining the record whether the procedure defined in blacklisting and debarment mechanism has been adhered to by the Procuring agency/Employer.
	54.10	The bidder may file the review petition before the Review Petition Committee Authority within thirty (30) days of communication of such blacklisting or barring action after depositing the prescribed fee and in accordance with "Procedure of filing and disposal of review petition under Rule-19(3) Regulations, 2021". The Committee shall evaluate the case and decide within ninety (90) days of filing of review petition.
	54.11	The committee shall serve a notice in writing upon all respondent of the review petition. The notices shall be accompanied by the copies of review petition and all attached documents of the review petition including the decision of the Procuring agency/Employer. The parties may file written statements along with essential documents in support of their contentions. The Committee may pass such order on the representation may deem fit.
	54.12	The Authority on the basis of decision made by the committee either may debar a bidder or contractor from participating in any public procurement process of all or some of the procuring agencies for such period as the deemed appropriate or acquit the bidder from the allegations. The decision of the Authority shall be final.

SECTION III: BID DATA SHEET

The following specific data for the for the procurement of works shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITBs). Whenever there is a conflict, the provisions herein shall prevail over those in ITBs.

BDS Clause Number	ITB Number	Amendments of, and Supplements to, Clauses in the Instruction to Bidders
		A. Introduction
1.	**1.1**	Name of Procuring agency/Employer: The subject of procurement is: **ESTABLISHMENT OF SBP INNOVATION HUB AT SBP BSC NORTH NAZIMABAD, KARACHI** Commencement date execution of the works: **To be notified in Notice to Commence / Work Order** Type of Procurement : ***National Bidding***
2.	**2.1**	Financial year for the operations of the Procuring agency/Employer: **2025-26** Name of Project [**ESTABLISHMENT OF SBP INNOVATION HUB AT SBP BSC NORTH NAZIMABAD, KARACHI** Name of financing institution: **[*Own Funds*]** Name and identification number of the Contract: *[No:* **NN/ENG/346061/2025-26**
3.	**3.1**	Bidders must be registered with EPADS. Joint Venture is not allowed.
		B. Bidding Documents
4.	**7.2**	The number of copies to be completed and returned is one original and [*None*]. The Bidder shall submit the bid through EPADS.
5.	**8.1**	A prospective Bidder requiring any clarification of the Bidding Documents may approach Procuring Agency through EPADS.
6.	**8.2**	The SBP BSC will respond to any request for clarification of the Bidding Documents that it receives no later than seven (07) days before the deadline of submission of bids and response will be uploaded on E-PADS within three days prior to closing date of Bids.
7.	**8.5**	Pre-bid meeting will not be held
		C. Preparation of Bids
8.	**10.1**	The Language of all correspondences and documents related to the Bid is: [Urdu / English]
9.	**11.1 (f)**	**Technical Proposal;** a. As provided in Bid Evaluation Criteria b. Dully signed and stamped Volume –I **Financial Bid;** c. Bidding Documents - Priced Bill of Quantities, duly signed and stamped.
10.	**11.4 (c)**	Other procurement specific documentation requirements are: [*N/A*].
11.	**15.5**	**Price Adjustment** The bid price shall not be adjusted
12.	**15.6**	Name of the works: **ESTABLISHMENT OF SBP INNOVATION HUB AT SBP BSC NORTH NAZIMABAD, KARACHI** The identification No. **NN/ENG/346061/2025-26** The No. and identification of lots (contracts) comprising this open competitive bid : **N/A**
13.	**16.1**	The currency of the Bid shall be *(Pak Rupees);*
14.	**18.1**	The Bid Validity period shall be ***[180]*** days.
15.	**19.1**	The amount of Bid Security is 1,800,000. The currency of the Bid Security shall be Pak Rupees.
16.	**19.3**	The Bid Security shall be in the form of Pay Order / Demand Draft /Deposit/Bank Guarantee at call in favor of SBP-Banking Service Corporation valid for a period 28 days beyond the Bid Validity date. A scanned copy of Bid Security shall be submitted through E-PADS. However, Bid Security in original is required to be submitted through sealed envelope, which must reach to: Chief Manager PA to CM, First Floor, SBP BSC North Nazimabad Office, Karachi Phone: (92-21)–99005214/19, Facsimile: (92-21)-99005219 Website: www.sbp.org.pk
17.	**19.3 (c)**	Other forms of security are:[N/A]
18.	**20.1**	Alternative and conditional Bids are not acceptable and bidder will be held non-responsive.
19.	**20.2**	If alternative scheduled for execution of work is explicitly invited (N/A)
20.	**22.1**	Bidding shall be conducted in line with the Rule 36 (b) Single Stage - Two Envelope procedure. The Bidder shall submit the bid through EPADS, completed in all respects of this bidding document. Copy of Bid is not required.
21.	**22.2**	The written confirmation of authorization to sign on behalf of the bidder shall consist of : Authorization on letterhead / stamp paper
		D. Submission of Bids
22.	**23.2 (a)**	The Bidder shall submit the bid through EPADS, completed in all respects of this bidding document.

23.	**23.2 (b)**	Title of the subject Procurement or Project name: [**ESTABLISHMENT OF SBP INNOVATION HUB AT SBP BSC NORTH NAZIMABAD, KARACHI**] ITB title and No: **NN/ENG/346061/2025-26**] Time and date for submission: ***[As mentioned in tender Notice]***
24.	**24.1**	The deadline for Bid submission is as mentioned in tender Notice.
		E. Opening and Evaluation of Bids
25.	**27.1**	The Bid opening shall take place through EPADS on the date and time as mentioned in Tender Notice.
26.	**33.2 & 33.3**	Bid is required to be quoted in Pak Rupees.
27.	**34**	**Evaluation Techniques** **Least Cost Based Selection (LCBS)** After meeting the requirements of eligibility, qualification and substantial responsiveness, the bid in compliance with all the mandatory (drawings/ design/ technical specifications /requirements and/or requisite quality threshold (if any), and having lowest evaluated cost (or financial proposal) shall be considered highest ranked bid.
28.	**34**	Joint Venture is not allowed.
29.	34	Bid is required for complete scope of Works
30.	**35**	Domestic preference not applicable.
31.	**38.2**	Sub-contracting of the total value of the contract is not allowed.
		F. Award of Contract
32.	**48**	The amount of Performance Security shall be **10%** of the Contract Price stated in the Letter of Acceptance / Award in favour of SBP-Banking Services Corporation , in the form of Bank Draft or Bank Guarantee valid till successful completion of Defect Notification Period. OR In case, the cost of the Contract is less than four million, the Bid Security of the successful bidder shall be retained as Performance Security.
		G. Review of Procurement Decisions
33.	**53.6**	Any bidder feeling aggrieved may lodge complain through EPADS before Grievance Redressal Appellant Committee

SECTION IV. ELIGIBLE COUNTRIES, AND QUALIFICATION CRITERIA

Eligible Countries

All the bidders are allowed to participate in the subject procurement without regard to nationality, except bidders of some nationality, prohibited in accordance with policy of the Federal Government.

Following countries are ineligible to participate in the procurement process:

1. India
2. Israel

Evaluation and Qualification Criteria

1. Qualification Criteria

1.1. General

Qualification will be based on all the criteria given in succeeding para. Employer reserves the right to waive minor deviations, if these don't materially affect the capability of an applicant to perform the contract. Joint Venture or consortium is not allowed. Experience of Joint Venture will not be considered. The bidder's experience with SBP may be considered even if bidder has not submitted relevant documents. The Employer reserves the right to seek further information and / or verify the information furnished by the applicants. In this regard, Employer reserve the right to have site visit to verify the previous installation /work experience etc. The Employer may reject any application for any misrepresentation knowingly made by any applicant in, or pursuant to, their application or for any statement furnished in connection therewith, and intended to be relied upon by the Employer, which is incorrect in any respect.

1.2. Parameters of Bid Evaluation & Qualification

SNO.	Description	Annexure / Page No. of attached Document
1.	**Bid Security** Bid Security in original is required to be submitted through sealed envelope before opening of Bid.	
2.	**Bidding Documents** Duly signed and stamped, Volume-I of the Bidding document	
3.	**FBR Registrations** Bidder must be active taxpayer as per Federal Board of Revenue (FBR's) revenue Data base i-e Active Tax Payer List for Income Tax.	
4.	**PEC Valid Registration** The bidder should have valid registration with Pakistan Engineering Council at least in Category of C-4 or above with specialization category CE-10 & EE-11.	
5.	**Relevant Revenue Authority** The Bidder should also be registered with relevant / concerned Revenue Authority. If not registered, the 100% tax shall be deducted at source as per applicable law and credited to relevant account.	
6.	**Company Registration** Documentary evidence of registration of company/ firm showing the status i.e. (i) Individual/ Sole Proprietorship, (ii) Associated of Persons, (iii) Pvt. Limited. Bidder may submit CNIC, Partnership Deed, Article of Associate / Memorandum, Form-A.	
7.	**Undertaking (As per Format attached)** The bidder is required to submit an undertaking on stamp paper of min: Rs.100/- as per format provided.	
8.	**Experience** The bidder must have been awarded at least two (02) projects pertaining to (repair renovation, buildings construction) of each of cost **Rs. 40 Million** or more, during last **five (05)** years. (Work order/ contract agreements/ completion certificates to be attached).	
9.	**Financial Capability/Liquid Assets** Available Financial Capability of Rs. 20 Million or above. (Bank statement be submitted as evidence showing required balance at any one instant in the statement of last three months before date of publication of tender notice OR Available Bank Credit Line facility Rs. 40 Million or above OR Annual Sales volume or Gross Turnover of at least Rs. 40 Million in any of the last three years. Attach Copy(s) of Audited Financial Statements or Income Tax return filed in FBR or Bank Statement.	
10.	Bidder is advised to check the technical specifications in Annexure A & Section E-07-Air conditioning. For evaluation kindly provide below information;	

10-a	**LIFT**		To be filled by the bidder
	Make		
	Origin		
10-b	**AIR CONDITIONING**		
	4.0- TR FLOOR STANDING INVERTER SPLIT AC		To be filled by the bidder
	Make		
	Origin		
	4.0- TR FLOOR STANDING DECORATIVE TYPE FAN COIL UNIT		
	Make		
	Origin		
	2.0- TR WALL MOUNTED FAN COIL UNIT		
	Make		
	Origin		
	2.0- TR CEILING EXPOSED FAN COIL UNIT		
	Make		
	Origin		

SECTION V: WORKS REQUIREMENT, SCHEDULE

Scope of Works

1. Location of Site:

"SBP- Banking Services Corporations (SBP BSC) North Nazimabad, Karachi"

2. Major Items of Contract:

Establishment of SBP Innovation Hub at SBP BSC North Nazimabad, Karachi but not limited to;

i. Dismantling & Scrapping works
ii. RCC Concrete works
iii. Water proofing works
iv. Masonry & Plaster works
v. Tiles & Granite works
vi. Plumbing works
vii. Partitions, Ceiling, Carpentry & Paint works
viii. Supply, Installation and commissioning of Lift works
ix. Electrical Cabling works
x. Electrical Fixture works
xi. HVAC Works
xii. CCTV, Fire Alarm, Fire Fighting works
xiii. Access Control System works

Construction Schedule

Completion / Delivery Time: 360 days

Bidder shall provide a program in a bar-chart showing the sequence of work items by which he proposes to complete the Works of the entire Contract. The program should indicate the sequence of work items and the period of time during which he proposes to complete the Works including the activities like designing, schedule of submittal of drawings, ordering and procurement of materials, manufacturing, delivering, construction of civil works, erection, testing and commissioning of Works to be supplied under the Contract. The proposed sequence of execution of various sections of the project shall be according to the given Key Performance Indicators (KPIs) as following;

Sr.	Description of Activity	Total Days	Start Date	Finish Date	Execution Scheduled Days					
					0-60	61-120	121-180	181-240	241-300	301-360
i.	Dismantling & Scrapping works	30								
ii.	RCC Concrete works	60								
iii.	Water proofing works	30								
iv.	Masonry & Plaster works	30								
v.	Tiles & Granite Works and Delivery of Lift at Site	30								
vi.	Plumbing Works	15								
vii.	Partitions, Ceiling, Carpentry & Paint Works	30								
viii.	Electrical Cabling Works	15								
ix.	Electrical Fixture works	15								
x.	HVAC and Lift Works-Installation and Commissioning	30								
xi.	CCTV, Fire Alarm, Fire Fighting Works	30								
xii.	Access Control System works	15								
xiii.	Test Run for Fire Alarm System	30								

The above Key Performance Indicators should be taken into consideration by the bidder in order to execute the works.

If the above KPI is not acceptable to any bidder, the bidder will prepare its own Work Program along with detailed justification for its change. Bids without above given Work Program or bidder's own proposed Work Program without justification shall not be considered responsive.

SECTION VI: STANDARD BIDDING FORMS

Letter of Bid – Technical Proposal

Note: All italicized text in black font is to help Bidders in preparing this form and Bidders shall delete it from the final document.

Date of this Bid submission: [*insert date (as day, month and year) of Bid submission*]
RFB No.: [*insert number of Bidding process*]
Alternative No.: [*insert identification No if this is a Bid for an alternative*]

To: **[*insert complete name of Procuring agency/Employer*]**

We, the undersigned Bidder, hereby submit the first part of our Bid, the Technical Proposal

In submitting our Bid we make the following declarations:

(a) **No reservations:** We have examined and have no reservations to the bidding document, including addenda issued in accordance with Instructions to Bidders **(ITB 9);**
(b) **Eligibility**: We meet the eligibility requirements and have no conflict of interest in accordance with ITB 3;
(c) **Bid/Proposal-Securing Declaration**: We have not been suspended nor declared ineligible by the Procuring agency/Employer based on execution of a Bid Securing Declaration or Bid Securing Declaration in the Procuring agency/Employer's country in accordance with **ITB 3;**
(d) **Conformity:** We offer to execute works in conformity with the bidding document and in accordance with the works requirements: [*insert a brief description of the WORKS*];
(e) **Bid Validity Period**: Our Bid shall be valid for the period specified in **BDS 18.1** (as amended, if applicable) from the date fixed for the Bid submission deadline specified in **BDS 24.1** (as amended, if applicable), and it shall remain binding upon us, and may be accepted at any time before the expiration of that period;
(f) **Performance Security**: If our Bid is accepted, we commit to obtain a performance security in accordance with the bidding document;
(g) **One Bid per Bidder**: We are not submitting any other Bid(s) as an individual Bidder, and we are not participating in any other bid(s) as a Joint Venture member or as a subcontractor, and meet the requirements, other than Alternative Bids submitted in accordance with **ITB 20;**
(h) **Suspension and Debarment**: We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Procuring agency/Employer. Further, we are not ineligible under Pakistan laws;
(i) **State-owned enterprise or institution**: [*select the appropriate option and delete the other*] [*We are not a state-owned enterprise or institution*] / [*We are a state-owned enterprise or institution*];
(j) **Binding Contract**: We understand that this Bid, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;
(k) **Not Bound to Accept**: We understand that you are not bound to accept the Most Advantageous Bid or any other Bid that you may receive; and
(l) **Fraud and Corruption**: We hereby certify that we have taken steps to ensure that no person acting for us, or on our behalf, engages in any type of Fraud and Corruption.

Name of the Bidder: *[*insert complete name of Bidder*]

Country of Origin of the Bidder: *[insert country of origin, in case of JV country of origin of lead member]*

Name of the person duly authorized to sign the Bid on behalf of the Bidder: ** [*insert complete name of person duly authorized to sign the Bid*]

Title of the person signing the Bid: [*insert complete title of the person signing the Bid*]

Signature of the person named above: [*insert signature of person whose name and capacity are shown above*]

Date signed [*insert date of signing*] **day of** [*insert month*], [*insert year*]

*: In the case of the Bid submitted by a Joint Venture specify the name of the Joint Venture as Bidder.
**: Person signing the Bid shall have the power of attorney given by the Bidder. The power of attorney shall be attached with the Bid Schedules.

IFB No: NN/ENG/346061/2025-26
Title: ESTABLISHMENT OF SBP INNOVATION HUB AT SBP BSC NORTH NAZIMABAD, KARACHI
Bidder: _____

UNDERTAKING

1. I/We hereby confirm and declare that I/We**,** _____**,** has/have not been declared in-eligible or debarred, blacklisted/sanctioned by any Federal or Provincial Government Department, National Counter Terrorism Authority (NACTA), Agency, Organization or Autonomous Body anywhere in Pakistan or fraudulent practices, or no failure to perform with SBP.

2. I/We, M/s _____, understand and agree unconditionally that in case I/We, M/s fail to abide by the above undertaking or any of terms of the Contract, the Client/ SBP BSC shall be at liberty to terminate the Contract without prejudice to any other rights / remedy available in the Contract.

Seal & Signature of Bidder:	_____
Date:	_____

Appendix-A
Form of Bid Security
(Bank Guarantee)

[The bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Purchaser to insert its name and address]*

No.: *[Purchaser to insert reference number for the Request for Bids]*

Alternative No.*: [Insert identification No if this is a Bid for an alternative]*

Date: *[Insert date of issue]*

BID GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ *[insert name of the Bidder, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof]* (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its Bid (hereinafter called "the Bid") for the execution of _____ under Request for Bids No. _____ _ ("the RFB").

Furthermore, we understand that, according to the Beneficiary's conditions, Bids must be supported by a Bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

(a) has withdrawn its Bid during the period of Bid validity set forth in the Applicant's Letter of Bid ("the Bid Validity Period"), or any extension thereto provided by the Applicant; or

(b) having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Applicant, (i) has failed to sign the contract agreement, or (ii) has failed to furnish the performance security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's bidding document.

This guarantee will expire: (a) if the Applicant is the successful Bidder, upon our receipt of copies of the Contract agreement signed by the Applicant and the performance security issued to the Beneficiary in relation to such Contract agreement; or (b) if the Applicant is not the successful Bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the Bidding process; or (ii) twenty-eight days after the end of the Bid Validity Period.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

_____

[Signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

Appendix-B
Form of Bid-Securing Declaration

[The Bidder shall fill in this Form in accordance with the instructions indicated.]

Not applicable

Appendix-C

Formula for Price Adjustment

N/A

SECTION VII. GENERAL CONDITIONS (GC)

Red Book:

The Conditions of Contract are the "General Conditions" which form part of the "Conditions of Contract for Construction for Building and Engineering Works Designed by the Employer ("Red book") Second edition 2017" published by the Federation Internationale Des Ingenieurs – Conseils (FIDIC) and the following "Particular Conditions" which shall complement the General Conditions of the Contract.

The prospective bidders may obtain copy of the above-mentioned Conditions of Contract directly from Head Office of FIDIC, on the address indicated below against payment of their usual charges. However, a copy of the aforesaid FIDIC Conditions of Contract is available in Engineering Department, which can be seen on any working day during office hours if so desired for ready reference.

International Federation of Consulting Engineers (FIDIC)

FIDIC Bookshop – Box- 311 – CH – 1215 Geneva 15 Switzerland
Fax: +41 22 799 49 054
Telephone: +41 22 799 49 01
E-mail: fidic@fidic.org
www.fidic.org
FIDIC code: ISBN13: 978-2-88432-084-9

SECTION VIII. SPECIAL CONDITIONS OF THE CONTRACT

The Special Conditions of Contract (SCC) complement the General Conditions of Contract (GCC) to specify data and contractual requirements of the Procuring agency/Employer/ Employer, the engineer, the sector, the overall project, and the works. In the event of a conflict, the provisions herein shall prevail over those in the GCC.

PART A – CONTRACT DATA

Contract data of the SCC, includes data to complement the GCC in a manner similar to the way in which the Bid Data Sheet complements the Instructions to Bidders.

SCC Clause Number	GCC Clause Number	Amendments of, and Supplements to, Clauses in the GCC
General Provision (GCC 1)		
1.	1.1.27	**Defects Notification Period** 365 days
2.	1.1.85	**Time for Completion** 360 days
3.	1.3	**For Notices** Procuring agency/Employer/ Engineer's Authorized representatives name and address: Chief Manager, SBP BSC North Nazimabad, Karachi..
4.	1.4	**Governing Law;** The Applicable Law shall be: Laws of the Pakistan
5.	1.4	**Communication Language:** The Communication Language shall be: Urdu / English
The Employer/ Procuring agency/Employer (GCC Clause 2)		
6.	2.1	Time for access to the Site: Immediately after Commencement Date
7.	2.2	Not Applicable
The Engineer (GCC Clause 3)		
8.	3.2	Engineer's Duties and Authority: Variations resulting in an increase of the Accepted Contract Amount in excess of 1 % shall require approval of the Procuring agency/Employer.
9.	3.7.5	Dissatisfaction with Engineer's determination: The contents of last paragraph of this clause are replaced as under; In the event that a Party fails to comply with an agreement of the Parties under this Sub-Clause 3.7 or a final and binding determination of the Engineer, the other Party may, without prejudice to any other rights it may have, refer the failure itself directly to arbitration under Sub-Clause 21.8 [Arbitration].
The Contractor (GCC Clause 4)		
10.	4.2	The amount of Performance Security shall be **10%** of the Contract Price stated in the Letter of Acceptance / Award in favour of SBP-Banking Services Corporation , in the form of Bank Draft or Bank Guarantee valid till successful completion of Defect Notification Period. OR In case, the cost of the Contract is less than four million, the Bid Security of the successful bidder shall be retained as Performance Security.
11.	4.7.2(a)	Clause 4.7 Setting out Period for notification of errors in the items of reference "[3 days]
Sub-Contracting (GCC Clause 5)		
12.	5.1(a)	Maximum allowable accumulated value of work subcontracted (as a percentage of the Accepted Contract Amount)
13.	5.1 (b)	Sub-contracting is not permitted.
Staff and Labour (GCC Clause 6)		
14.	6.5	Normal working hours : As per applicable law
Plant, Material and Workmanship (GCC Clause 7)		
15.	7.2	Samples [N/A]
Commencement, Delays and Suspension (GCC Clause 8)		
16.	8.3	Number of additional paper copies of program *[N/A]*
17.	8.8	@ 0.1% of total work done/ day to a maximum of 10% of the total work done.
Measurement and Valuation (GCC Clause 12)		
18.	12.2	Method of measurement shall be net except otherwise provided in the Contract
Variations and Adjustments (GCC Clause 13)		
19.	13.4 (b)(ii)	Percentage rate to be applied to Provisional Sums for overhead charges and profit is : N/A
20.	13.7	Not applicable.
Contract Price and Payment (GCC Clause 14)		

21.	14.2	If requested by the Contractor, an interest-free Advance up to **15 %** of the Contract Price stated in the Letter of Acceptance shall be paid by the Employer to the Contractor in two equal parts upon submission by the Contractor of an Advance Guarantee for the full amount of the Advance in the specified form from a Scheduled Bank in Pakistan subject to approval of Director/Head Engineering Payments shall be made as per the following criteria; a) First part of the Mobilization Advance within twenty (20) days after verification of the approved/ legible Bank Guarantee from the issuing bank. b) Second part of the mobilization advance on arrival of required tools & plants and commencement of Works at site to the entire satisfaction of the Employer.
22.	14.2.3	Advance paid to the Contractor shall be recovered from the interim bills of the Contractor @ 15% of total amount of work done at site for the bill being processed till the time that whole of the amount of Mobilization Advance has been recovered.
23.	14.3(iii)	Percentage of retention: **10%** Limit of Retention Money : **10%**
24.	14.5(b)(i)	Plant and Materials: If Sub-Clause 14.5 applies: N/A
25.	14.5(c)(i)	Plant and Materials: Not Applicable.
26.	14.7(a)	Period of payment of Advance Payment to the Contractor **28days**
27.	14.7b(i)	Period for the Procuring agency/Employer to make interim payments to the Contractor under Sub-Clause 14.6 (interim Payment) **30days**
28.	14.7b(ii)	Period for the Procuring agency/Employer to make interim payments to the Contractor under Sub-Clause 14.13 (Final Payment) **60days**
29.	14.7(c)	Period for the Procuring agency/Employer to make final payment to the Contractor : 56days
30.	14.8	**Delayed Payment** N/A
31.	14.11.1(b)	Number of additional paper copies of draft Final Statement :1
32.	14.15	**Currencies of Payment** Pak Rupees
33.	14.15 (a)(i)	The proportions or amounts of the Local and Foreign Currencies, and the fixed rates of exchange to be used for calculating the payments, shall be as stated in the Contract Data, except as otherwise agreed by both parties.
34.	14.15 (c)	Pak Rupees.
35.	14.15 (f)	If no rates of exchange are stated in the Contract Data, they shall be those prevailing on the Base Date and published by the central bank of the Country.
Insurance (GCC Clause 19)		
36.	19.2.	From AA rated Insurance Company of PACRA/ JCR. **The Works** Amount of Cover: The sum stated in Letter of Acceptance plus fifteen percent 15%. **Contractor 's equipment** Amount of Cover: Full replacement Cost **Injury to Person and Damaged to Property including Third Party Insurance** Amount of Cover: I) As per workmen compensation act II) Contractor's all Risk including Third party

PART-B SPECIAL PROVISIONS

1.1	**Definitions**	1.1.76 "Specification" Following is added at the end: "and consists of two parts i.e., i) "Part A - Specific Provisions"; and ii) "Part B - Technical Provisions"."
1.2	**Interpretation**	"and" is deleted from the end of sub-paragraph (i) and added at the end of sub-paragraph (j). Sub-paragraph (k) is added: "(k) The word "tender" is synonymous with "bid" the word tenderer with "bidder", the words "tender documents" with "bidding documents" and "Schedule of Prices" with "Bill of Quantities", as applicable."
1.5	**Priority of Documents**	The documents listed at (a) through (k) of this Sub-Clause aredeleted and substituted with the following: (a) the Contract Agreement; (b) the Letter of Acceptance; (c) the Letter of Bid; (d) the Special Conditions Part A - Contract Data; (e) the Particular Conditions Part B - Special Provisions; (f) the General Conditions; (g) The completed Appendices to Bid at Section-V (A to N); (h) the completed Schedules to Bid including Bill ofQuantities; (i) the Drawings; (j) the Specification Part A - Special Provisions; (k) the Specification Part B - Technical Provisions; (l) any other documents forming part of the Contract. The addenda/corrigenda, if any, shall be deemed to have been incorporated at the appropriate places in the documents forming the Contract.
1.6	**Contract**	In the last line of the 1st paragraph the text "shall be borne by the Employer" is substituted by "shall be borne by the Contractor
1.9	**Delayed Drawings or Instructions**	Contractor shall only be entitled to Extension of Time.
1.13	**Compliance with Laws**	Contractor shall only be entitled to Extension of Time.
2.1	**Right of Access to the Site**	Contractor shall only be entitled to Extension of Time.
2.2	**Assistance**	This clause is not applicable
3.1	**The Engineer**	In sub-paragraph (a) the text "as defined in the Pakistan Engineering Council Act, 1975 (Act No. V of 1976)" are added after the words "professional engineer".
3.2	**Engineer's Duties and Authority**	The Engineer shall obtain the consent in writing of the Employer before taking action under the following Sub-Clauses of these Conditions: (a) Consenting to the subcontracting of any part of the Works under Sub-Clause 5.1 [Subcontractors],5.2[Nominated Subcontractor (b) Any action under Sub-Clauses 8.9 [Employer's Suspension] and 8.12 [Prolonged Suspension] (c) Issuance of "Taking Over Certificate" under Sub-Clause 10.1 [Taking Over the Works and Sections]. (d) Issuing the "Performance Certificate" under Sub-Clause 11.9 [Performance Certificate]. (e) Sub-Clause 13.1 [Right to Vary]: instructing a Variation, except; i. in an emergency situation as determined by the Engineer, or ii. if such a Variation would increase the Accepted Contract Amount by less than the percentage specified in the Contract Data. (f) Sub-Clause 13.3 [Variation Procedure]: approving a proposal for Variation submitted by the Contractor in accordance with Sub-Clause 13.3.2 [Variation by Request for Proposal] or 13.2 [Value Engineering]. (g) Certifying release of second half of the Retention Money under Sub-Clause 14.9 [Release of Retention Money]. (h) Issuing Final Payment Certificate under Sub-Clause 14.13 [Issue of FPC]. Any such requirement shall not be applied to any action by the Engineer under Sub-Clause 3.7 [Agreement or Determination], as stated in Sub-Clause 3.2 [Engineer's Duties and

		Authority] of the General Conditions. Notwithstanding the obligation, as set out above, to obtain approval, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties and responsibility under the Contract, instruct the Contractor to execute all such work or to do all such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer. Following is added after the words "the Employer's consent is required" in 4th paragraph: "stating that the Employer's consent has been obtained for that specified authority"
3.7	**Agreement or Determination**	3.7.5 Dissatisfaction with Engineer's determination The contents of last paragraph of this clause are replaced as under; In the event that a Party fails to comply with an agreement of the Parties under this Sub-Clause 3.7 or a final and binding determination of the Engineer, the other Party may, without prejudice to any other rights it may have, refer the failure itself directly to arbitration under Sub-Clause 21.8 [Arbitration].
4.3	**Contractor's Representative**	In second paragraph the text "professional engineer as defined in the Pakistan Engineering Council Act, 1975 (Act No. V of 1976) (having temporary licence in case of foreign engineer under Section 12 of the Pakistan Engineering Council Act, 1975 (Act No. V of 1976)" are added after the words "qualified, experienced". In 2nd line of 4th paragraph the text "or appoint a replacement" is substituted by "except appointment of a suitable temporary replacement is deployed at the Site"
4.4	**Contractor's Documents**	4.4.2 As-Built Records First paragraph is deleted and the text in the last paragraph is substituted with the following: "The Contractor shall furnish to the Engineer 6 copies, one reproducible and one electronic copy (provided the Engineer has made available to the Contractor editable form of the Drawings) of all Drawings amended to conform to the Works as built. In case the Engineer does not make available to the Contractor editable form of the Drawings, the Contractor shall furnish to the Engineer as-built data for incorporation in the Drawings. Upon receipt of PDF versions of the as-built drawings prepared by the Engineer, the Contractor shall furnish to the Engineer 6 copies and one reproducible of these Drawings. The price of such Drawings shall be deemed to be included in the Contract Price Following Sub-Clause is added: 4.4.4 Shop Drawings The Contractor shall submit to the Engineer for review 3 copies of all shop and erection drawings applicable to this Contract as per provision of relevant Sub-Clause of the Contract. Review and approval by the Engineer shall not exceed 21 days and be construed as a complete check but will indicate only that the general method of construction and detailing is satisfactory and the Engineer's review or approval shall not relieve theContractor of any of his responsibilities under the Contract.
4.7.	**Setting Out**	4.7.3 (c)ii. Contractor shall only be entitled to Extension of Time.
4.8	**Health and Safety Obligations**	The following text is added at the end of this Sub-Clause: In the event of work being carried out outside the normal working hours and in the event of work being carried out at night, the Contractor shall at his own cost, provide and maintain such good and sufficient light as will enable the work to proceed satisfactorily and without danger. The approaches to the Site and the Works where the night work is being carried out shall be sufficiently lighted. All arrangement adopted for such lighting shall be to the satisfaction of the Engineer. In case of Contractor's failure to adhere to any health and safety standards, as mentioned in SCC 7, it shall result in a Liquidated Damages it shall result in the Liquidated Damages @ 0.5% of Contract Amount per event to a maximum of 10% of Contract Amount. Employer reserves the right to terminate this Contract in the event of persistent violation of Health and Safety Standards.
4.12.	**Unforeseeable Physical Conditions**	4.12.4. Contractor shall only be entitled to Extension of Time.
4.15	**Access Rout**	Contractor shall only be entitled to Extension of Time.

4.20	**Progress Reports**	The words "one paper-original." In first paragraph is deleted and substituted with the "03 paper-original" At the end of sub-paragraph (g) the word "and" is deleted and at the end of sub-paragraph (h) the full stop (.) is replaced with ";", and the following new sub-paragraphs are added as: (i) planned programme for the execution of the Works for next 56 days to enable the Engineer to determine its programme of inspection and testing; (j) monthly summery of daily job record indicating weather conditions, deployment of Contractor's Equipment, labour employment, local material procurement and material import, if any; (k) salient contractual and project information
4.23	**Archaeology and Geological Findings**	Contractor shall only be entitled to Extension of Time.
5.1	**Subcontractors**	Add the following text at the end of paragraph (ii): "under Schedule to Bid" The following is added at the end of the last paragraph of Sub- Clause 5.1: "All subcontracts relating to the Works shall include provisions which entitle the Employer to require the subcontract to be assigned to the Employer under sub-paragraph (a) of Sub-Clause 15.2.3 [After Termination]. The Contractor shall give reasonable opportunity to contractors from Islamic Republic of Pakistan for subcontracts for the Works, and endeavour to employ such contractors as Subcontractors."
5.2	**Nominated Subcontractors**	5.2.2 Objection to Nomination In sub-paragraph (c), "and" is deleted from the end of (i); "." at the end of (ii) is replaced with: ", and". The following is then added as (iii): "(iii) be paid only if and when the Contractor has received from the Employer payments for sums due under the Subcontract referred to under Sub-Clause 5.2.3 [Payment to nominated Subcontractors]."
6.1	**Engagement of Staffand Labour**	The following paragraph is added at the end of the Sub-Clause: "The Contractor shall, to the extent practicable and reasonable, employ staff (100%) and labour (100%) with appropriate qualifications and experience from sources within the Islamic Republic of Pakistan."
6.7	**Health and Safety of Personnel**	The existing text is substituted with the following: "In order to provide for the safety, health and welfare of persons, and for prevention of damage of any kind, all operations for the purposes of or in connection with the Contract shall be carriedout in compliance with the Safety Requirements of the Government of Pakistan with such modifications thereto as the Engineer may authorize or direct and the Contractor shall take orcause to be taken such further measures and comply with such further requirements as the Engineer may determine to be reasonably necessary for such purpose. The Contractor shall also provide all other medical services and appoint a health and safety officer at Site if stated in the Specifications. In case of anyfatality or serious accident, the Contractor shall, in addition,notify the Engineer immediately by the quickest available means."
6.8	**Contractor's Superintendence**	Insert at the end of sub-paragraph (a) of this Sub-Clause: "or, if not, the Contractor shall make competent interpretersavailable during all working hours, in a number sufficient for those persons to properly perform their superintendence duties" The following text is added at the end of this Sub-Clause: "The Contractor's authorized representative and his otherengineers working at site shall possess valid registration with thePakistan Engineering Council. The Contractor's authorized representative at Site shall be authorized to exercise adequate administrative and financial powers on behalf of the Contractor so as to achieve completion of the Works as per the Contract."
6.12	**Key Personnel**	The following is inserted at the end of the last paragraph: "If any of the Key Personnel are not fluent in this language, the Contractor shall make competent interpreters available during all working hours in a number deemed sufficient by the Engineer."
The following Sub-Clauses 6.13 to 6.26 are added at the end of Sub-Clause 6.12:		

6.13	**Employer's Rights in Case of Contractor Misconduct**	Where the Contractor is found to have engaged in act of theft at the procuring agency's premises, without prejudice to any other right under the Contract and / or Applicable Law and in addition to the recovery of actual losses incurred, it shall result in the Liquidated Damages @ 1% of Contract Amount per event to a maximum of 10% of Contract Amount.
6.14	**Supply of Foodstuffs**	The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.
6.15	**Supply of Water**	The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.
6.16	**Measures against Insect and Pest Nuisance**	The Contractor shall at all times take the necessary precautionsto protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce the danger to their health.The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.
6.17	**Alcoholic Liquor or Drugs**	The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift, barter or disposal thereto by Contractor's Personnel.
6.18	**Arms and Ammunition**	The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.
6.19	**Festivals and Religious Customs**	The Contractor shall respect the Country's recognized festivals, days of rest and religious or other customs
6.20	**Funeral Arrangements**	The Contractor shall be responsible, to the extent required by local regulations, for making any funeral arrangements for any of its local employees who may die while engaged upon the Works.
6.21	**Forced Labour**	The Contractor, including its Subcontractors, shall not employ or engage forced labour which consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntaryor compulsory labour, such as indentured labour, bonded labour or similar labour-contracting arrangements.
6.22	**Child Labour**	The Contractor, including its Subcontractors, shall not employ or engage child labour in accordance with relevant law(s) in force in Islamic Republic of Pakistan.
6.23	**Employment Records of Workers**	The Contractor shall keep complete and accurate records of the employment of labour at the Site. The records shall include the names, ages, genders, hours worked and wages paid to all workers. These records shall be summarized on a monthly basis and submitted to the Engineer. These records shall be included inthe details to be submitted by the Contractor under Sub-Clause 6.10 [*Contractor's Records*].
6.24	**Workers' Organizations**	The Contractor shall comply with the relevant labour laws of Pakistan which recognize workers' rights to form and to join workers' organizations/Trade Union of their choosing and tobargain collectively without interference.
6.25	**Non-Discrimination and Equal Opportunity**	The Contractor shall not make decisions relating to the employment or treatment of Contractor's Personnel on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment of Contractor's Personnel on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to any aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits),working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices. Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination. The Contractor shall provide protection and assistance as necessary to ensure non-discrimination and equal opportunity, including for specific groups such as women, persons with disabilities, migrant workers and children (of working age in accordance with Sub-Clause 6.22).
6.26	**Epidemics**	In the event of any out-break of illness of epidemic nature, the Contractor shall comply with and carry out such regulations, orders and requirements as may be made by the Government or the local medical or sanitary authorities for the purpose of overcoming the same.
7.4	**Testing by the Contractor**	Contractor shall only be entitled to Extension of Time.

7.6	**Remedial Work**	7.6 9(i) Contractor shall only be entitled to Extension of Time.
7.7	**Ownership of Plantand Materials**	The following is added before the first paragraph: "Except as otherwise provided in the Contract," The following is added at the end of the Sub-Clause: "No Plant and/or Materials that is the property of the Employer shall be removed from the Site. If it becomes necessary to: (i) remove any item of such Plant from the Site for the purposes of repair, the Contractor shall give a Notice, with reasons, to the Engineer requesting consent to remove the defective or damaged item off the Site. This Notice shall clearly identify the item of defective or damaged Plant, and shall give details of: the defect or damage to be repaired; the place to which defective or damaged item of Plant is to be taken for repair; the transportation to be used (and insurance cover for such transportation); the proposed inspections and testing off the Site; and the planned duration required before the repaired item of Plant shall be returned to the Site. The Contractor shall also provide any further details that the Employer may reasonably require; or (ii) replace any item(s) of such Plant and/or Materials, the Contractor shall give a Notice, with reasons, to the Engineer clearly identifying the item(s) of Plant and/or Materials to be replaced, and giving details of the due date of delivery to the Site of the replacement item(s). Where any item of Plant and/or Materials has become the property of the Employer under this Sub-Clause before it has been delivered to the Site, the Contractor shall ensure that such an item is not moved except for its delivery to the Site. The Contractor shall indemnify and hold the Employer harmless against and from the consequences of any defect in title or encumbrance or charge (except any reasonable restriction arising from the intellectual property rights of the manufacturer or producer) on any item of Plant and/or Materials that has become the property of the Employer under this Sub-Clause."
The following Sub-Clause 7.9 is added after Sub Clause 7.8:		
7.9	**Use of Pakistani Materials andServices**	The Contractor shall, so far as may be consistent with the Contract, make the maximum use of materials, supplies, plant and equipment indigenous to or produced or fabricated in Pakistan and services available in Pakistan provided such materials, supplies, plant, equipment and services shall be of required standard.
8.1	**Commencement ofWorks**	The following is added before the first paragraph: "After signing of the Contract Agreement by both Parties," and thereafter the word "The" is replaced with the word "the".
8.5	**Extension of Time for Completion**	The Contractor shall only be entitled for Extension of Time. The following is added after paragraph (c): "for last five years".
8.10	**Consequences of Employer's Suspension**	The Contractor shall only be entitled for Extension of Time.
10.2	**Taking Over Parts**	Contractor shall only be entitled to Extension of time.
10.3	**Interference with Tests on Completion**	Contractor shall only be entitled to Extension of time.
The following Sub-Clause 11.12 is added after Sub-Clause 11.11:		
11.12	**Supervisory Assistance During DNP**	If provided under the Schedule of Prices, the Contractor shall provide supervisory assistance to the Employer during the DNP for the Works. Such supervisory assistance shall be as described in the Specification for the purpose of supporting the Employer's operation and maintenance of the Plant for the period specifiedin the Schedule of Prices after the Date of Completion.
11.7	**Right of Access after Taking Over**	Contractor shall only be entitled to Extension of time.
11.8	**Contractor to Search**	Contractor shall only be entitled to Extension of time.
12.2	**Method of Measurement**	The following paragraph is added at the end of the Sub-Clause: "Summary of measured quantity for payment shall be delineated item-wise under four heads namely; "Schedule of PricesQuantity", "Quantity Executed To-date", "Quantity Certified Previously" and "Net Quantity Executed under this Certificate", or as required by Engineer"

12.3	**Valuation of the Works**	The text is deleted and replaced with following: Variations shall be valued as follows: a) at a lump sum price agreed between the Parties, or b) where appropriate, at rates in the Contract, or c) rates notified by the Government Departments/agencies, or d) in the absence of appropriate rates, the rates in the Contract shall be used as the basis for valuation, or failing which e) at appropriate new rates, as may be agreed or which the Engineer/Employer considers appropriate, Contractor's profit & overheads shall be up to 15% of the cost of labour & materials, cartage, etc. Taxes shall be considered as per actual rate while analyzing rates for any extra items. For valuation of variations and approval of rates for non-BOQ/extra items, the decision of the Director Engineering will be final & binding upon the parties. The approval / finalization of rates of all variations shall not relieve the Contractor of his obligations under the Contract. The Contractor shall neither stop the work nor slow down the progress of the Works in awaiting the approval of rates of all variations.
13.6	**Adjustments for Changes in Laws**	The following paragraphs are added at the end of the Sub-Clause: "Notwithstanding the foregoing, the Contractor shall not be entitled to an extension of time if the relevant delay has already been taken into account in the determination of a previous extension of time and such Cost shall not be separately paid if the same shall already have been taken into account in the indexing of any inputs to the Table of Adjustment Data in accordance with the provisions of Sub-Clause 13.7 [Adjustments for Changes in Cost]." .

14.2.4	**<u>Secure Advance on Material</u>**	Add the following sub clause 14.2.4 after clause 14.2.3 The Employer at his sole discretion may provide to Contractor Secured Advance against an indemnity bond acceptable to the Employer of such sum as the Engineer in charge may consider proper in respect of non-perishable materials brought at the Site but not yet incorporated in the permanent Works subject to approval of Director/Head of Engineering, provided that: (a) The materials are in accordance with the Specifications for the permanent works; (b) Such materials have been delivered to the Site and are properly stored and protected against loss or damage or deterioration to the satisfaction of the Engineer in charge but at the risk to cost of the Contractor; (c) The Contractor's records of the requirements, orders, receipts and use of materials are kept in a form approved by the Engineer in charge, and such records shall be available for inspection by the Engineer in charge; (d) The Contractor shall submit with his monthly statement the estimated value of the materials on Site together with such documents as may be required by the Engineer in charge for the purpose of valuation of materials and providing evidence of ownership and payment therefore; (e) Ownership of such materials shall be deemed to vest in the Employer and these materials shall not be removed from the Site or otherwise disposed of without written permission of the Employer. (f) 60% of the purchase price of the item/material or 50% of tender price of the item/material whichever is lesser, after measuring the quantity & verification of the quality of materials at site by the Employer may be paid The amount of Secured Advance against any item(s)/materials shall be recovered from the next three (03) bill of the Contractor in the form of three equal installments. The Employer reserves the right to recover all outstanding amount of the Secured Advance from very 1st bill of the Contractor submitted after release of the Secured Advance.
14.3	**Application for Interim Payment**	**<u>Imbalance Bid</u>** Add following paragraph at end of sub-clause: In case of imbalanced bid (abnormally high/low rates than market/ Employer's Engineer's estimate) duly justified by the contractor, the payments against such running bills will be made by the employer up to 80% of the running bill after required deductions. The remaining amount will be settled at the time of final settlement upon completion of work to the satisfaction of the Employer.
14.8	**Delayed Payment**	The clause is deleted in its entirety
15.2	**Termination for Contractor's Default**	<u>15.2.1 Notice</u> Following text is added at the end of sub-paragraph (h) of this Sub-Clause: "For the purposes of this Contract, corrupt and fraudulent practices have been defined in Public Procurement Rules 2004." <u>15.2.4 Completion of Works</u>

		The first paragraph is replaced with following After termination under this Sub-Clause, the Employer may complete the Works and/or arrange for any other entities to do so at the risk and cost of the Contractor. The Employer and/or these entities may then use any Goods and Contractor's Documents (and other design documents, if any) made by or on behalf of the Contractor to complete the Works.The following text is added at the end of this Sub-Clause
15.2.5	**Blacklisting**	The Procuring agency/Employer shall bar for not more than the time prescribed in Rule-19 of the Public Procurement Rules, 2004, from participating in their respective procurement proceedings, bidder or contractor who either: (a) Involved in corrupt and fraudulent practices as defined in Rule-2 of Public Procurement Rules; (b) Fails to perform his contractual obligations; and (c) Fails to abide by the id securing declaration
15.4	**Payment after Termination**	"The Employer shall be entitled to sell any of the Contractor's Equipment, Temporary Works and unused materials and apply the proceeds of sale towards payment of any debt due from the Contractor to the Employer under this Clause
16.1	**Suspension by Contractor**	a. Not applicable b. Not applicable Contractor shall only be entitled for extension of Time
16.2	**Termination by Contractor**	c. Not applicable d. Not applicable e. Not applicable h. Not applicable 16.2.2 - Contractor shall only be entitled for extension of Time
16.3	**Contractor's Obligations After Termination**	Sub-paragraph (c) is deleted and replaced with: "(c) deliver to the Engineer all Employer-Supplied Materials and/or Employer's Equipment made available to theContractor in accordance with Sub-Clause 2.6 *[Employer-Supplied Materials and Employer's Equipment];* and (d) remove all other Goods from the Site, except as necessary for safety, and leave the Site."
17.7	**Use of Employer's Accommodation/ Facilities**	The following Sub-Clause 17.7 is added after Sub-Clause 17.6: The Contractor shall take full responsibility for the care of the items of the Employer's facilities and/or accommodation, if any, as detailed in the Specification, from the date of use and/or occupation by the Contractor until the date on which such use and/or occupation is re-vested in the Employer. If any loss or damage happens to any of the above items during time while the Contractor is responsible for its care, arising from any cause other than a cause for which the Employer is responsible or liable, the Contractor shall promptly rectify the loss or damage at the Contractor's risk and cost.
18.1	**Exceptional Events**	The words "or disorder" are replaced with "disorder or sabotage" in sub-paragraph (c) of the Clause.
18.4	**Consequences of an Exceptional Event**	Contractor shall only be entitled for extension of Time
18.5	**Optional Termination**	The sub clause is deleted in its entirety
19.1	**General Requirements**	Following text is added at the end of first paragraph: "The Contractor shall immediately after the date of the Letter of Acceptance submit the draft of insurance policies for the Employer's consent." Following text is added at the end of third paragraph: "The Contractor shall, within the respective periods stated in the Contract Data submit to the Engineer and the Employer a) evidence that the insurances described in this Clause have been effected, and b) copies of policies of the insurances described in Sub-Clauses 19.2.1, 19.2.4 and 19.2.5."
20	**Claims for Payment and/or EOT**	Contractor shall only be entitled for extension of Time
21.1	**Constitution of the**	The DAAB will be constituted with mutual consent at the time of any dispute if arises between Employer and Contractor.

	DAAB	
21.9	**Arbitration**	The following Clause 21.9 is added Any dispute in respect of which the decision, if any, of the Engineer has not become final and binding pursuant to Sub-Clause 3.7 shall be finally settled, under the provisions of the Arbitration Act, 1940 as amended from time to time or any statutory modification or re-enactment thereof for the time being in force. The said arbitrator/s shall have full power to open up, review and revise any decision, opinion, instruction, determination, certificate or valuation of the Engineer related to the dispute. Neither party shall be limited in the proceedings before such arbitrator/s to the evidence or arguments put before the Engineer for the purpose of obtaining his said decision pursuant to Sub-Clause 3.7. No such decision shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator/s on any matter whatsoever relevant to the dispute. Arbitration may be commenced prior to or after completion of the Works, provided that the obligations of the Employer, the Engineer and the Contractor shall not be altered by reason of the arbitration being conducted during the progress of the Works. The place of arbitration shall be Karachi, Pakistan
The following Clauses are added after Clause 21		
22	**Electric Power Generating Set**	Water for construction purposes will be provided by the Employer. Electricity will be provided by the Employer for all minor equipment & tools. Expense regarding the required cables/wires and sub-meters, switches etc. shall have to be borne by the Contractor. The Contractor shall make his own arrangement at his own expenses for the telephone & fax etc. at the Site of Works. If these facilities are to be provided by the Employer at the request of the Contractor, the Contractor shall have to pay the bills/ expenses as per mutually agreed terms & conditions at that time. Hutting/ tenting etc. for the workers or storage of the materials of the contractor shall be the responsibility of the contractor.
23	**Fire Protection and loss control**	The Contractor shall be aware of necessary precautions & controls concerning cutting, welding, and hot work, fire precautions and ensure compliance. The Contractor shall be responsible for the fire watch as necessary and meet the fire prevention / fighting practices. The Contractor shall, in his work plan, forecast any extra hazardous area or adjacent to the site of the work and provide curtains, shields, or any other specialized equipment to adequately shield flames and sparks from combustibles. Where the Contractor requires the utilization of flammable liquids, approved devices and containers for transfer or storage of the same shall be used. The Contractor is responsible for disposal of deleterious substances such as lubrication oil, solvents, diesel fuel etc. which shall be contained in suitable containers and be disposed of away from the site and in no case disposed in sewers or water course(s) or drains. The Contractor shall provide and maintain adequate fire protection in the form of barrels of water with buckets, fire bucket tanks, fire extinguisher, or other effective means ready for instant use, distributed around the project and in and about temporary inflammable structures during construction of the works. Gasoline and other flammable liquids shall be stored in and dispensed from safety containers approved by the Engineer and storage shall not be within building. Torch-cutting and welding operations performed by the Contractor shall have the approval of the Engineer before such work is started and a chemical extinguisher is to be available at the location where such work is in progress. The Contractor shall follow the instructions and specifications of the Civil Defense Department or any other local department concerned with such activities.

24	**Safety Regulation**	1) **General**; It is the Contractors responsibility to assure that the safety regulations, are followed at all times and that all his employees at site have a thorough knowledge and understanding of the safety regulations and are complying with all the safety requirements. The Contractor must comply with all applicable accident prevention regulations and other safety work practices governed under any law of any local or provincial authority of Pakistan. The Contractor shall comply and enforce compliance by all his sub- contractors with the highest standards of safety and accident prevention in accordance with international standards and in compliance with all applicable laws, ordinances and statutory provisions. The Employer requires that all the Contractors' workers wear hard hats, safety shoes, and where necessary gloves, and shirts at all times while on site. All requisite barriers, fences, warning signs, lights and other safety precautions as required for the protection of persons and property on or adjacent to the site shall be provided at the Contractor's cost. All false work, scaffolding and handrails shall be well constructed and secured at all times. Where overhead work is being carried out, warning signs shall be installed at ground level clearly warning of the overhead work. All warning signs shall be in two languages, English and Urdu, and shall at all times be maintained in a clean and legible condition, to the satisfaction of the Engineer. Trash shall be removed at frequent intervals to the satisfaction of the Engineer. Netting shall be provided at all levels where work is in progress, all around the building.
		2) **Fire Protection Equipment** The Contractor is responsible to provide the required number of fire extinguishers as well as the necessary hose line for his area of work. The type and size of fire-fighting equipment have to be approved by the Engineer. i. Welding / burning requires permission from the Engineer ii. Closing, sealed or locked walls of any fire system requires an impairment lock out notification from the Engineer.
		3) **Hazardous Area** Before entering any area, the Contractor must familiarize himself of the existing hazards and inquire from the Engineer necessary precautions to be taken for the protection of himself, other workers and equipment.
		4) **Waste Material Removal and environmental control** If the work requires the removal of any material hazardous to industrial or public / environment, then the Contractor shall remove it in compliance with industrial health and safety regulations.
25	**Labour Conditions**	The Contractor acknowledges that some or all other Contractors or sub-contractors or suppliers or persons working at or delivering to or for the site or the work being carried out at or near the site may be union or non-union, Labour peace shall be maintained at the site. The Contractor shall carry out the work in a manner which ensures that there are no labour problems, work stoppages, or other labour disputes or disruptions which might affect the Contractors work, any other work at the Site or the Employers operations. The Contractor warrants and confirms that no agreement with its employees or trade unions representing his Employees or between his subcontractors. Suppliers sub-contractors and their employees or labour union representing those Employees will affect the Contractor's performance under the Contract, any other work at the site or the Employers operations. The Contractor acknowledges that the site is considered an open site, not exclusively union or non-union.
26	**The Contractor Shall be Liable & Indemnify The Employer**	Contractor shall be exclusively liable for and shall indemnify and hold harmless the Employer, its agents and employees from: i. Making good all losses arising out of the Contractor's negligence or breach of the Contract. This may include damage to the paints/ polish works, false ceilings, wooden or metallic works, tiles, marbles, plants, wires, pipes, electrical and mechanical items, fixtures of any kind, antiques, glass items, window blinds, etc. The Employer shall determine the amounts of such losses/ damages and the Contractor hereby expressively waives his all or any right to change or challenge the same. The Contractor shall have to make good all such losses/ damages within time frame specified in the Notice, to the entire satisfaction of the Employer.

		ii. Any tax, government duties, insurance contributions and other taxes or social security contributions in respect of Contractor's employee(s) or sub- Contractor together in each case with any interest, fines or penalties thereon. iii. Any claims of Contractor / service provider's current employees or ex-employees, or associates, or their heirs whether against the Contractor, other Contractors working within the same premises or any other person, regarding deals made at personal level by the staff or personal matters or deals carried out as an Employer, in whatsoever form, manner or capacity. iv. Any Government Permits, Licenses, etc. that may be required for performing the services contemplated under the Contract. v. All claims of compensation by an employee of Contractor / Service Provider, his family or legal heirs or any other agency, autonomous body, any NGO or government department, arising from injury, disability, ill health or death of any of his employees during the currency or expiry of this Contract while performing any services under this Contract or any claim regarding the medical care or treatment expenses submitted by the employee or ex-employee of the Contractor / Service Provider or their legal heirs. vi. Save for the willful or deliberate breach of its obligations under the Contract or, as set out above, neither party shall be liable for any consequential or indirect loss or damage.
27	**Contractor's Warranties**	The Contractor undertakes and represents that at all times: i. It has the requisite power and authority to enter into and perform this Agreement; ii. It holds valid license and authority to carry out the Services; iii. It shall execute the services in professional manner through competent, skilled, qualified human resource. iv. Contractor shall not act in a way which is prejudicial to Employer's interests or business; v. The Services shall be fit for the express or implied purposes for which supplied. vi. The Contractor shall follow the instructions to be issued by the Employer when at Employer's premises, all rules and security policies and the Employer may exclude any person from its premises for any actual or anticipated breach of these policies. Any breach by Contractor of this Clause, constitutes a material breach of the Contract and may lead towards Termination of Contract. In addition to Employer's rights under the Contract, the Employer shall be entitled to require Contractor to (a) remedy the breach at its cost; (b) pay for it to be remedied; or / and (c) repay all amounts already paid for the defective Services.
28	**Confidentiality**	Except with the consent in writing of the Employer, Contractor shall keep strictly confidential and not make use of any confidential information - supplied by the Employer other than to perform this Contract, and shall impose the same obligations on its employees and other third parties (including sub-service provider). Contractor may disclose confidential information if required to do so by law, court order, rules or regulation provided (to the extent permissible by law) it has notified the Employer in advance and agreed the scope of disclosure with the Employer.

SECTION IX: CONTRACT FORMS

Form of Contract

THIS AGREEMENT made the _____ day of _____ 20_____ between *[name and address of Procuring agency/Employer]* of Pakistan (hereinafter called "the Procuring agency/Employer") of the one part and *[name of Contractor]* of *[city and country of Contractor]* (hereinafter called "the ") of Contractor other part:

WHEREAS the Procuring agency/Employer desired that the works *[brief description of works]* should be executed by the contractor, and has accepted a Bid by the contractor for the execution and completion of these works and remedying of any defects therein, in the sum of *[contract price in words and figures]* (hereinafter called "the Contract Price").

NOW THIS CONTRACT WITNESSETH AS FOLLOWS:

1. In this Contract words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Contract, In the event of any ambiguity or conflict between the Contract Documents listed below, the order of precedence shall be the order in which the Contract Documents are listed below:-
   (a) This form of Contract;
   (b) Letter of Acceptance;
   (c) the Form of Bid and the Price Schedule submitted by the Bidder;
   (d) the Works Requirements;
   (e) the Technical Specifications;
   (f) the Drawings;
   (g) the General Conditions of the Contract
   (h) the Special Conditions of Contract,
   (i) the completed schedule including Bill of Quantities; and
   (j) [*add here: any other documents*]
3. In consideration of the payments to be made by the Procuring agency/Employer to the contractor as mentioned in this contract, the contractor hereby covenants with Procuring agency/Employer to execute the works to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Procuring agency/Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Contract to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed, delivered by _____the _____ (for the Procuring agency/Employer)	Signed, sealed, delivered by _____the _____ (for the Contractor)
Witness to the signatures of the Procuring agency/Employer ……	Witness to the signatures of the Contractor ……

Performance Guarantee Form

To: *[name of Procuring agency/Employer]*

WHEREAS *[name of Contractor]* (hereinafter called "the contractor") has undertaken, in pursuance of Contract No. *[reference number of the contract]* dated *[insert date]* for the execution of *[insert name of the works and its brief description] (*hereinafter called "the Contract").

AND WHEREAS it has been stipulated by you in the said Contract that the contractor shall furnish you with a Bank Guarantee by a reputable bank for the sum specified therein as security for compliance with the Contractor's performance obligations in accordance with the Contract.

AND WHEREAS we have agreed to give the Contractor a guarantee:

THEREFORE, WE hereby affirm that we are Guarantors and responsible to you, on behalf of the Contractor, up to a total of *[amount of the guarantee in words and figures],* and we undertake to pay you, upon your first written demand declaring the Contractor to be in default under the Contract and without cavil or argument, any sum or sums within the limits of *[amount of guarantee]* as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the: *[insert date]*

Signature and seal of the Guarantors

_____

[name of bank or financial institution]

_____

[address]

_____

[date]

Advance Payment Security

Demand Guarantee

_____

Beneficiary: _____

Date: _____

ADVANCE PAYMENT GUARANTEE No.: _____

Guarantor: _____

We have been informed that [Inset name of the Contractor] (hereinafter called "the Contractor") has entered into Contract No. _____ dated _____ with the [insert name of the Procuring agency/Employer] (hereinafter called "the Procuring agency/Employer") for the execution of _____ (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum _____ (_____) is to be made against an advance payment guarantee.

At the request of the Contractor, we as Guarantor, hereby irrevocably undertake to pay the Procuring agency/Employer any sum or sums not exceeding in total an amount of _____ upon receipt by us of the Procuring agency/Employer's complying demand supported by the Procuring agency/Employer's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

(a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or

(b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Contractor has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Procuring agency/Employer's bank stating that the advance payment referred to above has been credited to the Contractor on its account number _____ at _____..

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as specified in copies of interim statements or payment certificates which shall be presented to us.

The Guarantee shall remain valid up to the aforesaid date and shall be null and void after the aforesaid date or earlier if the advance made to the Contractor is fully adjusted against payments from Interim Payment Certificates of the Contractor provided that the Guarantor agrees that the aforesaid period of validity shall be deemed to be extended if on the above mentioned date the advance payment is not fully adjusted.

_____

[signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

Retention Money Security
Demand Guarantee

_____ *[Guarantor letterhead or SWIFT identifier code]*

Beneficiary: _____ *[Insert name and Address of Procuring agency/Employer]*

Date: _____*[Insert date of issue]*

RETENTION MONEY GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Contractor") has entered into Contract No. _____ *[insert reference number of the contract]* dated _____ with the Procuring agency/Employer, for the execution of _____ *[insert name of contract and brief description of* Works*]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, the Procuring agency/Employer retains moneys up to the limit set forth in the Contract ("the Retention Money"), and that when the Taking-Over Certificate has been issued under the Contract and the first half of the Retention Money has been certified for payment, payment of *[*insert the second half of the Retention Money *or if the amount guaranteed under the Performance Guarantee when the Taking-Over Certificate is issued is less than half of the Retention Money,* the difference between half of the Retention Money and the amount guaranteed under the Performance Security and, if required, the ES Performance Security*]* is to be made against a Retention Money guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ *[insert amount in figures]* (_____) *[amount in words]* upon receipt by us of the Procuring agency/Employer's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without your needing to prove or show grounds for your demand or the sum specified therein.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Procuring agency/Employer's bank stating that the second half of the Retention Money as referred to above has been credited to the contractor on its account number _____ at _____ *[insert name and address of Contractor's bank]*.

This guarantee shall expire no later than the …. day of ……, 2…, and any demand for payment under it must be received by us at the office indicated above on or before that date.

_____
[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

Integrity Pact

DECLARATION OF FEES, COMMISSION AND BROKERAGE ETC. PAYABLE BY THE SUPPLIERS OF GOODS, SERVICES & WORKS IN CONTRACTS WORTH RS.10.00 MILLION OR MORE

Contract Number: _____ Dated: _____
Contract Value: _____
Contract Title: _____

[Name of Contractor] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GOP) through any corrupt business practice.

Without limiting the generality of the foregoing [Name of Contractor] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GOP, except that which has been expressly declared pursuant hereto.

[Name of Contractor] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GOP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

[Name of Contractor] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GOP under any law, contract or other instrument, be voidable at the option of GOP.

Notwithstanding any rights and remedies exercised by GOP in this regard, [Name of Contractor] agrees to indemnify GOP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GOP in an amount equivalent to ten time the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Contractor] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GOP.

_____ _____
[Procuring agency/Employer] [Contractor]

SECTION X - TECHNICAL SPECIFICATIONS & DRAWINGS

Technical Specifications

The bidder shall provide technical brochures of equipment complying with technical specifications.

1. Brand Names

Equipment and materials specified with brand names have been provided to establish a standard of performance and do not necessarily indicate a preference for a particular manufacturer or material.

The names of manufacturers given below are to indicate the level of quality and performance anticipated by the Employer / Procuring Agency. Other makes may be accepted provided that the quality and performance of such equipment, in the sole opinion of the Employer / Procuring Agency, are at least equal to or better than the equipment offered by the recommended manufacturer listed hereunder.

2. **List of Manufacturers Recommended**

The acceptance of equipment/ materials offered by these manufacturers will be subject to compliance of offered models/ materials with the specifications, capacity and/ or performance requirements.

All other items not included in the list hereunder will be approved by the Employer / Procuring Agency in accordance to their compliance with the specifications, capacity and/ or performance requirements.

Onus lies with the Contractor / supplier for establishing the genuineness of any material/ product.

Following are the specification of material. Bidder can also offer equivalent products, however, adequate documentation in the form of technical data sheets and type test certificates from independent laboratories stating the standards to which the product complies with shall be furnished in the support of their being equivalent. The Employer reserves the right to ask the bidder of additional documentation in the regard.

Product	Standards	Recommended Manufacturers
LV Panels, Distribution Boards	As per standards and specifications mentioned in technical specifications and the Bill of Quantities (BOQ)	Hussain and Co. Unique Engineering HRA Switchgears RA Engineering OR approved equivalent
LV Circuit Breakers: ACB, MCCB & MCB		ABB Schneider GE OR approved equivalent
LV Cables		Pakistan Cables Fast Cables OR approved equivalent

Product	Standards	Recommended Manufacturers
PVC Conduits and Accessories		Galco Dadex Jeddah Polymer Civic OR approved equivalent
Current Transformer		Rivalco, Saci, Circuitor, OR approved equivalent
Lighting Fixture	As per standards and specifications mentioned in technical specifications and the Bill of Quantities (BOQ)	Philips Britlite Fast Lights OR approved equivalent
Lift	As per standards and specifications mentioned in technical specifications following EN-81standards	Otis Kone Schindler Mitsubishi Hyundai Fuji OR approved equivalent

SECTION -E-01

GENERAL ELECTRICAL REQUIREMENTS

FOREWORD:

This document is to describe the minimum requirements for the equipment and installations and to ensure that the Contractor is fully aware of his duties to perform the required works, in accordance with the terms of the Contract.

1.01 SCOPE OF WORK

The works related to the electrical system, which are included in the scope of this Contract, are shown in Bill of Quantities and explained in these specifications. The works shall broadly include but not limited to the following:

All material and equipment supplied by the Contractor shall be new and, in all respects, conform to the high standards of Engineering design, workmanship, performance and function as here in specified and fully meet the quality level and rugged requirements of the specifications.

The Contractor shall also be responsible to supply any other equipment not specifically mentioned in these documents but which is necessary for proper operation of the works / system, shall be considered to have been so specified and accordingly shall be provided by the Contractor as part of the Contract.

The Contractor shall be solely responsible for ensuring proper functional requirements of various equipment and shall also be responsible for furnishing any additional piece of equipment and for making modification in the equipment as desired and / or approved by the Owner or his representative, to achieve proper coordination with various equipment offered in the bid and also those installed by others.

Approval of the Contractor's supplied equipment / installation works shall not relieve the Contractor of any of his obligations or liabilities under the Contract, except insofar as provided under the conditions of the Contract.

1.02 RULES AND REGULATIONS

The entire electrical installation / work shall be carried out by licensed contractor, authorized to undertake such work under the provisions of Electricity Act 1910 and The Electricity Rules 1937 as adopted and modified up to date by the Government of Pakistan.

All works shall be carried out in accordance with the latest edition of the Regulations of the Electrical Equipment of Buildings issued by the Institute of Engineering and Technology (IET), the Contract documents, the Electricity Rules 1937 and bye-laws that are in force from time to time. Any discrepancy between these specifications and any other rules and regulations shall be brought to the notice of Owner or his representative, and his decision shall be final and conclusive.

The Contractor shall be responsible for completing all formalities and submitting the test certificates as per prevailing rules and regulations and shall have the installation passed by the Government Electric Inspector of that region. All requirements of the Electric Inspector and the Electric Company shall be complied with.

1.03 STANDARDS

The specification recommended practices, official standards and codes the non - restrictive List of which is given below.

- International Electro-technical Commission (IEC)
- British Standards (BS)
- National Electric Code (NEC)
- National Standards
- Local Electric / Utility Supply Company standards
- EN Standards for PAVA System
- NFPA 72
- EIA/TIA Standards for ICT System

In the event of conflict between standards, the most stringent shall prevail.

Whenever the electrical equipment to be installed, does not hold national standards, the Contractor shall take into account the specific standards chosen by the Owner and make sure that the equipment he has to install, meets these standards.

In addition, even if no mention is stipulated in this specification, it is implied that the equipment be tropicalized, if required, by the conditions of the site of installation.

In any case, the standards and codes to be taken into consideration are those in force at the date of delivery.

1.04 INSTALLATION AND SERVICE CONDITIONS:

1.04.1 Site Conditions:

All material and equipment supplied and installed shall be designed, manufactured and tested to meet the following ambient conditions unless specifically stated otherwise for any material / equipment:

a.	Maximum outdoor ambient temperature	:	45 degree C
b.	Minimum Indoor ambient temperature	:	0 degree C
c.	Maximum relative humidity	:	90 %
d.	Minimum relative humidity	:	26 %

1.04.2 Service Conditions:

Equipment shall be designed and built for continuous service with a minimum of supervision and maintenance.

1.05 DOCUMENTS TO BE SUBMITTED:

The contractor shall submit following documents at the time of approval biding or as per instruction of the Engineer:

1. Documents and certificate to be submitted for approval, including:
2. Warranty
3. Packing and delivery
4. Marking
5. Testing, including:
   - Type tests.
   - Routine Tests.
   - Special test.
6. Technical data sheet
7. Maintenance and operation manual
8. Training Program

- END OF SECTION -

SECTION-E-02

MAIN DISTRIBUTION BOARD

1.01 SUMMARY

A. Metal-enclosed, low-voltage, power circuit-breaker switchgear rated 1000V and less for use in ac systems.

1.1 Purpose

This section together with its appending document covers the minimum requirement for the design, construction and performance of factory built assemblies of LV switchboard.

1.2 Scope of Work

The work under this scope consists of supplying, installation, testing, connecting and commissioning of all material and services of the complete switchboard as specified herein and/ or shown in the Bill of Quantities.

The Contractor shall discuss the electrical layout with the Engineer and coordinate at site with others for exact route, location and positions of electrical lines and equipment.

1.02 STANDARDS

Particular reference shall be made to:

IEC 60027	Letter symbols to be used in Electrical technology.
IEC 60051	Direct setting electrical measuring instruments.
IEC 60073	Color for indicator lights and push bottoms
IEC 60158	LV Switch gear and control gear.
IEC 60185	Current Transformers.
IEC 60186	Voltage Transformers.
IEC 60269	LV fuses.
IEC 60439	Factory built assemblies of LV switch gear and control gear.
IEC 60529	Degree of protection provided by enclosures.
IEC 60617	Graphic symbols for diagrams.
IEC 60947-2	LV Switch gear and Control gear.
BS 951	Earthing Clamps
BS 1433	Hard drawn bare copper conductor for earthing.
BS 2874	Nuts, Bolts, Washers and Rivets for use on copper.
BS 6346	PVC Insulated Cables.
CP 1013	Earthing

Any other standard referred to in above standards or these specifications.

1.03 PRODUCTS

A. Ratings:

a. Nominal System Voltage: 415 V, 3 phase

b. Fabrication: Factory assembled and tested and complying with IEEE C37.20.1.

c. Indoor Enclosure: Steel.

d. Outdoor Enclosure: Galvanized steel.

- Isolators.
- Louvers for air circulation.
- Hinged front door, interior light, and duplex receptacle.
- Weatherproof internal aisle construction, with aisle access doors, space heaters, lights, and duplex receptacles.

e. Section barriers between main and tie circuit-breaker compartments.

f. Bus isolation barriers.

g. Circuit-breaker compartments.

h. Removable, hinged, rear covers panels.

i. Auxiliary Compartments:

- Utility metering compartment.
- Bus transition sections.
- Incoming-line pull sections.
- Hinged front panels

1.04 COMPONENTS

A Instrument Transformers:

- Potential transformers.
- Current transformers.

a. Instruments: Multifunction digital-metering monitor.

b. Relays.

c. Surge arresters.

d. Control Power Supply: Dry-type transformer, 120 V.

e. Circuit Breakers:

f. Operating Mechanism: Mechanically and electrically trip-free, stored-energy type.

- Normal closing speed.
- Slow closing speed.
- Stored-Energy Mechanism: [Manually] [Electrically] charged.
- Operation counter.
- Solid-state trip devices.
- Auxiliary contacts.
- Padlocking provisions.
- Operating handle.
- Electric close button.
- Mechanical interlocking.
- Key interlocks.
- Under voltage Trip Devices: [Instantaneous] [Adjustable].
- Shunt-trip devices.
- Fused circuit breakers.
- Indicating lights.

g. Circuit-Breaker Removal Apparatus:

h. Portable, floor-supported, roller-base carriage.

B. Identification: system power riser diagrams.

1.05 FIELD QUALITY CONTROL

A. Testing: [Contractor].

1.4 Installation and Service Conditions

For general site conditions refer to Section - E- 1, Clause 4.

Switchboard shall be installed indoor. The equipment shall be capable of operation under the prevailing ambient conditions without any deleterious effect of any kind. Switchboard shall be suitable for continuous operation at full load rating under combined variation of both voltage and frequency as stated in Section - E-1, Clause 5.1.

Transient voltage depression down to 80% of rated voltage shall not affect the performance of the equipment and dip voltage must be within permissible limit.

2.0 MAIN ELECTRICAL CHARACTERISTICS

2.1 Power Supply System

Main characteristics of power supply system applicable to all switchboards are:

-	Voltage	400 V $\pm$ 10%
-	Phase	3 ϕ, 4 Wire
-	Frequency	50 Hz $\pm$ 1 Hz

-	Neutral system	Solidly grounded
-	Peak asymmetrical SCC	To be specified by the bidders
-	RMS symmetrical SCC	To be specified by the bidders

Main characteristics of auxiliary supply system are:

-	Control / Command system	24 VDC
-	Space heater system	230 VAC

2.2 Ratings

The equipment shall be capable of carrying the specified current on a continuous basis of 24 hours / day, without exceeding the permitted temperature.

The current ratings of all equipment must be guaranteed at the specified design temperature. Equipment shall be fully rated and constructed for withstanding, making and breaking the specified short circuit duty.

3.0 GENERAL REQUIREMENTS

3.1 Concept

The Switchboard shall be of standard, prefabricated metal clad cubicle(s), floor mounting type, totally enclosed, dead front, dust tight and vermin proof requiring front access only. It shall complete in all respects with material and accessories, factory assembled, tested and finished all according to the specifications and to normal requirements. For indoor installations the international classification shall be IP42.

The Switchboard with all components and accessories shall be suitable for front operation only and shall:

- have a rated service short service breaking capacity, $\mathbf{I_{cs}}$ at 400 VAC, conforming to IEC 60947-2 unless otherwise stated in BOQ
- be provided with adequate clearance from live parts so that flash over cannot be caused by switching, vermin, pests, etc.
- have all components rated for insulation class 600-volt minimum.
- be designed for flush mounting of all instruments on the front side.
- have all incoming or outgoing connections from the top or bottom as required. Have the components mounted so as to facilitate ease of maintenance from the front. Have common lamp test facility for all lamps.
- have wiring diagram on the inside of door of the switchboard. Be labeled with nameplate on the front side of door.
- have arrangements for extension of switchboard in future.

3.2 Accessibility

Switchboard shall preferably be arranged for bottom cable entries. Adequate space must be provided for cable entries and termination. It shall be possible to work easily and safely on cable of a main or control outgoing circuit in OFF position with the remainder of the board alive.

Adequate system shall be provided for installation and clamping of cables inside the cable compartment. Position of terminals and cables shall allow use of clamp ammeter.

Power and Control cable termination shall avoid obstruction to other cable termination and provide easy access for terminating cables. Cable supports shall be provided to avoid undue strain on cable termination. Easily accessible locations shall be reserved in the compartment for measuring transformers.

3.3 Name plates

On the front side, a name plate shall be provided at the top to indicate the name of manufacturer, system voltage and frequency and the current carrying capacity of switchboard.

Each breaker shall have a circuit identification label fitted below the breaker aperture or as suitable.

Drawing indicating the branch circuit names, breaker elements, cable sizes and connecting services shall be placed in a clear plastic pocket provided at the back of the front access.

Labels described shall have block letters 7 mm high on a white back ground, to be made from Traffolite and be fixed with screws.

Each incoming and outgoing circuit shall also be labeled with name plate 75 mm x 15 mm, as described above on the front side of door.

4.0 MECHANICAL DESIGN

4.1 General Construction

The switchboard shall be fabricated, welded; grinded, finished with angle iron framework and cladded with 14 SWG MS sheet, to form a rigid, free standing, flush mounting fronted assembly.

It shall be suitably divided into panels and compartments for accommodating the required number of circuit components, instruments and accessories. Each compartment shall be fully partitioned from its neighbor both horizontally and vertically, allowing safe cable routing / termination without shutting the switchboard down.

All live parts within cubicles, compartments or modules, which have to accessible during normal maintenance operations, shall be adequately protected and / or barried to ensure protection of works and to avoid accidental contact. Barriers may be rigid, transparent, insulating material fitted with warning labels.

The doors shall be provided with hinges on the left-hand side and locking handles on the right hand side for fastening the door. The front assembly shall be fastened to the enclosure by means of self-locating fasteners for quick and easy fixing. The front and back door will not exhaust fan/louvered, since the main door of electrical room have louvered door so internal room temperature would be maintained.

All holes, cutouts shall be tool or jib manufactured and free from burrs and rough edges. All structural components shall be of standardized design to provide complete uniformity and inter change ability of common parts. Removable gland plated shall be provided at top and / or bottom as required.

The switchboard shall be supplied complete with foundation bolts and other installation materials as recommended by the manufacturer. Proper size cable clamping channels with galvanized steel clamps and brass cable clamps respectively for unarmored and armored cables shall be provided.

The cabling inside the Switchboard shall be suitably numbered and harnessed by means of straps or cords. Wiring to door mounted components shall be in flexible PVC conduit. All indicating, control and selecting equipment shall be suitably arranged and clearly labeled with indelible labels indicating the rating of fuses, switches, etc.

All metal work of the switchboard shall be cleaned down to bare shining metal, phosphate and the surfaces chemically prepared for powder coating. Then these shall be coated with powder of color RAL 7032 and then baked in oven. The thickness of powder coating shall not be less than 120 microns.

4.2 Bus Bars

Bus bars and droppers supported on non - hygroscopic material are to be high conductivity electrolytic tinned copper, completely isolated and mechanically braced and rated to withstand the specified short circuit currents for one second duration.

Bus bars and droppers shall be housed in a separate compartment and shall be clearly marked with their respective colors. Bus bars shall be provided for three phases, neutral and multi - terminal earth. The temperature rise shall not exceed 50 degree centigrade at rated current. Neutral bus assembly shall consist of outgoing screw terminals with one terminal for every MCCB / MCB.

Neutral Bus bar should be of same ampere rating as phase bar.

Removable metal covers on the bus bar chamber shall be provided with suitably sized labels at regular intervals, fixed with self-tapping screws and warning of live metal work.

All bus connectors shall be tinned plated connections and joints. Horizontal bus bars shall be of the same current rating throughout their length.

4.3 Earthing

A copper earth bar of suitable section for the specified fault level shall extend the entire length of the Switchboard. Provisions shall be made for possible future extensions at both ends.

Earthing facilities shall be provided on each incoming and outgoing unit to permit earthing of the connections.

All metallic non-current carrying parts of the Switchboard shall be bonded together and connected to the Switchboard's earth bar.

Each circuit wiring shall be green / yellow color. Earthing mass continuity between withdrawable parts and fixed frame shall be correctly ensured whatever the withdrawable part position.

Provision shall be made adjacent to cable termination for earthing cable armor to the earth bus bar.

Earthing switch shall be provided wherever mandatory as per rules and regulations / codes and standards and shall be manually operated. An interlocking system shall provide the following locking and safety functions:

- Impossibility of closing the earth switch if the switching device is closed.
- Visual check of earthing switch positions to be possible.
- Possibility of locking the earthing switch operating handle in open and closed position.
- The earthing of the bus bar shall be done manually by the operator without provision of general earthing system.

5.0 DISTRIBUTION BOARDS

The enclosure of the LV Distribution Board shall be Surface Mounted, fabricated from electro-galvanized / zinc coated sheet steel.

The LV Distribution Board shall be fabricated with 16 SWG sheet steel recess mounting. All components shall be installed on a common component mounting plate made of 14 SWG sheet steel inside the enclosure and protected from the front with screwed sheet steel front plate. The door and dead front covers shall be made of 14 SWG sheet steel. The door shall be fully gasket with hinges on the left hand side and locking handle on the right hand side for fastening the door. The locking handle should be detachable. The dead / front assembly shall be fastened to the enclosure by means of self - locating fasteners for quick and easy fixing.

The distribution board shall be supplied complete with all installation materials as recommended by the manufacturer. The incoming and outgoing cable connections shall be according to the wiring requirements. If required, an adapter box for accommodating the cables and conduits may be provided. The box shall be of the same material and finish as the Distribution Boards.

An earth bar or terminal strips shall be provided for connection of incoming and outgoing earth conductors. The earth bar or terminals shall be permanently connected to the body of Distribution Boards at two points. Flexible copper strip shall be provided for earthing of the door of Distribution Board.

Neutral bus assembly shall consist of outgoing screw terminals with one terminal for each MCB. All holes, cutouts, etc., shall be tool or jib manufactured and free from burrs and rough edges. Removable gland plates shall be provided at both the top and / or bottom, as required.

The cabling inside the distribution board shall be suitably numbered and harnessed by means of straps or cords. Wiring to door mounted components shall be in flexible PVC conduit. All indicating, control and selecting equipment shall be suitably arranged and clearly labeled with indelible labels indicating the rating of fuses, switches, etc.

All metal work of the distribution board shall be cleaned down to bare shining metal, phosphate and the surfaces chemically prepared for powder coating. Then these shall be coated with powder of color RAL 7032 and then baked in oven. The thickness of powder coating shall not be less than 120 microns.

6.0 COMPONENTS

The switchboards shall be provided with all components as specified in BOQ as necessary for the satisfactory operation of the Switchboard and of the electrical system. All components should comply with IEC 60947-2. Typical specifications are given hereunder:

6.1 Air Circuit Breaker (ACB)

Air circuit breaker should be three poles / four poles as mentioned in drawing suitable for making and breaking a fault condition. Operating mechanism shall be manually or motor operated charged spring with front drive grip handle. These shall be locally operative. Mechanically operative ON-OFF-OFF indicators positively driven in both directions shall be provided to indicate the position of the unit.

Overload and over current features / relays shall be of an adjustable, manually resettable type, according to manufacturer's standard range.

Each ACB shall have built in tester with the selection of Trip or Non-Trip Functions. Also with the facility of testing the ACB in field from single phase (220VAC) supply only. Each of the above function shall have separate LED Indicators and Alarm switches for trip monitoring of Overload, Short circuit, Pre trip alarm and Ground Fault. ACB shall be having Trip Memory.

The Breaking Capacity of ACB shall be 65KA. ACB breaking capacity shall be; $I_{cu}=I_{cs}=I_{cw}$.

The circuit breaker shall have two normally open and two normally closed auxiliary contacts rated for 10 Amps. 230 VAC. The circuit breaker shall also provide for ON-TRIP-OFF indicating lamps. The circuit breaker shall have specified rupturing capacity without the use of back-up fuses. Auxiliary release and trip coils shall be provided for desired operation and / or interlocking as shown and / or stated on to in BOQ

6.2 Molded Case Circuit Breaker

These shall be three pole 400 / 500 volts rating shown in BOQ. The breakers shall have both time delay over current and instantaneous short circuit protection.

The MCCBs shall be installed such that their switching levers are accessible through the dead front plate for operation. Circuit numbers / designation on all circuits shall be conspicuously marked to facilitate connection and maintenance.

The breaker shall have quick make - quick break toggle mechanism with positive 'ON', 'OFF' and intermediate ' Tripped ' positions.

Trip mechanism shall be trip free on overload or short circuit ensuring that the breaker will not close / remain close even if the close command is given while the circuit breaker has tripped due to short circuit or continuing overload.

6.3 Miniature Circuit Breaker (MCB)

The MCBs with current rating from 3 to 80 amperes shall be conforming to BS EN 60-898 or IEC 60947-2. The circuit breakers shall be suitable for DIN-rail mounting, maintenance-free and fully tropicalized.

The MCBs shall be designed for horizontal or vertical mounting, or reverse feeding, without any adverse effect on electrical performance.

The operating mechanism shall be quick make, quick break type, trip free, with all poles opening and closing simultaneously (except for the neutral pole, which if required shall be of the advance-closing and late-opening type). The operating toggle shall clearly indicate the ON and OFF/TRIP positions.

The individual operating mechanism of each pole of a multiple MCB shall be directly linked within the MCB casing and not by the operating handle.

Each pole of the MCBs shall be provided with bimetallic thermal element for overload protection and a magnetic element for short circuit protection.

6.4 Load Break Switches

Load Break Switches and contractors shall be of AC3 type for motor loads. Air circuit breakers above 630A shall be housed in separate cubicles. Aluminum plate shall be provided for cable entry to ACBs / MCCBs cubicles of 630A and above rating.

7.0 PARTICULAR COMPONENT REQUIREMENTS

7.1 Current Transformers

Current transformers shall comply with the requirements of IEC 60185 (or equivalent).

Current Transformers shall be polyester resin insulated, ring type, air cooled having transformation ratio as indicated in BOQ. The Current Transformers shall be of suitable burden having accuracy class 1.0. The Current Transformers shall have rated secondary current as per the drawing as required.

Current Transformers shall mechanically and thermally withstand the specified short circuit capacity. Test terminal blocks shall be provided for current Transformer secondary circuits having short circuiting provisions to allow portable apparatus to be connected.

7.2 Voltage Transformers

Voltage transformers shall comply with the requirements of IEC 60186 (or equivalent) and shall be of the same accuracy class as Current Transformers.

Voltage Transformers shall be equipped with primary fuses with an interrupting capacity of the incoming circuit breakers. Test terminal block shall be provided for each Voltage Transformer system.

7.3 Ammeters and Voltmeters

Indicating instruments shall be semi-flush Switchboard type, digital. The front dimensions shall be 144 x 144 mm for instruments on incoming side and 96 x 96 mm on all outgoing circuits.

Indicating instruments shall be 1.0 class percent of full scale basic accuracy class in accordance with IEC 60051.

The ammeter shall be suitable for connection to 5 Amp. Secondary of Current Transformer or directly through shunt.

7.4 Selector Switches

Ammeter and voltmeter selector switches shall be complete with front plate, grip handle, R-Y-B and OFF position for ammeter and RY-YB-BR-RN and OFF positions for voltmeters.

The selector switches for controls shall be rotary cam type and shall be provided complete with knob and front plate, showing all positions as required.

7.5 Push Buttons

The push buttons shall be momentary make / break contact type (normally open / normally close) and suitable for flush mounting. The push button for ON and OFF switching shall be red and green respectively.

7.6 HRC Fuses

HRC Fuses shall be provided complete with fuse bases, fuse, etc. The fuses shall have a fusing factor as specified for class Ql in accordance with BS 88.

7.7 Pilot Lamps

Switchboard shall be provided with LED type phase indicating pilot lamps. The lamps shall be rated for 250 volts supply and suitable for flush mounting. The front of the lamps shall have colored rosettes for identification of phases.

7.8 Secondary Wiring

All wiring shall be copper conductor, thermoplastic insulated, at least 1.5 sq. mm flexible, neatly arranged and clipped in groups.

Each conductor and its termination are to be identified and marked with numbered ferrules. All live terminals are to be shrouded.

Secondary wiring for Current Transformers shall be carried out with not less than 2.5 sq. mm. Terminals shall be specially marked to avoid opening of the circuit by accident.

8.0 INSTALLATION

The LV Switchboard shall be installed at location shown on the drawing. The Contractor shall ensure coordination with civil works for providing any openings, holes, etc. to avoid any breakage to completed works. In case the provisions in civil works for the installation of electrical equipment are not made or made incorrect the same shall be rectified by the Contractor at his own cost and to the satisfaction of the Engineer. The Contractor shall provide foundation bolts and grout them in cement concrete floor using non-shrinkable material with the approval of Engineer.

All installation material for physically erecting the Switchboard, such as bolts, nuts, washers, supporting steel, etc., shall be provided and installed by the Contractor. The Switchboard shall be installed upright and in level and shall be firmly and rigidly bolted to the floor and concrete supports.

The switchboard shall be completely erected as per manufacturer's instructions and as approved by the Engineer. Loose parts dispatched by the manufacturer shall be installed and connected as per assembly drawing provided by the manufacturer. Any safety locking provided by the manufacturer for safe transportation shall be released only after the switchboard is erected in position.

The incoming and outgoing cables shall be connected as recommended by cable manufacturer. The cable armor shall be connected effectively to ground.

The Switchboard body shall be connected to earth as per instructions given in section “Earthing “of these specifications. The Switchboard shall be tested and commissioned in the presence of the Engineer. The tests to be carried out shall be tested before energizing as per instructions contained in the article " Testing " of General Specifications of Electrical Works, section E-1 of these specifications.

Note: Shop drawings of Distribution Boards should be submitted for review and approval prior to proceed further.

SECTION-E-03

DISTRIBUTION BOARDS

1.01 SUMMARY

A. Service and distribution switchboards rated 600 V and less.

1.02 PRODUCTS

B. Manufactured Units: front connected, front accessible with panel-mounted / fixed / individually mounted main device and panel-mounted branches.

C. Manufactured Units: front and side accessible with fixed, individually mounted main device and panel mounted branches.

D. Manufactured Units: front and rear accessible.

1. Main Devices: Fixed, individually, Draw out mounted.
2. Branch Devices: Panel, individually, fixed and individually compartmented
3. Nominal Voltage: 230/ 400V
4. Main-Bus Continuous: 600A
5. Enclosure: Steel, NEMA Compliant
6. Barriers: Between adjacent switchboard sections.
7. Insulation and Isolation: Main bus of main section and main and vertical buses of feeder sections.
8. Isolator.
9. Utility metering compartment.
10. Bus transition and incoming pull sections.
11. Removable, hinged rear doors and compartment covers.
12. Hinged front panels.
13. Pull box on top of switchboard.
14. Buses and Connections: Three phase, four wire; Copper, Tin plated Copper / Aluminum
15. Future device provisions.
16. Bus-bar insulation.

E. Over current Protective Devices:

1. Molded-Case Circuit Breaker: NEMA Compliant; thermal-magnetic adjustable / instantaneous-trip, electronic trip, current-limiting and integrally fused types.

   a. Lugs: Mechanical, Compression style.

   b. Ground-Fault Protection: Integrally, Remote mounted.

c. Communication Capability: Circuit-breaker-mounted, Universal-mounted, Integral, Din-rail-mounted, communication module.

d. Shunt Trip: Set to trip at 55 / 75 percent of rated voltage.

e. Under voltage Trip: Set to operate at 35 to 75 percent of rated voltage without intentional (field-adjustable 0.1- to 0.6-second) time delay.

f. Key interlock kit.

g. Zone-selective interlocking.

2. Enclosed, Insulated-Case Circuit Breaker: Fixed mounting.

a. Two-step, stored-energy closing.

b. Microprocessor-based trip units.

c. Remote trip indication and control.

d. Integral communication module.

e. Key interlock kit.

f. Zone-selective interlocking.

g. Control Voltage: 250V |AC, 110V DC

F. Bolted-Pressure Contact Switch: Rotary-mechanical-bolting action, with auxiliary switches, ground-fault relay, and open-fuse trip device.

G. High-Pressure, Butt-Type Contact Switch: Butt-type contacts, with auxiliary switches, ground-fault relay, and open-fuse trip device.

H. Fused Switch: NEMA Compliant

I. Instrumentation:

1. Instrument Transformers: NEMA and IEEE Compliant

a. Potential transformers.

b. Current transformers.

c. Control-power transformers.

d. Current transformers for neutral ground and ground-fault current sensing.

2. Multifunction digital-metering monitor.

3. Ammeters, voltmeters, and power-factor meters.

4. Instrument switches.

5. Feeder ammeters.

6. Watt-hour meters.

7. Recording demand meter.

J. Control Power: 230 V with electrically / mechanically interlocked main and tie circuit breakers].

K. Accessories:

1. Accessory set including tools.
2. Portable test set.
3. Circuit-Breaker Removal Mechanism: Portable elevating carriage, Overhead, mounted at top / front of switchboard.
4. Spare-fuse cabinet.
5. Fungus proofing.

L. Identification: internally affixed schematic diagrams.

1.03 FIELD QUALITY CONTROL

M. Testing: Certifications by Principal, Contractor engaged agency, Factory acceptance testing

- END OF SECTION –

SECTION-E-04

INTERNAL LIGHTING

1.0 SCOPE OF WORK

The work under this section consists of supplying, installation and commissioning of all material and services of the complete light fixtures as specified herein and given in the Bill of Quantities.

The Contractor shall discuss the electrical layout with the Engineer and coordinate at site with other services for exact route, location and positions of light fixtures.
The light fixtures with accessories shall also comply with the General Specifications for Electrical Works, and with other relevant provisions of the Tender document.

2.0 GENERAL

The description of light fixtures in given Bill of Quantities, and stated in the BOQs, and relevant material are described in this section. The determination of quality is based on certified photo-metric data covering the coefficient of utilization, light distribution curves, construction material, shape, finish, operation, etc.

The Contractor shall submit two samples of each and every light fixture specified and obtain approval of the Owner before purchasing. The quality and finishes of local make light fixtures (if mentioned in BOQ) shall be same as that of standard manufacturer.

All fixtures shall be finished in standard color schemes as mentioned in the manufacturer's catalogue for respective fixtures, unless specifically stated in the Specifications, or Bill of Quantities or directed by the Engineer.

3.0 STANDARDS

In compliance to following standards where applicable

- IEC 60598 Luminaries.
- IEC 62031 LED modules for general lighting-Safety requirements.
- IEC 62384 DC or AC supplied electronic control gear for LED modules performance requirements.
- BSEN 1838 Emergency Lighting

Any other standard referred in this specification.

4.0 LED Light Fixtures

The light fixture shall be as stated in bill of quantities. The light fixture shall be finished in standard colors unless otherwise stated or directed by Engineer. All LED light fixtures shall be of international standard and quality. The type of fixtures with manufacturer catalogue reference is given on the fixture schedule and in Bill of Quantities. Equivalent fixture may be acceptable provided that the Contractor submits for review all necessary data indicating photo-metric curves to show that the fixture proposed are of the same type, construction and quality.

The lamps for light fixtures shall be Light Emitting Diodes with driver and shall be supplied and installed according to the wattage as indicated in BOQ. The guaranteed life expectancy and performance of all LED lighting fixtures shall conform to L70B20 requirements at 50,000 hours or better. The Color Rendering Index (CRI) shall be Ra >80 or better.

Weather proof light fixture shall comprise of cast aluminum body and gasketed clear glass cover secured to the body by means of galvanized nuts / screws to give a weather proof and water tight fit. The gasket shall be weather resistance type.

The LED light fixtures shall be supplied complete with driver and all accessories as per light fixture schedule and shall be installed in accordance with manufacturer’s recommendations and sound engineering practice.

5.0 INSTALLATION

5.1 General

The mounting heights of light fixtures are indicated in the BOQs, and position of fixtures according to the mentioned scale.

The Contractor must ensure that the light fixtures are installed uniformly with respect to the dimensions of the area. Any modifications due to site conditions may be made with the approval of Engineer. All fixtures shall be carefully aligned before fixing in position. All fixing accessories such as ceiling rose, flexible cord, lamp holder, suspension rod; pipe or chain with suitable canopy, etc., shall be provided and installed.

The wiring between terminal box and the fixture shall be carried out with 3 core 0.75 sq. mm and I sq. mm copper conductor, PVC / PVC cable respectively for circuits protected by 10 amps and 15 / 20 amps MCBs. The wiring inside light fixture body shall be done with heat resistant cables or PVC insulated cable in heat resistant sleeves as approved by the Engineer.

Glasses, shades, reflectors, diffuses, etc., must be in a clear condition after installation.

All light fixtures shall be earthed by an earth wire connected to the earth terminal in the fitting.

5.2 Indoor Light Fixtures

The indoor light fixture shall be installed on the surface of ceiling or wall by means of nylon plugs and galvanized steel screws, such that their back finish flush with the surface for exposed conduits and flush with outlet box for concealed conduit system. Wherever convenient, screws for fixing light fixtures shall be screwed into the holes of the outlet box. The light on false ceiling shall be installed in accordance with manufacturer's recommendations and in coordination with ceiling installation.

5.3 Outdoor Lighting

For illumination around buildings during dark hours, light fittings in various arrangements shall be provided in accordance with these specifications.

The Contractor shall essentially use the standard products of a manufacturer, regularly engaged in the manufacturer of the product and shall meet the requirement of the specifications.

SECTION-E-05

CONDUITS AND PIPES

1.01 SUMMARY

The Contractor shall ensure exact location and route of conduit and pipes in coordination with as per site requirements and as directed by the Engineer.

The quality and material for the accessories of conduits and pipes such as sockets, elbows, bushings, bends, inspection / pull boxes, round boxes, etc., necessary for the completion shall be similar to that of conduit or pipes. All the accessories shall be supplied by the Contractor without any extra cost and deemed to have been included in the price of conduits / pipes.

Note: The Contractor shall ensure exact location and access panel in coordination with other services/architectural drawings, as per site requirements and as directed by the Engineer.

1.02 STANDARDS

In compliance to following standards where applicable

BS 31	Steel Conduit and accessories
BS 1378	Galvanized Iron Pipes and accessories.
BS 3595	PVC Pipes and accessories.
BS 4607	PVC Conduits and accessories.

Any other standard referred to in above standards or these specifications.

- END OF SECTION -

SECTION-E-06

LIFT

1 GENERAL

This section shall cover Lifts where indicated on the drawings and specified herein. Any conflicts between the requirements in this specification and the codes, drawings, standards and specifications referred to herein shall be brought immediately to the attention of the Engineer for resolution. The Bidder shall submit technical data sheets, outline drawing and printed technical literature to fully elaborate offered equipment. **The Bidder is advised to visit the site to check the available space for lift shafts, pit depth and location for all allied equipment etc. to ensure that offered equipment will suit to existing conditions.**

2 SCOPE OF WORK

2.1 General

Following lift work is required for SBP BSC North Nazimabad,

- One (01) brand new Passenger Lift, having minimum of capacity 800 kg at least, serving ground to 2nd Floor (03 Stops).

The scope of work shall cover preparation of the area and design, supply, installation, testing & commissioning of brand new Passenger lift and allied equipment including hoisting machinery, sheaves and girders, controller, car, ropes, counterweights, supports, brackets and guides for car & counterweights, car & landing doors, door operator, switches & control, safety devices, signals, governor, safety gears, buffers, pit screens, well trimming girders, pit access ladder, trap door and such related accessories complete in all respects as specified herein.

The Contractor shall also furnish all labor, erection equipment, (i.e. winches, scaffolding etc.), erection tools, appurtenances, embedded parts and materials, etc. necessary for installation of the lift and thereafter supply, install, test & commission the new lift in perfect operating condition in accordance with these Specifications and Drawings.

The Contractor shall submit design drawings / shop drawings as per the Work program after award of work as for approval of Engineer. The lift design shall be reviewed by the Original Equipment Manufacturer (OEM). The drawings must show final arrangement of equipment, dynamic & static loads imposed on the building, openings, location of embedded parts etc. wiring and control logic diagrams.

The Contractor shall be responsible to make good any damage done to the civil works for erection or other purposes without cost to the Employer.

The Contractor shall also provide and install, from designated electrical power supply point, all required cabling and accessories without cost to the Employer.

The Contractor shall maintain the works during defect liability period. In addition to routine periodic maintenance, the Contractor shall execute all such work of repair, rectification, parts replacement and making good defects occurring during this period.

The Contractor shall also quote the amount for purchasing the dismantled lift in his Bid which is given in BOQ.

The Contractor shall also provide training to the staff of Employer regarding operation and maintenance of the equipment.

Prior to substantial completion date, the Contractor shall submit 3 copies of Operating and Maintenance Manuals for lift to the Employer/Engineer.

2.2 Technical Support Services of Lifts during Defect Liability Period

After successful completion of all works, the contractor shall maintain the lift during the defect liability period of (01) year (warranty period) and shall supply all necessary labor, tools, parts, spares, consumables and other material for smooth and uninterrupted operation and maintenance and to rectify or repair defects as per the Contract agreement.

The technical resource shall be deputed in lift machine room during office hours, Monday to Friday and Saturday for maintenance activities, the technical support services shall be made available after office hours and weekends in case of any emergency / fault condition. The overtime for the services beyond office hours from Monday to Saturday may be considered by the Employer as per the terms of the Contract agreement.

No separate payment will be made by the Bank for rectifying defects, providing spare parts, consumable or labor for the above mentioned works. The cost thereof shall be deemed to have been included in the quoted rates of the respective item of the schedule of prices.

3 Methodology for Performing of Works

No extension in project completion period and no extra payment shall be made to the Contractor if the work is delayed due to above mentioned requirement.

4 Applicable Codes and Standards

The standards and codes applicable to only a portion of the works specified in this section are referred in the relevant clauses of this section. The works shall generally conform to standards & codes (latest additions) listed hereunder:

British Standards Specification (B.S.)

B.S. 5655/	:	Safety rules for construction and installation of electric lifts
EN 81		Parts 1, 5, 6, 8, 9 & 10 with Appendices

International Standards (I.S.O.)

ISO 4190-1	:	Part-1 Lift installation (Class I, II, III & IV lifts).

American Welding Society (AWS)

AWS B 3.0	:	Standard Qualification Procedure
D 1.1	:	Structural Welding Code

National Electric Manufacturer's Association (NEMA)

NEMA-1CS6	:	Enclosures for Industrial Controls and System

National Electric Code (NEC) by NFPA

NFPA.70	:	National Electrical Code
ANSI-A 17.1	:	American National Standard Institute "Safety Codes for Elevators & Dumbwaiter"

Other authoritative codes and standards which ensure equal or higher quality than those referenced may also be acceptable subject to approval of the Engineer.

Any conflict between the requirements of this specification and those on the figures herein or in the codes, standards and specifications referred to herein shall be brought to the attention of the Engineer for resolution whose decision will be final and binding.

5 Packing

The Contractor shall prepare all articles and materials for shipment in such a manner as to protect them from damage in transit or loss from repeated handlings and withstand extremes of climate during transport and storage at site. Packing's shall be non-returnable. Safe delivery of materials will be responsibility of the contractor.

6 Handling & Storage

The Contractor shall carry out port clearance, arrange inland transportation and deliver at site the lift machinery/equipment in their original packages and bundles bearing identification tags. A dry and protected area, close to work site, will be assigned to the Contractor for storage of his materials and tools. The Contractor shall store the equipment at his own cost and arrange guards to ensure safety of equipment.

7 Painting

7.1 General

All lift equipment including exposed steel work, ferrous metal parts of machine room equipment, gear & controllers, structures, cars, doors, guide rail fixings and other materials in the hoist way (except guide rails) shall be properly prepared, primed, undercoated and then painted in accordance with recognized international standards. The type and shade of paints particularly the finishes shall be subject to the approval of the Engineer.

7.2 Preparation of metal surfaces prior to painting

Before application of primer, all surfaces shall be made clean and free from rust and grit by means of blast cleaning. Automatic blasting may be used with most of the common abrasives such as shot, chilled iron, cut wire, or proprietary grit abrasives. The surfaces shall be immediately painted after blast cleaning. In the event the surface become otherwise contaminated in the interval between cleaning and painting, re-cleaning shall be done before painting.

Surfaces of stainless steel, aluminum, bronze and machined surfaces adjacent to metal work being cleaned or painted shall be protected by effective masking or other suitable means, during the cleaning and painting operations.

7.3 Application of Paints:

All paints shall be in a thoroughly mixed condition at the time of application. All work shall be done in a workmanlike manner, leaving the finished surface free from drips, ridges, waves, laps and brush marks. All paints shall be applied under dry and dust free conditions. Unless approved by the Engineer paint shall not be applied when the temperature of the metal or the surrounding air is below 45^0F. Surfaces shall be free from moisture at the time of painting.

The first coat of paint shall be applied immediately after cleaning. When paint is applied by spraying, suitable measures shall be taken to prevent segregation of the paint in the container during painting operation. Effective means shall be adopted for removing all free oil and moisture from the air supply lines of the spraying equipment. Each coat of the paint shall be allowed to dry or harden thoroughly before the succeeding coat is applied. Surfaces to be painted that will be inaccessible after assembly shall be completely painted prior to assembly operation.

8 Materials & Workmanship

8.1 Materials

All materials shall be of the highest grade, free from defects and imperfections, of recent manufacture and unused, and of the classification and grades designated, conforming to the requirements of the latest issue of the appropriate specifications and standards. All materials, supplies, and articles not fabricated by the Manufacturer shall be the products of recognized reputable manufacturers.

8.2 Workmanship

All work shall be performed and completed in a thorough workmanlike manner and shall follow the best modern practice in the manufacture of high-grade machinery, notwithstanding any omissions from the Bid Documents. All work shall be performed by mechanics skilled in their various trades. All parts shall be made accurately to American Standard or other approved gage, where possible, so as to facilitate replacement and repairs. All bolts, nuts, screws, rivets, threads, pipes, gages and gears shall conform to applicable American or other approved standards.

8.3 Structural Metal Work

The fabrication of the Structural Steel shall be performed strictly in accordance with these specifications and shall otherwise conform to the latest revision of the American Institute of Steel Construction "Specifications for the Design, Fabrication, and Erection of Structural Steel for Buildings". Surface finish shall conform to ANSI Standard B 64.1 Surface Texture. The Manufacturer shall be responsible for all errors of fabrication and for the correct fitting of the elements of the equipment. Structural Steel shall be thoroughly straightened by methods that will not result in injury. Sharp kinks or bends in members to be straightened will be cause for rejection. Completed work shall be free from kinks, bends or winds. Shearing shall be accurately done, with neat finish. Corners shall be square and true unless otherwise shown on the Drawings. Re-entrant cuts shall be made in a workmanlike manner and, where they cannot be made by shearing, a re-entrant punch may be used. Re-entrant cuts shall be filleted unless otherwise approved by the Engineer. Bends, except for minor details, shall be made with approved dies or bending rolls. Where heating is required, precautions shall be taken to avoid overheating the metal, and it shall be allowed to cool in such a manner as not to destroy the original properties of the metal. Steel with welds will not be accepted except where welding is definitely specified, called for on the Drawings, or otherwise approved. Low-carbon structural steel may be cut by machine-guided or hand-guided torches instead of shears or by saws. Flame cutting of material other than low-carbon steel shall be subject to approval and where proposed shall be definitely indicated on detailed drawings submitted to the Engineer. Where a torch is mechanically guided, no chipping or grinding will be required except where necessary to re-move the slag and sharp edges. Flame gouging will be permitted in preparation of welding where a torch is hand-guided. All cuts shall be chipped, ground or machined to sound levels.

9 Works Description

9.1 General

New lift shall be installed by the Contractor at locations and in the positions in the lift well and machine room as per site.

Structurally the lift well has to be designed to withstand the loads normally expected for lifts of such capacity. The Contractor is recommended to provide equipment loading on the lift well and pits of lift sufficiency in advance to ensure conformance and stability of the structure for the installation and operation of the equipment.

Any changes in the lifts shaft and pit floor structure or other design changes due to particular equipment requirement shall be submitted by the Contractor to the Employer/Engineer for approval within 15 days from the date of Award of the Contract. All such approved amendments shall be made by the Contractor without any additional cost to the Employer. Similarly, the lift contractor must coordinate the installation with the other trades. The machine room of Lift is above the shaft. The machinery layout shall suit the machinery room orientation so as to allow easy access and sufficient space for maintenance work.

Sound reducing materials to isolate motor set from beams and building structure, balance rotating parts to eliminate vibrations and flexible electrical conduits shall be provided. The operation of lift car and doors shall be completely free from all abnormal jerks, vibration and sound. The maximum sound level within the car must be within comfortable limits for human beings (max 45 db).

9.2 Civil Construction

a) Lift Well

The lift shall be installed in the new lift well.

The Contractor, however, shall be responsible to carry out minor correction for the purpose of installation of guides in perfect plumb and other equipment to ensure perfect installation and operation of the lift without any cost to the Employer.

b) Hook/I-beam for Equipment Installation

Hook/I-beam shall be available on ceiling of the lift well to facilitate installation and maintenance of equipment. The exact location of the hooks/I-beam and any additional requirement in the lift well shall be intimated in advance within 15 days by the Contractor for incorporation in the civil works.

9.3 New Lift

The lift offered by the contractor shall be equipped such controls and interfaces to be connected with and respond to the Integrated Building Management System (BMS) of building. The construction and functional details are given hereunder:

9.3.1 Lift Car

a) Car Frame & Platform

The car frame, consisting of upper yoke with cross yoke side braces and bottom frame shall be made of welded or bolted steel channel sections, sufficiently rigid to withstand the operation of the safety-gear without permanent deformation of the car frame. The elevator car, platform, door operating mechanism, safety doors, maintenance station etc. shall be mounted on car frame.

The deflection of the members carrying the platform shall not exceed 1/1000 of their span under static conditions with the contract load evenly distributed over the platform.

Roller guides, mounted on car frame, shall have individual suspension to cushion jolts and minimize noise and vibration.

The platform shall be of fabricated frame of formed and structural steel shapes gusseted and rigidly welded, with provision for a floor covering as specified with the car body work. Rubber pads of sufficient size shall be provided between the car frame and the platform to provide sound and vibration isolation.

The underside of the platform will be covered with sheet steel to provide adequate fire resistance.

An aluminum sill grooved to suit door spuds shall be fitted to the platform together with a toe-guard.

The car bodywork shall be carried on the platform with the top fixing to the car frame being suitably isolated.

All auxiliary equipment shall be mounted and supported from the car frame.

b) Car Bodywork

The car bodywork shall be of steel construction with provision for interchangeability of décor finishes and ceiling designs. The roof shall be constructed to withstand the weight of two men without deformation.

The car top shall have provision for emergency communication. A 3-pin socket outlet shall be fitted on top of the Lift car, besides two outdoor protected type lights one each at the bottom and top of the car operated through an MCB.

c) Finish

The car enclosure shall be as per technical data sheet. Recessed kick plate 6" high of stainless steel shall be provided on the three walls of the lift car. The floor shall be provided with sheet steel sound – isolated platform with granite flooring unless otherwise specified.

A 6 mm thick full width safety glass mirror will be fitted between the ceiling and half height of the rear wall of the car.

Ceiling shall be of removable type with modular light fittings and emergency exit with safety switch.

Handrails on three walls shall be provided with satin finish standard stainless steel hollow section. Fixing brackets shall also be in stainless steel.

Notwithstanding the above, the design and finish of car interior together with suspended ceiling, light fittings, floor covering and other fittings shall be to the Engineer's approval. The Contractor shall offer various options of car finish with his bid.

d) Intercom System

The Contractor shall provide a suitable intercom system to enable two-way communication to an attendant in the machine room. The system design shall be subject to approval by the Employer. Contractor will be responsible for all necessary wiring, connections and satisfactory operation of the lift intercom system.

9.3.2 Doors

a) Landing Doors

Each landing shall be provided with two panel center opening doors unless otherwise specified in technical data sheet. The doors, frames and architraves (if applicable) shall be made of stainless steel in satin finish. The door panels shall have a fire resistance rating of at least one hour. The panels shall be interconnected by a maintenance- free self-tensioning synchronizing wire rope.

Each landing shall be equipped with a toe-guard apron at the hoist way entrance side. The toe-guard apron shall be of sheet steel not less than 16 gauge thick, and shall extend not less than 50mm beyond the entrance jamb at each side. Toe-guard apron shall be approximately 2 feet deep, adequately fastened and braced, the lower edge turned inward.

The frames shall be of 14 SWG (min.) and panels fascia, toe-guards, dust and hanger covers shall be of 16 SWG. All other features not covered above shall be similar to that specified under Car Doors.
Each landing entrance shall be equipped with an approved type factory tested interlock as required by the code. The interlock shall be designed to prevent moving of the car away from the landing until the doors are locked in the closed position as defined by code and shall prevent opening of the doors at any landing from the corridor side unless the car is at rest at that landing or is in the leveling zone and stopping at that landing.
Landing door unlocking device as specified by the ANSI A17.l or B.S. 5655: part 1 Code shall be provided to permit authorized persons to gain access to hoist way when Lift car is away from the landing.
Each Landing door or door panel shall be furnished with sheave type two-point suspension hangers and tracks complete in all respects. The sheaves shall have polyurethane tires with ball bearings sealed and lubricated for life. Hangers shall be provided with an adjustable slide to take the up-thrust of the doors. Tracks shall be of cold drawn steel shapes with smooth surface and shaped to conform to the hanger sheaves. Tracks shall be removable for replacement.

b) Car Doors

The car doors shall be two panel center-opening type unless otherwise specified in technical data sheet under para 11. The door-gear shall be operated by VVVF AC drive. The door gear shall be built-in unit with the car door top track support, mounted on the car entrance column extensions.

A retractable car door coupling shall be provided to connect the car and landing doors to eliminate any backlash and ensure complete door synchronization.

The car doors, frame and front shall be of stainless steel (satin finish) with panel construction and other features such as fire rating, etc. similar to the Landing Doors.

The door panels shall be suspended from sheave hangers with polyurethane tires and sheaves running on a polished steel track, and guided at the bottom by non-metallic shoes sliding in an extruded aluminum threshold groove.

If the car is stationary at floor level with the doors closed, it shall be possible to open the car doors from inside the car by pushing the car door in the opening direction. To open the doors from the landings, the triangular key must be used.

c) Door Safety Devices

i) Full Width Light Curtain

The car doors shall be fitted with light barrier system extending from 25mm above floor level up to a height of 1600mm, operating between car and landing doors. The barrier system shall comprise of a transmitter and a receiver strip containing several pairs of transmitters & receivers generating a large number of invisible light rays. In case if any one of these rays is interrupted, the control unit immediately reverses the door motion. The light curtain shall recalibrate itself at regular interval to update its scanning cycle.

In addition to above, the car doors shall be provided with an additional safety such as Door closing force limiting device or photoelectric beam etc. to maintain operational safety in case of failure of the main light barrier system.

ii) Door Open Timing Feature

The door operation shall also have door open timing feature operation in conjunction with light rays to provide adjustable, reduced, hold open time once rays are broken and re-established. In the event rays are broken beyond an adjustable time, a buzzer shall sound and doors to close at reduced speed.

d) Door Operator

A variable frequency controlled variable speed door operating unit capable of opening and closing car and landing doors simultaneously shall be mounted on the car frame independent of the car bodywork. The mechanism shall be designed to achieve smooth acceleration and retardation of doors without the use of dashpots. All pivot and bearing points shall be of steel and nylon or bronze bushed pins, ball or roller bearings suitably lubricated shall be fitted.

The driving mechanism shall be designed such that:

The closing force applied to the doors shall meet the requirements of B.S.5655: Part I.

The car doors can be opened by hand in the event of a mains failure.

The motion of the doors will be reversed if they meet an obstruction. An AC motor with VVVF drive to provide variable speed shall be provided to obtain the performance required by the control system.

Mechanical Control Station, carrying controls and equipment as specified in B.S. 5655 shall be fitted on the top of the operator.

9.3.4 Hoist way Equipment

a) **Stainless steel coated belt Hoisting System**

Carbon Fiber Hoisting/ Belt technology shall be used for hoisting of lifts. The hoisting system must be complaint with elevator standards and equipped with belt monitoring mechanism as well.

b) Guides, Fixings and Inserts

The guides shall consist of high quality 'T' section steel of adequate strength and dimensions suitable for travel, car weight, speed and lift capacity. Guiding surfaces shall be accurately machined. The joints shall be spotted and joined by machined steel finish plates.

Guides shall be of sufficient length to prevent any of the car or counterweight shoes from running off the guides.

All guides are to be securely fixed to the walls of the lift well by steel brackets bolted to metal inserts or by other approved means. Rag bolts shall not be permitted. All metal inserts, fixings, guide rails, anchor bolts etc. shall be provided by the lift Contractor.

Guides shall be so jointed and fixed to their brackets that they do not deflect by more than 3mm under normal operation.

Guides and their fixing shall withstand the application of the safety-gear without permanent deformation when stopping a fully laden car or the counterweight.

The bidder will have to provide new guide rails and amount may be incorporated in BOQs.

c) **Counterweight**

The bidder will have to provide new counterweight and amount may be incorporated in BOQs.

A counterweight equal in weight to the car plus 40% to 50% of the specified load shall be provided to each lift. Structural Steel frame shall support requisite number of cast iron weights. It shall be fitted with guide shoes and suspension arrangements and accessories suitable for specified lift capacity.

Car and counterweight are to be fitted with roller guide shoes unless otherwise specified.

d) **Safety Gear and Governor**

A friction type progressive safety gear actuated by centrifugal over speed governor shall be securely bolted to the car frame under the car platform.

The governor wire rope operating the safety gear mechanism shall not be less than 8mm diameter.

The tension weight fitted with an electrical safety device shall be provided to cause the hoist motor to stop should the governor rope break or slacken.

The governor shall be fitted with a direct driven unit to relay to the control system both the speed and position of the lift in shaft.

The governor shall be equipped with two electrical switches, preset to operate progressively in case of over speeding to reduce the lift speed in the first stage and it the lift speed is not brought under control, operate to cut of power supply to the hoist machine and apply brakes.

If the car continues to travel downwards at excessive over-speed, the mechanical trip shall operate causing the governor jaws to grip the rope to bring the safety gear mechanism into operation causing the jaws to grip the guide rails equally through self-aligning friction shoes thus bringing the car to rest gradually and smoothly. The governor and safety gear shall be released by raising the car.

The governor and safety gear shall be adjusted to operate as specified by B.S. 5655.

e) **Buffers**

Oil buffers of spring-return type (unless otherwise stated) shall be supplied and installed in pit under car and counterweight for each Lift. The minimum total stroke of the buffer shall be based on the retardation of 32 feet/sec.2 based on 115% contract speed. The maximum rate of retardation of the oil buffers based on 115% contract speed shall be 80.5 feet/sec.2 excluding any transient declarations having duration not exceeding 0.04 sec.

The buffers shall be mounted on continuous channels securely anchored to the pit floor and fastened to the guide rails. The channels, anchors and any additional supports required for buffers shall be provided by the Contractor.

The buffers shall be fitted with means of ascertaining the correct amount of oil in the buffers.

Each buffer shall be permanently and legibly marked to indicate the type and quantity of oil to be used within the buffer.

The buffers shall be self-setting type fitted with safety device to ensure its return to their normal position after operation.

f) **Final Limit Switches**

The lifts shall be equipped with an automatic device arranged to bring the car to a stop at the terminal landings independent of the regular operating devices in the car. Final limit switches should stop the car and prevent normal operation should it travel beyond the normal stopping device.

Separate control devices for normal stopping and final limit switches shall conform to the requirements of BS 5655: Part I.

9.3.5 Controller & Control System

The lift offered by the contractor shall be equipped such controls and interfaces to be connected with and respond to the future Integrated Building Management System (IBMS). Manufacturer's interface software, if available, licensed to State Bank of Pakistan may also be provided with hands-on training.

a) Controller

The controller shall be floor mounted, upright type enclosed in enamel finish steel cabinet with either hinged doors at the front and removable panels at back or hinged door both at front and back.

The control system shall be microprocessor based and fitted with all safety devices to protect equipment and motors from damage in the event of overload or other malfunction. Protection against phase reversal shall be provided as per code and BMS.

The driving unit control module, comprising of power and command module, shall control drive performance parameters. The controller unit shall control acceleration & deceleration, speed and the jerk rates during change in acceleration or deceleration to provide step less speed variation for maximum passenger comfort. The jerk rates shall be individually adjustable to user's satisfaction. Upon receiving signal to perform journey, the command module shall evolve optimum speed profile for each journey and trigger power module for AC/DC and DC/AC conversion for necessary drive current and voltage to obtain desired motor torque.

The controller shall control car motion on feedback from motor-mounted tachometer and operate the brakes of hoisting motor through the signals received from micro switches and load weighing devices.

The controller shall be arranged to cut off the power supply, apply the brake and bring the car to rest upon failure of operation of any of the electrical safety devices.

The controller shall meet the requirements as specified in BS 5655.

b) **Control System**

i) General

The design of control system shall be based on functionally arranged section modules featuring high degree of efficiency, economy of operation, adaptability to changing operating conditions, safety and reliability in operation through maintenance free electronic circuitry.

The control equipment shall be microprocessor based electronic solid state. The total system shall be designed to operate in normal machine room ambient and incorporate full protection against noise and electrical interference generated within the power section, controller and switchgear. The system design shall allow the control algorithm to be reprogrammed by software changes.

The Controller for each main bank lift shall be capable for individual lift control as well as group control. It shall be state-of-art microprocessor based controller capable of high- speed data transmission and analysis for optimization of traffic control.

All modules shall be tested at the manufacturer's works prior to installation. System component shall be subjected to environmental endurance, thermal shocks and salt spray in test chambers.

The control system for the Passenger lift shall be Group Supervisory type as per technical data sheet with provision to operate any lift independently from the group if another lift is installed in future.

ii) Group Supervisory Operational Mode

The operational mode of the Passenger lift shall be group supervisory automatic control if more than one lift.

The control system shall be provided with a parking feature, which returns the car to the main floor when there are no calls in the system.

The lift shall be provided with individual landing station and operated from interconnected landing buttons including two operating devices in the car. Single touch buttons shall be mounted at each terminal landing.

On touching car or landing buttons, (other than those for landing at which car is standing) shall start the car provided interlock circuits are established and causes car to start traveling in the direction of registered call. Car shall stop at the designated landings for which calls are registered with stops made in order in which landings are reached, irrespective of sequence in which calls are registered, provided call for a given landing is registered sufficiently in advance of arrival of car at that landing to permit stop to be made.

If there are no car calls and car starts up in response to outside landing calls, car shall proceed first to the highest down call and then reverses to collect other down calls. Up landing calls shall be collected similarly when car starts down in response to such calls. If car stops for a landing call and a car call is registered within a predetermined interval after stop for a landing corresponding to direction car was traveling, car shall proceed in the same direction regardless of other landing calls registered.

If DOWN landing buttons are touched while car is travelling up, car shall not stop at these landings, but calls remain registered. After highest car and landing calls have been answered and door interlock circuit is established, car shall reverse automatically and respond to down car and landing calls. When traveling down, car shall not respond to up landing calls, but calls shall remain registered and answered on next up trip. No double door operation shall be permitted.

iii) Load weighing

Means shall be provided for weighing cargo/ passenger load. Control system shall be designed to provide dispatching in advance of normal intervals and to provide landing call by-pass when the car is filled to approximately 80% of full capacity load.

Settings shall be individually adjustable. A buzzer shall be provided to indicate overload in lift

iv) Door Operation

Doors shall open automatically when a car arrives at a terminal to permit egress of passengers. When another car is at the terminal and is loading for departure or upon expiration of a timed interval, the doors shall close until car is designated for loading. In the event a passenger has entered the elevator, the doors shall reopen upon registration of call on the car button or by pressing the door open button. If no other car is at the terminal, an arriving car shall have its doors open until the car is dispatched or expiration of a timed interval with no demand.

v) Automatic leveling

An automatic 2-way leveling device shall be provided, designed to govern the leveling of the car to within 6mm above or below the landing sill. The leveling operation shall avoid over-travel, under-travel, of the car and maintain the leveling accuracy regardless of the load in the car, direction of travel, rope slippage or stretch in ropes.

vi) Independent Operation

Controls shall be provided for operation of the lift from car buttons only. A key operated switch shall be provided in each car.

vii) Emergency Features

1) Emergency operation: The Lift shall be equipped with control system to operate and recall the cars in fire or other emergency conditions and to allow the lift to run on emergency power supply.

The operation of lift on emergency service shall be as follows:

- The Lift shall be operable only by a person in the car.
- Lift shall not respond to Lift corridor calls.

The opening of power operated doors shall be controlled only by buttons or switches. If the switch or button is released prior to the doors reaching the fully open position, the doors shall automatically re-close. Open doors shall be closed by either the registration of a car call or by "door close" switch or button.

Lifts shall be removed from emergency service by moving the emergency service key-operated switch in the car to the 'off' position with the car at the main floor.

2) Emergency Lighting and Emergency Alarm Unit: An emergency light shall be included for the lift car. An automatic change over switch shall be provided in the controller so that upon normal supply failure Emergency power supply shall be provided by the Contractor for the light fixture, exhaust fan, and alarm unit.

The Contractor shall supply a suitable button in the car control station wired to a terminal box fixed in the lift shaft near the bottom floor served. A suitable alarm bell shall be provided and fixed including all necessary wiring connecting up to the terminal box.

The power for the emergency lighting, exhaust fan and alarm bell shall be from the same emergency supply consisting of rechargeable nickel cadmium battery unit with trickle charger and 10 years' minimum life expectancy.

3) Emergency power transfer: In the event of normal power failure, adequate emergency power will be supplied through Employer furnished stand-by generator to run the Lift.

4) Automatic power evacuation device (Automatic Rescue Device (ARD): In the event of normal power failure the lift shall be provided with an automatic evacuation device which will bring the lift car to stop at the next floor and open the doors.

5) Hand Winding System: Provision shall be made on each hoisting machine such that the lift car can be raised or lowered during emergency by manual operation.

6) Intercom: The Contractor shall install for each lift, an intercom facility with control room or at location designated by Employer for 24 hours communication.

7) Earthquake control: In the event of an earthquake, the lift facility shall be provided with a seismic detector which will bring all cars to stop at the next floor and open the doors.

8) Fireman Switch: A fireman switch shall be provided in the ground floor lift lobby. In the event of fire & upon manual actuation of the fireman switch, all the registered calls shall be cancelled and shall stops at the designated parking floor and open the doors.

The emergency alarm unit shall also sound once the fireman switch is actuated.

9.4 Signals & Fixtures

9.4.1 Integrated Hall Indicator

An integrated hall indicator consisting of digital car position indicator (revealing floor position of car) and illuminated or digitalized arrows indicating the arrival and departing direction, as determined by the control system shall be installed for each individual lift and at each landing. A two tone electronic gong shall also be provided for audible announcement of the arrival of the lift car.

9.4.2 Landing Call Station

Landing call station fitted with call buttons shall be installed at each landing. It shall be designed for mounting on the landing door frame or on adjacent side wall, subject to Engineers' approval.

The call buttons shall be of micro-movement type, constructed of stainless steel presell suitable for long arduous duty. The translucent surround of the button shall illuminate to indicate acceptance of call signal. The presell shall incorporate two light emitting diodes. The presells shall be mounted flush with the faceplate. The faceplate shall be of stainless steel 2mm thick, fixed with tamper resistant screw.

The call buttons of each landing station shall be inter-linked such that with the pressing of call button of any lift, call buttons of lifts in the same direction shall light up and record the call.

9.4.3 Car Station

The car station shall be integral with the front return of the car and constructed from 1.6mm thick stainless steel, plate of natural satin finish.

The hinged full height front panel of the car station shall carry the controls and indicators. The panel shall be fitted with a secret release, which can only be opened from the back of the trough. When the hinged panel is opened an isolate/ normal switch shall be available.
The car-operating panel shall contain at least the following controls:

- Alarm button
- One floor button for each floor served
- Open door button/hold on button
- Key operated car independent service switch
- Key operated fan switch
- Digital car position indicator and direction arrows

All buttons shall be set flush with the panel surface for maximum resistance against abuse. When operated, a LED illuminated halo shall surround the buttons thereby informing that the call has been registered. The buttons shall be plastic presell engraved with the appropriate floor marking.

COP shall be equipped with car call cancellation feature. This feature should allow cancellation of an incorrect registered car call by pressing the floor button twice.

The digital car position indicator and direction arrows shall be positioned above the buttons.

9.5 Power Supply & Electrical Installations

9.5.1 General

The power supply at load break switch will be provided at suitable place. All further wiring, controls and providing proper distribution boards, along with necessary material and accessories beyond the power supply points shall be supplied and installed by the Contractor. The electrical installation and appliances shall comply with B.S. 5655: Part I.

9.5.2 Wiring Installation

All wiring shall be carried out in accordance with the IEE regulation, NEC standard and B.S.S. wherever applicable.

All cables shall be PVC insulated, and if required PVC sheathed also, single or multi-core having tinned copper conductors. Cables for different voltage circuits which are run together must have the insulation rating, suitable for the highest voltage present. Wherever cables are subjected to high temperature such as termination to car light, it shall be protected by suitable heat resistant sleeve. At all terminations, cable ends shall have numbered ferrule to match with the mark on respective component and control drawings. All wiring shall be continuous between terminations.

Travelling cables between the lift well and lift car terminal boxes shall be suspended by looping over reels or by suitable clamps. The connections in the terminal boxes shall be marked for identification purposes.

Travelling flexible cables shall be fire resistant and shall comply with B.S. 6977.

9.5.3 Trunking and Conduits

All wiring from machine to motor controls at each floor and to other circuits shall either be run in 16 SWG galvanized steel conduit or trunking, the selection and route of which shall depend on the number of cables and ease of installation and maintenance. If trunking installed it shall have removable covers, and the trunking finished in dark grey enamel as per B.S. 381C. Fixing arrangements of conduit of trunking shall be vibration proof suitable for the existing conditions. All connections from trunking or conduits to motors or other equipment subjected to vibration shall be with flexible galvanized steel conduit. All trunking and conduit shall be continuous throughout the length to ensure good earth continuity.

9.5.4 Earthing

Earthing of all equipment and metal work which can be subjected to dangerous voltage under normal operating and fault conditions shall be earthed in accordance with NEC or equivalent standard. One PVC insulated earth conductor of suitable size having yellow color with green tracer shall be run along the trunking or conduit as main earth. All branch circuits in conduit or trunking and other metal work shall have branch earthing cable connected to main earth. All length of trunking shall also be bonded to main earth.

9.5.5 Testing

Testing of electrical installations shall be carried out to the satisfaction of the Engineer in accordance with standard practice and recognized international standards/codes.

9.6 Local Materials

9.6.1 Pit Access Ladder

Rugged steel ladders for easy access to the pits shall be provided by the lift Contractor in all pits.

9.6.2 Pit Screen

A suitable rigid steel screen shall be provided and fixed by the Lift Contractor at the bottom of the lift well where the counter-weight comes down on its buffers and between lifts. The screen shall have a minimum height of 7 ft. or as per code requirements.

9.6.3 Separator Beams & Well Trimming Girders

Properly designed separator beams and trimming girders shall be supplied and installed at proper location in Lift well by the lift contractor to suit fixing requirement of offered lift. The separator beams and trimming girders installed in lift shall be of at least 200 mm rolled I-beams of prime quality structural steel (ASTM A-36 or equivalent).

9.6.4 Trap Door (not applicable)

The Contractor shall provide and install the trap doors of rugged construction in the machine rooms at location shown on relevant drawing to enable access of the hoisting machinery into the machine rooms. The trap door shall be strong enough to temporarily withstand/support heavy machinery. It shall be installed flush with the finished floor when closed and be lockable only from inside the machine room.

The Contractor shall include the above items in his bid price for the lifts.

DESCRIPTION OF TECHNICAL SUPPORT SERVICES DURING WARRANTY AND SERVICE LEVEL AGREEEMENT (SLA)

1. The Contractor must provide warranty, Maintenance and Technical support services as per SLA to run and maintain all the lifts as per following services:

Location	Warranty and SLA	Equipment
State Bank of Pakistan SBP BSC North Nazimabad	a. 01 years' defect liability period / warranty period shall be effective from the date of issuance of Substantial Completion Certificate/ Taking-Over Certificate. b. Service Level Agreement of 12 Months (operation and maintenance) will be effective from the date of issuance of Substantial Completion Certificate/ Taking-Over Certificate of the 1st lift installed/commissioned.	01 Nos. Passenger lift capacity not less than 800 kg with 03 Stops i.e. Ground to 2nd Floor. All Allied equipment such as electrical and control cabinets, batteries, motors, ropes/belts, relays and switches and any other device or component in conjunction with lifts.

2. Major Items of Contract:

The service provider shall be responsible for the continuous and uninterrupted management services of Lift, complete service & maintenance of all lift related equipment controls, components and accessories, repair, preventive maintenance and annual overhauling and servicing of lift.

a) Continuous and uninterrupted management services for the following equipment:

   i. 01 Nos. Passenger lift capacity not less than 800 kg 03 Stops i.e. Ground to 2nd Floor.
   ii. Allied equipment such as electrical and control cabinets, batteries, motors, ropes, relays and switches and any other device or component working in conjunction with above listed equipment.

b) Immediate removal and appropriate disposal of waste, such as used oil and filters, defective lights, and of other such items according to municipal codes and environmental standards.
c) Cleaning and general upkeep of lift cars interior and exterior, shaft wells, and surrounding areas.
d) Any other work assigned by the Bank.

3. **Warranty**

The proposed elevators shall carry a warranty for a period of not less than one (01) year effective from the date of issuance of Substantial Completion Certificate/ Taking-Over Certificate. The entire system/equipment /sub-assemblies etc. shall be free from defective material and workmanship and any shortfall/defect that may appear/be detected within 12 months from the date of issuance of Substantial Completion Certificate/ Taking-Over Certificate.

During the warranty period, the system shall be serviced as and when necessary and all the defective spare parts other than consumables shall be replaced/repaired free of charge. The supplier/supplier's accredited local agent shall attend to scheduled/ unscheduled repair/replacement of parts and associated maintenance free of charge during this period as also specified in the Service Level Agreement (SLA).

4. Lift Technician Services

4.1 Lift technician (at least 01 resource) shall be responsible for timely servicing & maintenance of the system(s), replacement of spare parts, coordination with the Bank and honoring any other terms & conditions included in Warranty and/or SLA.

4.2 Every lift technician must be made aware of the contractual obligations related to repair/maintenance and service of the whole system in accordance with the SLA terms and conditions. All type of maintenance required will be undertaken in a timely manner, and a report of its compliance must be submitted to the Bank every month.

4.3 The Service Provider shall be responsible to comply with all applicable laws of the land to fulfill the regulatory payments under Labor Laws which includes but not limited to:

a. Payment of at-least minimum wages/salaries/remuneration as notified by the respective Government.
b. Ensure EOBI/Social Security registration of its resources and regular payment of contributions.
c. Group Life and Medical Insurance.
d. Casual, medical and maternity or any other leaves as per applicable laws.
e. Any other requirement as applicable under the relevant law.

4.4 The Service Provider will ensure that the terms and conditions of employment/ service of its employees are compliant and in accordance with the applicable labor laws existing in Pakistan and any of the Provinces in Pakistan.

4.5 The Service Provider shall take all practicable steps to ensure that all of its resources comply with the Applicable Law.

5. SLA Severity Matrix:

Severity	RED category	Orange category	Green category
Criteria	The **operational** system(s) or their sub-system(s) is/are down, or a major control component(s) is/are inoperative affecting most of the staff. System(s) or sub-system(s) performance has become unacceptable.	The **operational** system(s) or their sub-system(s) is/are down. The system is operating normally, but a redundant component or supporting feature has failed.	The system is available and performing adequately, however preventive maintenance activity will ensure smooth operation of the lift.
	Example: 1. Inverter failure of main motor of the lift 2. Free falling of lift due to breakage of ropes/belts 3. Operational Interruption of two or more lifts simultaneously 4. Power outage	**Examples:** 1. Failure of the lift due to activation of a safety device 2. Slow or jerky movements, malfunctioning of mechanical components i.e. track rollers, door sleepers, cabin/counter weight shoes etc. 3. Control PCB card error 4. Unusual noises due to main motor bearing malfunction	**Examples:** 1. Doors not closing or opening properly 2. Irregular leveling with the floor 3. Oil contamination 4.
Response Time[1]	Two **(02)** hour	Two **(02)** hour	Two **(02)** hour

Severity	RED category	Orange category	Green category
Recovery Time[2]	Twenty Four **(24)** hours or agreed time	Forty Eight **(48)** hours or agreed time	Forty Eight **(48)** hours or agreed time
Action	Escalation to OEM for technical support via internet or phone. Troubleshoot, Rectify, Repair, Replace faulty component (s) within specified hours to restore the operations.	On-Site Technical Support on Call Basis. Escalation to OEM for technical support from OEM via internet or phone (if required).	Technical Support on Call Basis or On-Site as per requirements. Technical assistance from OEM via internet or phone.
Support Coverage	24 hrs. x 365 days	24 hrs. x 365 days	During standard or Extended Business Hours including Holidays

Response Time: The time from logging a support call until the bidder technical team start working on solving the problem.

Recovery Time: The time from call logging until the problem resolution from one severity level to next severity level.

In case of non-compliance of above SLA severity matrix and resolution within the prescribed recovery time, the penalty of Rs. 5000/- per occurrence would be deducted from the SLA payments to the service provider.

6. Qualification, Training and Experience

Resources deployed at site must be qualified, trained and experienced in their respective areas and able to perform services as mentioned below to the entire satisfaction of the Bank. Bio data and police verification of each personnel must be submitted to the Bank prior to deployment.

The minimum qualification of Engineer / Project Manager should be at least /B. E /B.Sc./B. Tech (Electrical/Mechanical) with at least 05 years' experience. The bidder/firm must possess adequately trained engineer for erection of bullion lift and allied equipment. In-case of non-compliance of providing trained Engineer / Project Manager for installation of lift, the penalty of Rs. 50,000/- per month would be deducted from the bill of the service provider.

7. Description of Services

a) Services

Continuous and uninterrupted management services required are given as under:

i. Attending to phone calls and responding as necessary.
ii. Communicating with trapped persons inside lift and issuing instructions as necessary.
iii. Monitoring lift machinery for abnormal noise, vibration or any other condition.
iv. Calling for external help in emergency situations and whenever necessary.
v. Supervision of activities and liaison with the Bank's staff in emergency situations.
vi. Maintaining a log of attendances and SOP's as required by the Bank.
vii. Supervision of inspection and maintenance activities as per Appendix-E necessary to maintain the lifts in trouble-free and smooth service condition.
viii. Troubleshooting in case of defects, abnormal working and complaints. Calling for backup support if necessary to further troubleshoot and rectify the malfunction.
ix. Removal and disposal of waste.

b) Services at Landings:

In addition to, and concurrent with, a) above, continuous and uninterrupted services are required near the landings including the following:

i. Immediately attending to the lift(s) in case of emergency.
ii. Immediate evacuation of trapped persons in case of emergency.
iii. Immediately attending to faults and defects in components and rectifying the same to facilitate smooth and uninterrupted services.
iv. Reporting to service provider's supervisor or calling for external help in emergency situations and whenever necessary.

v. Carrying out the SOPs
vi. Removal and disposal of waste.

c) Services for Lift(s)

In addition to, and concurrent with, a) & b) above, continuous and uninterrupted services are required for 01 (One) lift including the following:

i. Checking the cars for proper working of safety and communication devices, lighting and ventilation.
ii. Immediate evacuation of trapped persons in case of emergency.
iii. Reporting to Service provider's supervisor or calling for external help in emergency situations and to report missing parts or abnormal running condition.
iv. Cleaning the cars.

d) Support Services

In addition to, and concurrent with, a), b) & c) above, continuous and uninterrupted services are required including the following:

i. Provide assistance in emergency situations and evacuations.
ii. Provide assistance in troubleshooting or repair and rectification work.
iii. Carry spare parts, tools or documentation between work sites.
iv. Going off-site to bring in parts, material, documents or consumables as instructed by service provider's supervisory staff.
v. Any other work assigned by the Bank

e) General

i. Service provider shall provide continuous and uninterrupted management services as well as general upkeep of the above listed equipment.
ii. Service provider shall refer to Maintenance manuals of equipment for performing maintenance and upkeep work and follow instructions therein.
iii. Service provider shall ensure to attend any instruction/call from the Bank immediately upon such communication. Service provider shall obtain confirmation/approval from the Bank's authorized representative before execution of services.
iv. A complete daily general checking of the entire installation shall be carried out by the Service provider and will immediately convey any abnormality in the equipment and allied systems listed above, as well as make immediate arrangements to set right such abnormalities. Moreover, Service provider shall maintain related records and produce such records on demand by the Bank.
v. Service provider shall attend the maintenance or repair work on priority basis after office hours or on holiday(s) if so warranted, or at any time due to exigencies/ emergencies and will provide continuous and uninterrupted services. Service provider shall inform the Bank's Engineer In-charge well in advance about any maintenance/repair/service work scheduled to be done by him after office hours or on holiday(s) so that necessary security arrangement and access to bank may be made.
vi. A complete general checking of the entire lift and its allied equipment/accessories shall be carried out by the Service provider at least once a month during which the defective part(s) shall be replaced by new one(s), if required.
vii. Routine maintenance services will not be limited to the working schedule. The Service provider must carry out other repair / maintenance & services upkeep as and when required so as to keep the equipment in top running condition.
viii. A fitness certificate regarding performance and excellent condition of lift(s), countersigned by the Bank, will be submitted by the Service provider along with each monthly bill.
ix. Service provider at site shall immediately report to the Bank if the fault is beyond their capability, and the Service provider shall depute its team immediately to resolve the issue.
x. The Service provider's supervisor at site shall inform Bank about spare parts so that same could be arranged in time by the Bank.
xi. Consumable materials like kerosene oil, grease, cotton, duster, cleaning brush, vacuum cleaner tools etc. will be arranged by the Service provider from its own sources for which no extra payment will be made by the Bank.
xii. Service provider shall carry out the Services in accordance with professional codes and instructions and with the required skilled labor under the direction of the experienced engineer-in-charge of the Service provider and in line with the service manual of the supplier/manufacturer. The Service provider shall provide servicing for all parts of lift(s). Service provider will not make any alteration/modification etc. in lift machinery without prior written approval of the Bank.
xiii. Service provider shall be responsible for continuous and uninterrupted services of all control and electric panels installed for the lift(s), and fitness certificate shall be provided monthly.
xiv. Lift and allied equipment will be kept clean and tidy and light/fan etc. repair shall be performed whenever required.
xv. All routine maintenance and normal repairs will be done by the Service provider at his own cost and the total bid will be inclusive of all such repairs.

xvi. Service provider shall submit reports for modification in equipment or processes to improve the performance of system for smooth/uninterrupted services.
xvii. Cost of spares/lubricants required for scheduled maintenance shall be borne by the Client and the parts (under warranty) required for unscheduled maintenance or breakdowns will be provided by the Service provider.
xviii. Service provider is responsible to maintain sufficient stock of running spare parts for immediate replacement to avoid interruption in smooth/uninterrupted services.
xix. Bank has the right to Contact OEM of the lift if Service provider fails to rectify the fault for prolonged outage.
xx. Service provider will be responsible to troubleshoot and rectify the fault and replace any faulty part from its store at the earliest. Cost of card will be borne by the bank

5. Duty Hours and Schedule

a) The following timings shall be followed:

Sr #	Type of Services	Time	Days
1	Technical Support Services including Troubleshooting, Inspections, Preventive and Corrective Services	08:30 AM to 06:00 PM	Monday to Saturday 6 days per week

b) The above-mentioned timings may be changed as per Bank's instructions. Service provider shall follow the same pattern during the month of Ramadan or as may be directed by the Bank.
c) If services are required beyond the mentioned hours & weekend, the Service Provider shall be reimbursed on pro rata basis according to quoted rates for relevant services.
d) Service provider shall follow the general schedule given above for performing Services. However, the schedule shall not limit the Services performed by the Service provider, and the Service provider shall carry out such Services, as and when required immediately to keep the equipment covered under this contract in good running condition. Service provider shall also follow the instructions of Bank's engineer-in-charge and carry out all repairing / maintenance work as and when required / pointed out by the Bank's engineer-in-charge.
e) Daily and periodic maintenance/checking for all lifts shall be carried out as per manufacturer's instructions and as per Electrical Handbook. Checklists and reports for the following work must be submitted to the Bank with their invoices:
f) Service Provider's is responsible to provide on call Support services when required by the bank.

Daily Inspection Checklist

- Check manufacturer's instructions;
- Checking of Phase voltages.
- Checking of AC system.
- Checking of panel for start.
- Cleaning of lift cars.
- Cleaning of doors.
- Cleaning of sills.
- Cleaning of floor of lift cars
- Checking of lights and fans of lifts cars
- Checking of intercom.
- Checking of floor indicators.
- Checking of call buttons
- Checking of door functioning.
- To Maintain log sheets and checklists.
- Checking of all safeties (Speed Governor, Safety switches, Landing door, Car roof, door drive contacts, Buffer spring at pits, and counter weights).
- Checking of electrical, electronic, mechanical and civil installations and report immediately to the Bank's engineer-in-charge about any abnormal condition.

Weekly Inspection Checklist

- Check manufacturer's instructions;

- Checking of Ampere load and phase voltages.
- Checking of doors of lifts for any roll back or out of level condition.
- Cleaning and oiling of door mechanism, door roller.
- Checking of oil cups for lubrication.
- Checking for corrosion.
- Checking of all safeties (Speed Governor, Safety switches, Landing door, Car roof, door drive contacts, Buffer spring at pits, counterweights).
- Checking of easy and smooth running of door panel.
- Checking of door mechanism including checking of rollers, up-thrust interlock, unlocking device, motor inspection, door control box.
- Visual checking of parts installed in lifts
- Cleaning of lift.
- Cleaning of pits and removal of trash.
- Checking of relay contacts of control panel.
- Inspect hoist motor, oil level and its bearing check.
- Examine chain for free rotation with shaft.
- Dust blowing with blower.
- Observe working of brake. Inspect drum and shoe clearance, clean and lubricate pivot points.
- Observe working including tension sheave of speed governor and check electrical switches for proper working.
- Check all sensors and safeties for working. Test alarm bell and emergency stop switch.
- Checking of electrical, electronic, mechanical and civil installations and report immediately to Bank's engineer-in-charge about any abnormal condition.

Monthly Inspection Checklist

- Check manufacturer's instructions;
- Inspect, clean, lubricate, and properly adjust all roller guides, guide rails, guide shoes and rail oilers.
- Remove all dirt, dust, and oil from pits.
- Check the working of the emergency lights; replace as necessary.
- Solid State Components and Circuit Boards: Inspect printed circuit board and other solid state devices for cleanliness, condensation spots, evidence of heating and deterioration. Check and replace defective solid state devices.
- Inspect leveling activation. Clean and lubricate switches, vanes, and all other related parts. Adjust to obtain the proper leveling at all landings in both the UP and DOWN directions within ¼ inch above or below the landing sill.
- Checking and cleaning of door tracks.
- Checking and cleaning of landing door contacts.
- Checking of all safeties (Speed Governor, Safety switches, Landing door, Car roof, door drive contacts, buffer spring at pits, and counter weights).
- Checking of hoisting motor.
- Checking of brake functioning.
- Checking of steel ropes.
- Cleaning and lubrication of speed governor.
- Checking of oil in lubrication cup and refilling of cups if required.
- Lubrication of chain links.
- Cleaning the control panels for dust with blower.
- Check the worn gear and thrust bearing and shaft for smooth working.
- Check the floor selector, door controller, door roller, controller and motor.
- Inspect, clean, lubricate and manually activate safety mechanisms.

Semi – Annually Inspection Checklist

- Check manufacturer's instructions;
- Inspect, clean, lubricate and manually activate safety mechanisms.
- Completely dismantle brake assembly, clean, and inspect for wear. Replace defective parts required for proper working. Where brake shoes are asbestos-containing, check for dust, and practice appropriate cleanup and maintenance precautions. Lubricate bearing, pins, and pivot points.
- Thoroughly clean controller with blower or vacuum. Inspect and check the working of switches, relays, timers, capacitors, resistors, contacts, overloads, wiring, connections, fuses and overload settings. Check for zone control, and load by-pass door failure time. Check programming up peak, down peak, off peak, off hours. Replace worn or defective parts and adjust controller for proper working.
- Clean, inspect, and lubricate all door working mechanisms; including but not limited to rollers, up thrusts, interlocks, clutches, self-closer and sills. Replace worn or defective parts, repair and adjust door mechanisms as required for proper working.

- Clean rails, beams, and all related iron work in hoist way. Dust hoist way walls. Clean top, bottom, and sides of car. Clean counterweight and pit area.
- Check oil level and working of switches. Add oil or adjust switches as necessary for proper working.
- Checking of door reopening devices, stop switches, working control devices, car floor and landing sill, car lighting, car emergency signal, car door or gate, door closing force, power closing of doors or gates, power opening of doors or gates, car vision panels and glass car doors, car enclosure, emergency exit, ventilation, signs and working device symbols, rated load, platform area, and data plate, standby power activation, restricted opening of car or hoist way doors and car ride.
- Checking of rope fastenings, terminal stopping devices, slack rope devices, governor, over speed switch & seal and car & counterweight safeties.
- Checking car leveling devices; top emergency exit; counterweight safeties, traveling cables and junction boxes, door and gate equipment, governor rope, compensating ropes and chains.
- Checking car platform guard, hoist way doors, vision panels, hoist way door locking devices, access to hoist way, power closing of hoist way doors, sequence working, elevator parking devices, emergency doors blind hoist ways, and standby power selection switch.
- Checking Pit access, lighting, stop switch, counterweight buffer and final terminal stopping devices, normal terminal stopping devices, traveling cables, governor-rope tension devices, compensating chains, ropes, and sheaves, car frame and platform, and car safeties and guiding members.
- Checking of brakes and brake torque.
- Checking and observation of slip of ropes and condition.
- Checking all safeties (Speed Governor, Safety switches, Landing door, Car roof, door drive contacts, buffer spring at pits, counter weights).

Annual Inspection Checklist

- Checking standby power working.
- Check and torque all connections to correct specifications, and check and lubricate cooling fan); check primary and secondary voltages phase to phase and phase to ground and ampere load;
- Checking traction sheaves; terminal stopping devices & switches, slack rope devices; governor, over speed switch, and seal; and counterweight and car safeties.
- Drill for working of elevators under fire and other emergency conditions.
- Testing of the working of the electrically released brake by manually activation the other safety devices and observing.
- Testing speed governor safety by manually activating the trip mechanism.

Annexure A. Required Technical Parameters

Sr. No.	Item	Description	Provided Yes/No	Flag Ref. Page No.
1	Number of Lifts:	01		
2	Type:	Machine Room Less		
3	Motor:	Permanent Magnet Gearless Hoisting motor		
4	Hoisting System:	Stainless steel Ropes for traction sheave elevators		
5	Loading Capacity:	800 kg or higher, utilizing maximum space of shaft and in compliance with lift's standards EN-81		
6	Door System:	Microprocessor Based VVVF Control		
7	Car Operation System:	Car Operating Panels		
8	Control System:	Microprocessor Based VVVF Control System		
9	Speed:	Minimum of 1 meter/sec. subject to compliance of lift safety standards EN-81		
10	Floors/Stops:	03 stops		
11	Traveling Height:	Approximately 10 meter. Bidder to verify the height		
12	Well Size:	Std. 2050x1900mm The bidders are advised to visit the site for verification of the dimensions before submission of the bids.	The bidder shall fill this section: Quoted Lift Capacity (kg): Quoted lift Car Size (mm):	
13	Pit Depth:	1400 mm	Quoted lift speed (m/sec):	
14	Overhead size: from last serving floor level to bottom of slab	3850 mm		
15	Car Entrances:	One		
16	Car and Landing Doors:	Automatic, two-panel center-opening, stainless steel finish		
17	Car Finishes:	The quoted price should include finishes, wall, ceiling design and flooring of lift car to be of Executive/Premium/highest category. The bid shall highlight, sign & stamp the offered category of car finishes in technical brochures and the Bank will choose the finishes from this category.		
18	Type of Jamb:	Wide Jamb in stainless steel at all floors		
19	Entrance Sill:	Extruded Hard Aluminum		
20	Car Indicators:	Emergency light, position, direction indicators		
21	Landing Indicators:	Position and direction indicators at all landing floors		
22	Car Push Buttons:	Illuminated, stainless steel push buttons with braille and buzzer for each floor, open/close inside the lift cabin & Reservation services system inside each car		

Sr. No.	Item	Description	Provided Yes/No	Flag Ref. Page No.
23	Landing Push Buttons:	Floor operating panels on each lift lobby equipped with up/down call buttons (Illuminated, stainless steel push buttons with braille and buzzer)		
24	Alarm and Safety System & Additional Features:	• Alarm Bell push button • Floor indicator bell • Telephone extension and Intercom system • Automatic rescue device ARD • Full length light curtain, with door closing force limiting device or photoelectric beam as backup • Weight overload buzzer • Emergency lighting and emergency alarm unit • Air Purification System inside the car Provision • LED/LCD display inside the lift car with audio feature for displaying audio/visual message		
25	Model	The lift should be of the latest model offered by the manufacturer. The bidder shall provide a letter from the manufacturer after award of the work that the offered product is not on End of Support notice including spare parts availability for the next 15 (fifteen) years from the date of Bid submission. Note: The Employer reserves the right to get confirmation from the manufacturer regarding launch of offered lift model.		
26	Technical Literature and other details including manufacturer's Catalogue.			
27	Conformance with EN81 or BS5655 or equivalent internationally recognized standard			

SECTION-E-07

AIR-CONDITIONING

4.0- TR FLOOR STANDING INVERTER SPLIT AC			
Sr No	**Description**	**SBP/BSC Requirement**	**Remarks**
1.	Minimum Cooling Capacity (BTU/hr)	4.0 TR – 48,000 BTU/hr or above	
2.	Minimum Energy Efficiency Ratio EER (W/W) for Cooling	3.0 W/W or above	
3.	Minimum Warranty for Compressor	3 Years	
4.	Minimum Warranty for Parts	1 Year	
5.	Offered Brand & Model #	None	
6.	Indoor Type	Decorative Type Floor Standing Type	
7.	Refrigerant Type	R-410a / R-32	
8.	Unit Type	Inverter	
9.	Compressor Type	Rotary/ Scroll	

4.0- TR FLOOR STANDING DECORATIVE TYPE FAN COIL UNIT			
Sr No	**Description**	**SBP/BSC Requirement**	**Remarks**
1.	Minimum Cooling Capacity (BTU/hr)	46,000 BTU/hr or above	
2.	Chilled Water Flow – GPM(US)	Not less than 9	
3.	Supply Air Flow (cfm)	Not less than 1400	
4.	Minimum Warranty for Parts	1 Year	
5.	Offered Brand & Model #	None	
6.	Type	Decorative Type Floor Standing	
7.	Auto Restart Function	Should have Auto Restart Function	

2.0- TR WALL MOUNTED FAN COIL UNIT			
Sr No	**Description**	**SBP/BSC Requirement**	**Remarks**
1.	Minimum Cooling Capacity (BTU/hr)	22,000 BTU/hr or above	
2.	Chilled Water Flow – GPM(US)	Not less than 4.8	
3.	Supply Air Flow (cfm)	Not less than 700	
4.	Minimum Warranty for Parts	1 Year	
5.	Offered Brand & Model #	None	
6.	Type	Decorative Type Wall Mounted	
7.	Auto Restart Function	Should have Auto Restart Function	

2.0- TR CEILING EXPOSED FAN COIL UNIT			
Sr No	**Description**	**SBP/BSC Requirement**	**Remarks**
1.	Minimum Cooling Capacity (BTU/hr)	22,000 BTU/hr or above	
2.	Chilled Water Flow – GPM(US)	Not less than 4.8	
3.	Supply Air Flow (cfm)	Not less than 700	
4.	Minimum Warranty for Parts	1 Year	
5.	Offered Brand & Model #	None	
6.	Type	Ceiling Exposed	
7.	Auto Restart Function	Should have Auto Restart Function	

Note: -

1. Manufacturer's Local Warranty to be claimable through Manufacturer's Service Center or through the Authorized Distributor/Agent of the manufacturer (Bidder to provide complete details of warranty claim procedure with supply of material/equipment).
2. Before supply of material/equipment, the Bidder submit technical brochure(s)/ specification sheet of material/ equipment for approval, if required by Bank/Engineer In-charge.

SECTION-E-08

LOW VOLTAGE CABLES AND WIRES

1.01 SCOPE OF WORK

The work under this scope consists of supplying, installation, testing, connecting and commissioning of all material and services of low voltage cables and wires and the accessories as specified herein or and given in the Bill of Quantities.

1.02 GENERAL

All multicore and single core wires for light circuits, socket outlets and circuits operating upto 250 volts shall be 300 / 500 volts grade. All single core sheathed cables shall be of 450 / 750 volt grade and upto 50sqmm and above shall be of 600/1000V. Power cables for main feeders, main to sub main feeders, power equipment, etc. shall be of 600 / 1000 volts grade. Armouring of cables shall be done with appropriate size galvanized steel wire as per codes. Cable should be capable of running 125% of full load current without any damage.

1.03 STANDARDS

Any other standard referred to in above standards or these specifications. Latest editions and amendments of the below mentioned standards and codes:

- IEC 227 : Power and Lighting PVC insulated cable.
- IEC 228 : Conductors of insulated cables
- IEC 502 : Extruded solid dielectric insulated power cables for rated voltages from 1 kV up to 30 kV.
- IEC 331 : Fire resisting characteristics of electrical cables (where specified)
- IEC 332 : Tests on electric cables under fire conditions.
- IEC 811 : Common test methods for insulating and sheathing of electrical cable.
- IEC 287 : Calculation of the continuous current rating of cables.
- BS 4066 : Test on electric cables under fire conditions.
- BS 6346 : PVC insulated cables for electricity supply.
- BS 6004 : PVC insulated cables (non armoured) for electric power and lighting.
- BS 801 : Composition of lead and lead alloy sheaths of electric cables.
- EEMUA 133 : Underground cable protected against solvent penetration and corrosive attack.
- BS 5467 : XLPE insulated armoured cables for electrical supply.
- BS 6724 : XLPE insulated armoured Single Core PVC Insulated Copper Conductor sheathed cables.
- BS 7211 : Single Core PVC Insulated Copper Conductor non armoured cables / wires.

1.04 MATERIAL

A. Conductors and Cables:

Conductors: Copper (or Aluminium - only when specifically mentioned in BoQ).

- **Conductor Insulation:**
  - Multi-core cables – XLPE
  - Single-core cables – XLPE (PVC – only when specifically mentioned in BoQ).
  - Single-core building wires up to 6 sq. mm - PVC
- **Single and Multi-conductor Cable:**

Armoured/ Unarmoured cable, Type AC, Metal-clad cable, Type MC, Mineral-insulated, metal-sheathed cable, Type MI, Nonmetallic-sheathed cable, Type NM, Type SO and Type USE with ground wire.

A. Connectors and Splices: Factory fabricated.

B. Sleeves for Raceways and Cables:

1. Steel pipe sleeves.

2. Cast-iron pipe sleeves.

3. PVC and uPVC sleeves

4. Sleeves for rectangular openings.

D. Sleeve Seals: EPDM, NBR sealing elements, plastic, carbon-steel, stainless/steel pressure plates, and carbon, stainless/steel connecting bolts and nuts.

B. CONDUCTOR MATERIAL APPLICATIONS

Feeders: Copper, Solid for 4.0 sq. mm and smaller; stranded for 6.0 sq. mm and larger. Branch Circuits: Copper, Solid for 4.0 sq. mm and smaller; stranded for 6.0 sq. mm and larger.

1.05 CONDUCTOR AND INSULATION APPLICATIONS

A. Service Entrance: Single conductors in raceway, Mineral-insulated, metal-sheathed cable, multi-conductor cable in raceway.

B. Exposed Feeders: Single conductors in raceway, Unarmored cable, Metal-clad cable, Mineral-insulated, metal-sheathed cable, Nonmetallic-sheathed cable.

C. Feeders Concealed in Ceilings, Walls, Partitions, and Crawlspaces: Single conductors in raceway, Unarmored cable, Metal-clad cable, Mineral-insulated, metal-sheathed cable, Nonmetallic-sheathed cable.

D. Feeders Concealed in Concrete, below Slabs-on-Grade, and Underground: Single conductors in raceway, Underground feeder cable.

E. Feeders in Cable Tray: Single conductors in raceway, Armored/Unarmored cable, Metal-clad cable, Mineral-insulated, metal-sheathed cable, Nonmetallic-sheathed cable.

F. Exposed Branch Circuits, Including in Crawlspaces: Single conductors in raceway, Unarmored cable, Metal-clad cable, Mineral-insulated, metal-sheathed cable, Nonmetallic-sheathed cable

G. Branch Circuits Concealed in Ceilings, Walls, and Partitions: Single conductors in raceway, Unarmored cable, Metal-clad cable, Mineral-insulated, metal-sheathed cable, Nonmetallic-sheathed cable.

H. Branch Circuits Concealed in Concrete, below Slabs-on-Grade, and underground: Single conductors in raceway, Underground branch-circuit cable.

I. Branch Circuits in Cable Tray: Single conductors in raceway, Unarmored cable, Metal-clad cable, Mineral-insulated, metal-sheathed cable.

J. Cord Drops and Portable Appliance Connections: Hard service cord with strain relief device at terminations to suit application.

K. Class 1 Control Circuits: In raceway.

L. Class 2 Control Circuits: In raceway, Power-limited cable, concealed in building finishes and in raceway/cable tray.

1.06 FIELD QUALITY CONTROL

A. Testing: Contractor is responsible to perform all testing as per applicable standards, mentioned in Testing and Commissioning or required by the Engineer or utility company (K-Electric).

B. Cables for Conduit Wiring: All cables / wiring in concealed or surface mounted PVC Class-D or steel conduits shall be single core PVC insulated of specified grade and size, unless specifically shown in BOQ.

C. Cables on Surface: Cables for distribution system to be installed on surface, in cable ducts, in concrete trenches or on trays shall be single or multicore PVC insulated and PVC sheathed of specified voltage grade and size, unless specifically shown in BOQ.

D. Underground installation: Cables for laying directly underground shall be PVC insulated, PVC sheathed and armoured with galvanized steel wire. Cables fully installed in underground ducts / pipes and mechanically protected from end to end shall be PVC insulated and PVC sheathed unless specifically shown in BOQ.

Technical Specifications, Warranty and Operational Acceptance for Fire Alarm System

1. SCOPE OF WORK

The work under this section consists of providing all material and equipment and performing all the work necessary for the complete execution and completion, including testing and commissioning of Fire Detection and Alarm System works as shown against BoQ and/or as specified herein and/or as directed by the Engineer. The system includes electrical works as follows:

- ADDRESSABLE FIRE DETECTION & ALARM SYSTEM [UL & FM Approved]

2. APPLICABLE STANDARDS AND PUBLICATIONS:

The design, equipment, installation, testing and maintenance of the Conventional Fire Detection & Alarm System shall be in compliance and accordance with the applicable requirements set forth in the latest edition of the following codes, standards, and third-party approval agencies:

- NFPA No. 70 - National Electrical Code
- NFPA No. 72 - National Fire Alarm Code
- UL & FM Approved
- BS Wiring Standards
- Requirements of the Authority Having Jurisdiction (AHJ)

The standards listed, as well as all other applicable codes and standards shall be used as "minimum" design standards. Also, to be considered are the requirements of the "Authority Having Jurisdiction" and good engineering practices.

3. SUBMITTALS

All the materials and equipment shall be of the specifications mentioned herein and the Contractor shall submit the sample, necessary catalogues, sketches, the name of manufacturer and guarantee, if necessary, before installation. The system shall be installed after the approval of Engineer Incharge. All material and equipment shall be new, approved and unused.

It is specifically intended and must be agreed to by each Contractor submitting a bid, that any material or labor which is usually furnished as a part of such equipment and which is necessary for its proper completion and best operation shall be furnished as a part of this Contract without any additional cost whether or not shown in detail on the drawings or described in detail, in the specifications.

Approval of material and equipment by the Engineer shall not absolve the Contractor of the responsibility of furnishing the same of proper size, quantity, quality and all performance characteristics to efficiently fulfill the requirements and intent of the Contract Documents.
Prior to commencement of works on site and at least 3 weeks in advance of all the drawing being required for actual execution, the Contractor shall submit on larger scale as approved by Engineer, shop drawings in triplicate for approval to the Engineer.

4. INCLUSIONS:

The work listed below shall also be provided by vendor of this specification:

- 230 VAC power supply to the system control panel.
- Interlock wiring and conduit for shutdown of electric power supplies.

- Connection to local/remote fire alarm systems, listed central alarm station(s).

5. QUALITY ASSURANCE:

A. Manufacturer:

- The manufacturer of the hardware and detection components shall have a minimum of 10 years' experience in the design and manufacture of similar types of systems and who refer to similar installations providing satisfactory service.
- The name of the manufacturer, part numbers and serial numbers shall appear on all major components.
- All devices, components and equipment shall be new, standard products of the manufacturer's latest design and suitable to perform the functions intended.
- All equipment shall be UL & FM APPROVED.
- All detection devices shall be UL & FM APPROVED.
- Locks for all cabinets shall be keyed alike.

B. Installer:

- The installing contractor shall be trained by the supplier to design, install, test and maintain a fire detection system.
- The installing contractor shall be an experienced firm regularly engaged in the installation of Addressable and conventional smoke detection system in strict accordance with all applicable standards.
- The installing contractor must have a minimum of two (2) years' experience in the design, installation and testing of fire detection system. A list of systems of a similar nature and scope shall be provided on request.

C. Submittals:

The installing contractor shall submit the following design information and drawings for approval prior to starting work on this project:

- Field installation layout drawings having a scale of not less than 1/8" =1'-0" (1:100m) detailing the location of all agent storage tanks, pipe runs including pipe sizes and lengths, control panel(s), detectors, manual pull stations, abort stations, audible and visual alarms, etc.
- Auxiliary details and information such as maintenance panels, door holders, special sealing requirements and equipment shutdowns.
- Separate layouts, or drawings, shall be provided for each level, (i.e.; room, underfloor, and above ceiling) and for mechanical and electrical work.
- A separate layout or drawing, shall show isometric details of agent storage containers, mounting details and proposed pipe runs and sizes.
- Electrical layout drawings shall show the location of all devices and include point-to-point conduit runs and a description of the method(s) used for detector mounting.
- Provide an internal control panel wiring diagram which shall include power supply requirements and field wiring termination points.
- Provide calculations for the battery stand-by power supply taking into consideration the power requirements of all alarms, initiating devices and auxiliary components under full load conditions.
- A complete sequence of operation shall be submitted detailing all alarm devices, shutdown functions, remote signaling, damper operation, time delay and agent discharge for each zone or system.
- Submit drawings, calculations and system component data sheets for approval to the local Fire Prevention Agency, owners Insurance Underwriter, and all other Authorities Having Jurisdiction before starting installation. Submit approved plans to the Architect/Engineer for record.

D. System Description and Operation:

- The system shall be complete in all ways. It shall include all mechanical and electrical installation, all detection and control equipment, audible and visual alarm devices, auxiliary devices and controls, shutdowns, alarm interface, caution/ advisory signs, functional checkout and testing, training and all other operations necessary for a functional UL & FM APPROVED Fire Detection & Alarm System.
- Provide two (2) inspections during the first year of service. Inspections shall be made at 6-month intervals commencing when the system is first placed into normal service.

- The system(s) shall be alerted by any of Photo smoke and/or multi-detectors, call points installed in accordance with the guidelines stated in NFPA 72.
- Detectors shall be wired in Sequential Detection method of operation, standard for detection, or single detector alarm. No other detection / wiring arrangements will be acceptable.
- Automatic operation of each protected area shall be as follows:

1) Actuation of one (1) detector, within the system, shall:
   a) Illuminate the "ALARM" lamp on the control panel face.
   b) Energize an alarm bell at 20 BPM
   c) Transfer sets of auxiliary contacts which can perform auxiliary system functions such as:
      - Operate door holder/closures on access doors.
      - Transmit a signal to a fire alarm system.
      - Shutdown HVAC equipment.

6. MATERIALS AND EQUIPMENT:

A. General Requirements:

The Conventional Fire Detection System materials and equipment shall be standard products of the supplier's latest design and suitable to perform the functions intended. When one or more pieces of equipment must perform the same function(s), they shall be duplicates produced by one Manufacturer only and not from multiple manufacturers of same approval. All devices and equipment shall be UL & FM APPROVED.

- Systems shall be designed in accordance with the manufacturer's guidelines.

7. ELECTRICAL REQUIREMENTS

7.1 CONTROL PANEL:

- The Control Panels and its components shall be UL & FM APPROVED for Conventional Fire Detection and Alarm service.
- The Control Panel shall perform all functions necessary to operate the system detection, actuation and auxiliary functions, as outlined.
- The Control Panel shall be capable of providing 7AH battery pair standby power supplies.
- The Control Panel shall be conventional microprocessor-based with hardware and software programming designed to support cross-zoned, sequential, Single Detector Release and Manual detection methods.
- The Control panel shall provide 100% supervision of initiating device circuits [IDCs] and Notification Appliance Circuits [NACs] to ensure the end points are constantly monitored for operating condition.
- The Control Panel shall provide the following minimum electrical requirements:
- Status LEDs / display for troubleshooting:
  a. AC normal
  b. alarm
  c. supervisory
  d. trouble
  e. panel silenced
  f. ground fault
  g. 50 Event Log access via PC
  h. Programmable from PC
  i. Day / Night Mode
- Resettable and continuous auxiliary output power.
- Transistor protection to prevent noise spikes and microprocessor failure from inadvertently activating release outputs.
- 240 VAC input power source.
- Power cutoff relays.
- There shall be provision of 24 VDC Sealed Dry standby batteries of the maintenance free type, in case of main power supply failure. The batteries will automatically and instantaneously be switched into use

as soon as the main supply fails. Such a failure shall be indicated both visually and audibly at the panel. The batteries shall be trickle-charged during normal operating conditions.

- In areas where the Control Panel is exposed to weather, the panel shall be shielded with a weather-proof casing.

7.2 AUTOMATIC DETECTORS

SMOKE & HEAT DETECTORS

The system shall be furnished and installed with photoelectric smoke & RoR Heat detectors rightly applied for detection systems as per BoQ. The detector head and twist-lock base shall be UL & FM APPROVED compatible with the Control Panel. The smoke detector shall have a status LED for visual indication of Fire. The detector may be reset using the Control Panel reset switch.

DETECTOR BASES

The detector bases shall be selected according to their operational characteristics and size of the detector.

7.3 MANUAL Call Point:

The manual call point shall be a single action device which provides a means of manually raising the fire alarm system, when used in conjunction with Control System.

7.4 AUDIBLE and VISUAL ALARMS:

Alarm audibles and visual signal devices shall operate from the Control Panel. A Strobe device shall be placed outside, and above, each exit door from the fire detection and alarm space. Provide an advisory sign at each light location.

NAC device shall separately be provided at security guard room for 24/7 vigilance.

7.5 SYSTEM and CONTROL WIRING:

- All system wiring shall be furnished and installed by the contractor.
- All wiring shall be installed in UPVC Conduit and must be installed and kept separate from all other building wiring.
- All system components shall be securely supported independent of the wiring. Runs of conduit and wiring shall be straight, neatly arranged, properly supported, installed parallel and perpendicular to walls and partitions.
- The sizes of the conductors shall be those specified by the manufacturer. RED Color-coded Fire rated wire shall be used. All wires shall be tagged at all junction points and shall be free from shorts, earth connections (unless so noted on the system drawings), and crosses between conductors. Final terminations between the control panel and the system field wiring shall be made under the direct supervision of a factory trained representative.
- All wiring shall be installed by qualified individuals, in a neat and workmanlike manner, to conform to the National Electrical Code, except as otherwise permitted for limited energy circuits, as described in NFPA 72 & NFPA 70. Wiring installation shall meet all local, state, province and/or country codes.
- The complete system electrical installation, and all auxiliary components, shall be connected to earth ground in accordance with the National Electrical Code.
- Drawing of complete wiring as per standards should be prepared and submitted to the end user.

8. SYSTEM INSPECTION AND CHECKOUT:

After the system installation has been completed, the entire system shall be checked out, inspected and functionally tested by qualified, trained personnel, in accordance with the manufacturer's recommended procedures and NFPA standards.

- All electrical wiring shall be tested for proper connection, continuity and resistance to earth.
- The complete system shall be functionally tested, in the presence of the owner or his representative, and all functions, including system and equipment interlocks, must be operational at least five (5) days prior to the final acceptance tests.

a) Each detector shall be tested in accordance with the manufacturers recommended procedures, and test values recorded.

c) Each control panel circuit shall be tested for trouble by inducing a trouble condition into the system. shall be tested for trouble by inducing a trouble condition into the system.

9. TRAINING REQUIREMENTS:

Prior to final acceptance, the installing contractor shall provide operational training to each shift of the owners' personnel. Each training session shall include system Control Panel operation, and manual, trouble procedures, supervisory procedures, auxiliary functions and emergency procedures.

10. OPERATION and MAINTENANCE:

Prior to final acceptance, the installing contractor shall provide complete operation and maintenance instruction manuals, four (4) copies for each system, to the owner. All aspects of system operation and maintenance shall be detailed, including piping isometrics, wiring diagrams of all circuits, a written description of the system design, sequence of operation and drawing(s) illustrating control logic and equipment used in the system. Checklists and procedures for emergency situations, troubleshooting techniques, maintenance operations and procedures shall be included in the manual.

11. ACCEPTANCE TESTS:

- At the time "As-Built" drawings and maintenance/operations manuals are submitted, the installing contractor shall submit a "Test Plan" describing procedures to be used to test the control system(s). The Test Plan shall include a step-by-step description of all tests to be performed and shall indicate the type and location of test apparatus to be employed. The tests shall demonstrate that the operational and installation requirements of this specification have been met. All tests shall be conducted in the presence of the owner and shall not be conducted until the Test Plan has been approved.
- Upon acceptance by the owner, the completed system(s) shall be placed into service.

12. PERIODIC SYSTEM INSPECTIONS:

- The installing contractor shall provide two (2) inspections of each system, installed under this contract, during the one-year warranty period. The first inspection shall be at the six-month interval, and the second inspection at the 12-month interval, after system acceptance. Inspections shall be conducted in accordance with the manufacturer's guidelines, and the recommendations of NFPA 72.

- Documents certifying satisfactory system(s) operation shall be submitted to the owner upon completion of each inspection.

13. WARRANTY:

All system components furnished, and installed under this contract, shall be guaranteed against defects in design, materials and workmanship for the full warranty period which is standard with the manufacturer, but in no case less than one (01) year from the date of system acceptance.

DESCRIPTION WARRANTY

01 Years	One Year Warranty with Maintenance and Support at site	Warranty will commence from the date of Operational Acceptance Certificate.

The supplier will provide quick response as per below mentioned terms of reference.

1. Any component identified non-genuine, copy or refurbished during entire warranty will be rejected instantly and it will be supplier's responsibility to replace that whole or component on supplier cost.

2. The supplier is required to submit/include original equipment manufacturer (OEM) warranty certificate

3. The Warranty Maintenance and Support of the supplies should be equipped with the Original Equipment Manufacturer (OEM) support to meet the following requirements, except any damage caused by the fire or disaster event or mishandling of the equipment against the specified and communicated standards operating and handling procedures to the purchaser by the OEM/Authorized Agent.

4. The Support services will remain available to the Purchaser on call 24 x 7 basis.

5. OEM Advance parts Replacement – AHR / RMA Claim with Next Business Day delivery to SBP premises.

6. Telephone, Web and email based case opening for technical problems

7. Technical Support (preferably On-Site) or otherwise over e-mail/phone/web whenever required by the purchaser.

8. The warranty of the supplies will start from the Date of Operational Acceptance Certificate of the complete assignments/works/system

9. The warranty, Maintenance and Support should be supported and registered by the OM on the name of purchaser.

Operational Acceptance

Operational Acceptance means that the supplies and services in the contract have been installed and run in operations after testing in accordance with the products' parameters mentioned in the technical specifications and features meeting the technical requirements of the project.

At least One (01) month of successful operations of the installed equipment, in accordance with the purchaser required configuration, will confirm the Operational Acceptance of all the supplies under this contract. Also the supplier will ensure dedicated on-site support till operational acceptance.

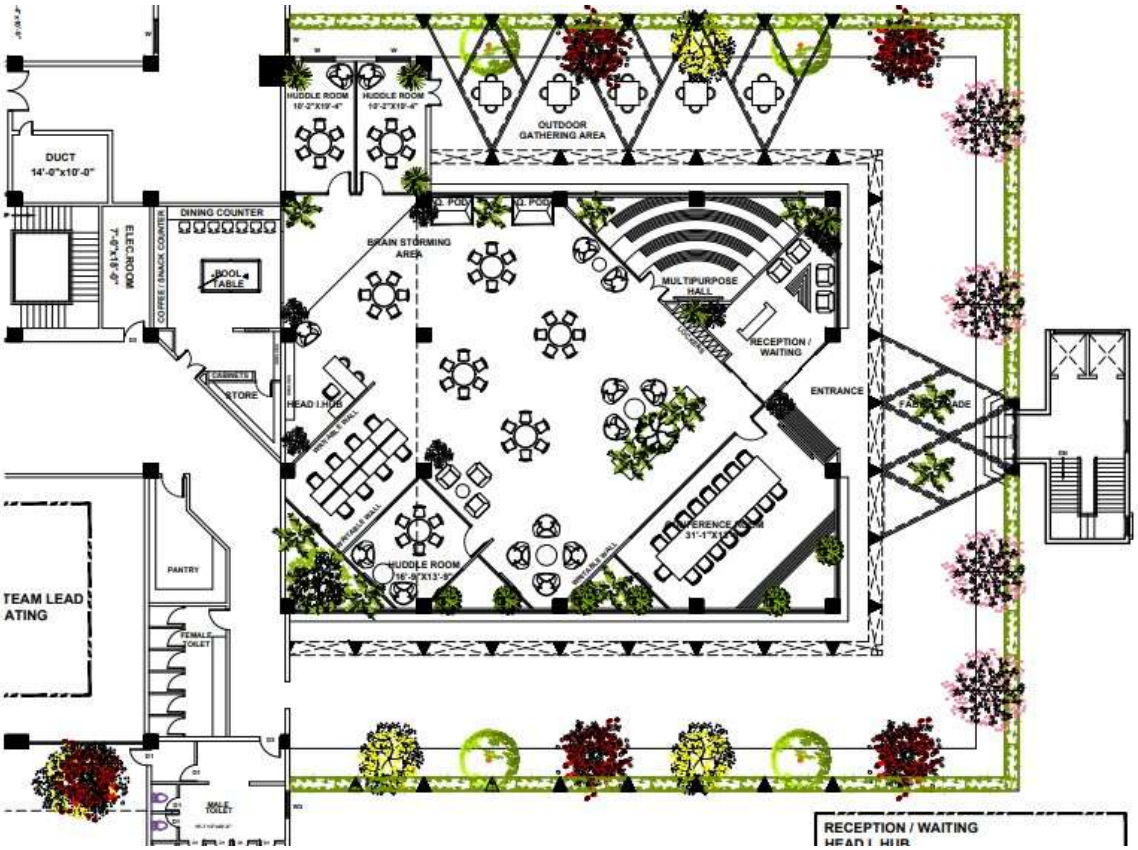
Any component identified and confirmed through OEM/Distributor or Dealer or by Physical Inspection or performance to be non-genuine, copy or refurbished will be rejected for acceptance and it will be suppliers responsibility to replace that component or Equipment or the entire lot failing which the purchaser may terminate the contract.

The supplier will provide all necessary installation, technical, troubleshooting, maintenance and preventive maintenance manuals and documentation etc. and keep on update SBP for all related technical updates (if applicable).

Any testing related cost shall be borne by the supplier.

- END OF SECTION –

Drawings


HUDDLE ROOM
HUDDLE ROOM
OUTDOOR GATHERING AREA
DUCT
DINING COUNTER
ELEC.ROOM
POOL TABLE
BRAIN STORMING AREA
MULTIPURPOSE HALL
RECEPTION / WAITING
ENTRANCE
CABINETS
STORE
HEAD I.HUB
PANTRY
HUDDLE ROOM
TEAM LEAD
ATING
RECEPTION / WAITING

BIDDING DOCUMENTS

For

ESTABLISHMENT OF SBP INNOVATION HUB AT SBP BSC NORTH NAZIMABAD, KARACHI

Volume-II

Financial Proposal

25-Nov-25

VOL-II: FINANCIAL PROPOSAL

Preamble

1. The Bill of Quantities shall be read in conjunction with the Conditions of Contract, Specifications and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work executed and measured by the Contractor and verified by the Engineer and valued at the rates and prices entered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix as per the Contract.
3. The rates and prices entered in the priced Bill of Quantities shall, except insofar as it is otherwise provided under the Contract include all costs of Contractor's labour, supervision, materials, execution, insurance, profit, taxes including GST, Provincial Sales Tax etc and duties, together with all general risks, liabilities and obligations set out or implied in the Contract. Furthermore, all duties, and other levies payable by the Contractor under the Contract, or for any other cause, as on the date 28 days prior to deadline for submission of Bids, shall be included in the rates and prices and the total Bid Price submitted by the Bidder.
4. A rate or price shall be entered against each item in the priced Bill of Quantities, whether quantities are stated or not. The cost of items against which the Contractor will have failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities.
5. Prices quoted by the Supplier will remain fixed during the contact period. Except otherwise mentioned in the Contract, the Supplier shall NOT be entitled for price adjustment on account of any change in wages, material prices, POL prices, tax rates etc. whatsoever on any other account.
6. The Supplier hereby irrevocably and unconditionally waives all claims, direct, indirect or consequential arising out of price escalations, decrease or increase in quantities etc. in connection with the Agreement.
7. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no items are provided, the cost shall be deemed to be distributed among the rates and prices entered for the related items of the Works.
8. General directions and description of work and materials are not necessarily repeated nor summarized in the Bill of Quantities. References to the relevant sections of the Bidding Documents shall be made before entering prices against each item in the priced Bill of Quantities.
9. Where there is a discrepancy between the unit rate and the line item total resulting from multiplying the unit rate by the quantity, the unit rate as quoted will govern, and the line total will be corrected accordingly.
10. Each cutting should be signed by the authorized person.
11. The brand names have been provided in order to establish a standard of performance and reliability. However, it does not indicate a preference for a particular brand. The bidder may propose other brands which can be accepted subject to necessary tests to establish equivalency.
12. Where packaging size of a sachet/packet/can/pack etc. is included in the description of item of BOQ, this packaging size is only for reference and does not indicate preference for any specific brand. The bidder may offer another packaging size with a margin or tolerance of no more than 15% of the specified size. However, the total quantity to be supplied must be equal to the cumulative quantity required in the BOQ item.

Bill of Quantities (BOQ)

Sn#	Item	Unit	Quantity	Unit Rate including all taxes	Amount including all taxes
	Civil Works				
1.	Dismantling of existing wooden/ glass partitions, doors with frames and stacking of removed material at designated place including disposal of unserviceable material and debris outside the municipal limits at any lead as per site requirements, complete in all respects as site and/or as directed by Engineer In-charge.	Sft	2,700.00		
2.	Dismantling of existing brick/block masonry wall, including disposal of unserviceable materials and debris outside the municipal limits at any lead as per site requirements, complete in all respects as site and/or as directed by Engineer In-charge.	Cft	1,400.00		
3.	Dismantling of existing false ceiling, lights, wiring, conduits, diffusers, smoke detectors etc i/c stacking of reusable material at designated location including disposal of unserviceable materials and debris outside the municipal limits at any lead as per site requirements, complete in all respects as site and/or as directed by Engineer In-charge.	Sft	7,600.00		
4.	Removal of existing wooden cabinets, handing over the serviceable removed materials to the Bank and stacking the same at designated location within the Bank premises and disposal of debris away from the Bank premises, complete in all respects as per site requirements and as directed by the Engineer In-Charge. (Measurement for payment shall be made based on surface area measured at front side of the cabinets).	Sft	1,000.00		
5.	Dismantling of existing terrazo/ other types of flooring including sub floor up to top of RCC slab including and disposal of all debris away from the Bank premises complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Sft	10,000.00		
6.	Dismantling of existing roofing comprising of pea gravel, membrane and screed etc till RCC Slab including disposal of unserviceable materials and debris outside the municipal limits at any lead as per site requirements, complete in all respects as site and/or as directed by Engineer In-charge.	Sft	6,400.00		
7.	Dismantling/cutting of existing reinforced cement concrete (RCC) of roof slab & Washrooms floor slab including cutting of RCC beams as per directions of the engineer, taking all necessary safety measures i/c supporting adjacent slab with temporary props and scaffolds as per site requirements during dismantling/cutting etc at any level & lead within the project limits including clearing/cleaning, stacking the serviceable materials at site and disposal of unserviceable materials and debris outside the municipal limits at any lead as per site requirements, complete in all respects as site and/or as directed by Engineer In-charge.	Cft	700.00		
8.	Removal of existing Aluminum Glass windows along with removal of Grills embedded in peripheral jambs where required, including repairing of jambs with 1:4 cement-sand mortar with latex based bonding agent (SBR) mixed @ 3 liters per bag of cement, handing over the serviceable removed	Sft	75.00		

	materials to the Bank and stacking the same at designated location within the Bank premises and disposal of debris away from the Bank premises, complete in all respects as per site requirements and as directed by the Engineer In-Charge.				
9.	Complete Scrapping of old paint where required complete in all respects as per site requirements and/or as directed by Engineer In-charge.	Sft	13,000.00		
10.	Providing and laying Screed Bed with cement concrete 1:2:4 using graded screened bajri of 3/4 inch (19 mm) including compacting, curing, cost of formwork and its removal etc, working at any height. complete and as per instructions of engineer in charge.	Cft	2,170.00		
11.	Providing and laying structural cement concrete of mix proportions not leaner than (1:2:4) by volume and of (3000 psi) works cubes strength at 28 days, including formwork and its removal, placing, including the cost of mechanical vibrating, compacting, finishing and curing, complete in all respects (including screening and washing of stone aggregate) but excluding the cost of steel reinforcement in, as per drawing and specifications, including the cost of sampling and testing concrete cubes, including the cost of spacers, including the cost of scaffolding/formwork compatible with mechanical vibrator and provides fair face concrete ,working at any height, complete in all respects as per site requirements and/or as directed by Engineer In-charge.				
	a. Staircase	Cft	120.00		
	b. Columns	Cft	120.00		
	c. Beams	Cft	150.00		
	d. Slab	Cft	400.00		
12.	Providing and laying deformed (minimum yield point 60,000 psi) reinforcement bars with & including the cost of straightening, cutting, bending, binding, placing in position in all kinds of RCC work in foundation, basement, plinth, slab and any floor of building, working at any height and as per direction of engineer in charge.	Kg	2,500.00		
13.	Providing and laying solid blocks masonry using blocks of min 700 psi compressive strength set in cement mortar 1:4 in any floor superstructure including scaffolding, raking out joints and curing etc. working at any height, complete in all respects and as per instructions of engineer in charge.	Cft	1,500.00		
14.	Supply and fix 12mm thick tempered plate Glass partition/door in any size, including the cost of about 100 micron anti-shatter film of 3M or approved equivalent, including the cost of all hardware required, including the cost of best quality of glass clamps e.g. floor to glass, wall to glass and glass to glass clamps, including the cost of best quality of silicone sealant, required best quality anchors and screws, including the cost of corner protectors and edge guards, including the cost of glass stabilizing brackets and support fin glass, including the cost of any other material required of best quality, required accessories and any additional hardware of best quality for installation as per design, cost of required gaskets for installation in place as per directions of the architect and engineer in-charge, working at any height, including all necessary accessories complete in all respects as per site requirements and as directed by the engineer in charge.	Sft	1,400.00		

15.	Providing & applying min 1/2" thick cement plaster 1:4 including making edges, corners, and curing etc., complete in all respects as per site requirements and as directed by the engineer incharge..	Sft	5,600.00		
16.	Providing and fixing aluminium frame glazed partitions with openable door as shown in drawing using sections of Alumex, Chawla Aluminium or approved equivalent, using curtain wall sections 2mm thick in approved colour from F.F.L. including approved quality 8mm thick tempered glass, including the cost of 100 micron anti shatter film of 3M or approved equivalent, including the cost of required gaskets/silicone sealants/all hardware for fixing etc., as shown on drawings, and as per sample approved by the Engineer (Measurement for payment shall be considered after deduction of door openings.)	Sft	1020.00		
17.	Providing and fixing aluminium glazed doors, using section of "Alumex", "Chawla Aluminium" or approved equivalent, min 100mm wide and 2mm thick in approved colour frame, including best quality imported make 8mm thick tempered glass of approved colour, including the cost of 100 micron anti shatter film of 3M or approved equivalent, including the cost of best quality door handle and door locks, floor hinge machine on both panels, and all hardware etc; as shown on drawings, and as per sample approved by the Engineer.	Sft	70.00		
18.	Providing and fixing 12 mm thick plate tempered Glass doors of 3.5 ft x 7ft size with rounded & polished edges including cost of providing & fixing of floor mounted door closer/hinge machine of M/s NEWSTAR or other approved equivalent make, approved quality deluxe type aluminum H-section of Pakistan Cable (Alum-Ex, Section 70048B)) or other approved equivalent make at top & bottom of the door panel and required sealant/silicone etc, approved quality concealed locks at top & bottom & 1-1/2" dia. 16SWG SS pipe handle of full length on inner & outer sides, etc. including the cost of 100 micron anti shatter film of 3M or approved equivalent, Complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Sft	100.00		
19.	Providing and fixing 12 mm thick tempered Glass double leaf sliding doors of 6 ft x 7ft size with beveled & polished edges, including cost of approved quality deluxe type aluminum sections of Pakistan Cable (Alum-Ex) or other approved equivalent make, and other accessories of approved best quality required for door panel and sliding arrangements, including the cost of required sealant/silicone etc, approved quality concealed locks, including the cost of required sensors on both sides (in and out) of door, including the cost of wheel sets on both leafs, including the cost of providing and fixing sliding assembly of best quality at top and bottom as per approved design and make, including the cost of 100 micron anti shatter film of 3M or approved equivalent, including the cost of edge flapper, Complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Sft	130.00		
20.	Providing & fixing solid core flush doors of required sizes and 1.5" thickness, with PARTAL wood infill & 1.5" x 1/2" size deodar wood lipping and approved quality Formica pasted on both sides, polishing of lipping with matt finish coca brown enamel paint, wooden beading Golden teak 10mm x 50mm, door frame made from 16SWG GI pressed sheet as per the	Sft	110.00		

	drawing deco painted with approved quality & color paint, minimum 06 hold fasts made from 1" wide MS flat Patti of 16 SWG, providing & pasting at least 24 SWG aluminum sheet all around the door panels up to 6" height at bottom,filling of cement-sand slurry 1:4 behind the door frame, at least 6" size brass handles of approved quality on inner & outer side, three 4" long stainless steel hinges with brass bushes, approved quality stainless steel 6" size horizontal sliding bolt/L-drop on inner side, two separate stainless steel hooks for clothes hanging, stainless steel lever type door occupancy lock of NEWISE or other approved equivalent, one plastic body louver, disposal of debris away from the Bank premises complete in all respects and as directed by the Engineer In charge				
21.	Providing & fixing solid core flush doors of required sizes and 1.5" thickness, with PARTAL wood infill & 1.5" x 1/2" size deodar wood lipping and approved quality Formica pasted on both sides, polishing of lipping with matt finish coca brown enamel paint, wooden beading Golden teak 10mm x 50mm, door frame made from 16SWG GI pressed sheet as per the drawing deco painted with approved quality & color paint, minimum 06 hold fasts made from 1" wide MS flat Patti of 16 SWG, providing & pasting at least 24 SWG aluminum sheet all around the door panels up to 6" height at bottom,filling of cement-sand slurry 1:4 behind the door frame, at least 6" size brass handles of approved quality on inner & outer side, three 4" long stainless steel hinges with brass bushes, including the cost of providing and fixing approved quality handle lock, pasting SS push plates on both sides, including the cost of providing glass looking pane in door as per design approved, including the cost of providing best quality floor mounted door closer/hinge machine on each door panel, disposal of debris away from the Bank premises complete in all respects and as directed by the Engineer In charge	Sft	75		
22.	Providing and laying approved quality full body porcelain tiles minimum 24" x 48" size and 10mm thick on floor laid over 3 inch thick subfloor 1:2:4, setting the tiles with Bond over subfloor, including the cost of spacers required, jointing the tiles with white cement slurry and nosing including curing, etc. working at any height, complete all as specified.& Instruction by engineer in charge	Sft	7,600.00		
23.	Providing and laying approved Sunny White Marble in similar shade (min 16mm) tiles 24" x 24" on floor laid over minimum 1 inch (25 mm) thick cement mortar 1:4 in required slope, setting the marble with Bond over cement mortar, jointing the marble with white cement slurry and nosing including curing, chemical polishing etc. working at any height, complete in all respects and as per Instructions by engineer in charge	Sft	6,000.00		
24.	Providing and laying approved quality pre polished Ziarat White Marble (min 10 mm thick) tiles 12" x 24" on walls laid over 1/2" inch (13 mm) thick cement mortar 1:4 setting the tiles with Bond over cement mortar, jointing the marble with white cement slurry and nosing including curing, polishing etc. working at any height , complete in all respects and as per Instructions by engineer in charge	Sft	750.00		

25.	Providing and fixing minimum 16 mm thick (12"x48") pre-polished approved type Granite slabs over floor including approx 3" thick subfloor, grouting with matching color pigmented cement, chemical polish etc. working at any height, complete in all respects as per Specifications and as approved by the Engineer.	Sft	1,200.00		
26.	Providing & fixing ¾" thick laser cut pre-polished grade-A, Pearl Blue or any other approved type granite tiles of about 30cm x 60cm size, over floor as per the sample available with the Bank, including grouting with matching colour pigment, cost of spacers, cement buttering etc. complete in all respects as per site requirements and as directed by the Engineer Incharge	Sft	210		
27.	Same as above but 3/8" thick 4" high in dado/skirting complete in all respects as per site requirements and as directed by the Engineer Incharge.	Rft	110		
28.	Providing and fixing minimum 16 mm thick pre-polished Pearl blue/ Steel grey/ Cafe Brazil, or other approved type Granite slabs tops over Vanity & Kitchen counters with requisite holes for fixing vanities with round exposed edges, including the cost of required base mortar and cement paste buttering, working at any height , grouting with matching colour pigmented cement etc. complete in all respects as per Specifications and as approved by the Engineer.	Sft	150.00		
29.	Providing and fixing minimum 16 mm thick pre-polished approved type Granite slabs over stair treads with rounded & polished exposed edges, with 4 longitudinal grooves of about 1/4"x1/4" size filled with anti-skid sealant of approved quality, including the cost of required base mortar and cement paste buttering, grouting with matching colour pigmented cement etc. working at any height, complete in all respects as per Specifications and as approved by the Engineer.	Sft	250.00		
30.	Providing & fixing in position vanity counter tops made from 12mm thick Corian of approved colour (white or any other) & quality with round exposed edges, with ¾" lipping of counter top all around the basin, with 4" high border of the same Corian along open sides of the counter, 4" high skirting/back splash guard sheet on backside, both skirting/splash guard & border with 1" wide horizontal strip of Silt or other approved colour Corian, all as shown in the drawings, working at any height, complete in all respects as per drawings, site requirements and as directed by the Engineer In-charge. (2ft x 14.75ft approx. clear top for three (03) basins)	Sft	38		
31.	Making & installation of cabinet doors under the vanity counters using 12mm thick Corian of approved colour (white or any other), including the cost of imported hinges Auto closer, etc. approved quality non-magnetic imported powder coated handles of at least 6" size, complete in all respects as shown in drawings, as per site requirements and as directed by the Engineer In-charge. (Measurement for payment shall be taken as the surface area of the cabinets at exposed sides of the cabinet/counter).	Sft	40		
32.	Providing and fixing minimum 10 mm thick (about size 6"x48") pre-polished approved type Granite slabs over stair risers including the cost of required base mortar and cement	Sft	120		

	paste buttering, grouting with matching colour pigmented cement etc. complete in all respects as per Specifications and as approved by the Engineer.				
33.	Providing and apply one coat of primer Dulux Primeon and preparation of base with putty of "ICI Dulux or Kansai Paint" or "Berger" make or other approved equivalent, and 3 coats (as may be approved to have the required finish) of Dulux Plastic Emulsion Paint of "ICI Dulux" or "Kansai Paint" or "Berger" make (or approved equal) as per Specifications and approved shade, and as per sample by the Engineer.	Sft	18600		
34.	Supply and fix, gypsum ceiling with framing, including the cost of hanging mechanism, of 600 mm x 600 mm x 7.5 mm size, including PVC film at front and metallic foil pasted at back side complete, working at any height, including all necessary fitting as per drawings and instruction of engineer in charge.	Sft	2,500		
35.	Providing & laying minimum 2.5" thick concrete screed (1:2:4) in required slope including cost of making khurra for rain water disposal, working at any height, complete in all respects and as directed by the Engineer	Sft	7,000		
36.	Providing and laying, 4mm thick Torch applied Water Proofing Membrane with self adhesive side lap 75mm, end lap 100 mm, including cost of approved quality of primer and 200 micron polythene sheet over membrane etc. including the cost of 3" PCC gola required, including the cost of cement slurry required for levelling the surface, complete as specified & as per direction of engineer in charge.	Sft	7,000		
37.	Providing, fabricating, and fixing tensile fabric shed supported on mild steel truss structure consisting of required numbers of 4" dia 16SWG MS pipe supports about 10ft high and anchored to RCC Slab , 2" dia 16 SWG MS pipe running in transverse direction and 3" dia 16 SWG MS pipe in longitudinal direction, cost of one coat of red oxide primer and three coats of approved colour enamel paint of ICI Dulux or approved equivalent make, fixing of 725 gsm (Gram per Sq. meter) tensile fabric sheet of approved quality and make over the truss, as per drawings and specifications. The work includes the provision of all necessary materials, labor, equipment, and tools required for the successful completion of the project as per site conditions and as directed by the Engineer in-charge. Note: Measurement for payments shall be made on the basis of the projected plan area of the shade over the ground, no adjustment will be considered regarding curvature or overlaps etc.	Sft	1,600		
38.	Providing, fabricating, welding & fixing in position Stainless Steel railing floor mounted with SS grade 304 IIL or approved manufacturer, comprising of 50mm dia hand rail, 20mm dia (03 Nos) horizontal intermdiates & 38mm dia baluster @ every alternate step including drilling & grouting with approved material, all required accessories (Bends, base plate, cap/cover, nuts & bolts etc.) complete in all respects, at any height & any floor as per direction of the Engineer Incharge	Rft	90		
39.	Providing & fixing MS angles for creating steps in Multipurpose Hall including the cost of cutting, grinding, joining, welding, finishing including the cost of required enamel paint of approved quality, including the cost of required	Kg	405		

	hardware of best quality as per site requirements as per site requirements and as directed by the Engineer Incharge				
40.	Providing and fixing minimum 16 mm thick marine ply sheets on steps, including the cost of making border as per directions of the architect, including the cost of any material required for making border and finishing on each step, including the cost of polishing if required, as per required pattern in any position. Complete in all respects.	Sft	550		
41.	Supply and installation of Carpet Tile Flooring, tile size 24"×24" (2 ft × 2 ft), made from 100% solution-dyed nylon or polypropylene fiber with PVC or Bitumen backing, having a total thickness of 5 to 6 mm, laid in approved pattern on leveled and smooth cementitious screed floor with appropriate adhesive, complete in all respects as per manufacturer's instructions and approval of Engineer-in-Charge.	Sft	600		
42.	Providing of Lift Well pit approx 1500mm deep or as per Manufacturer's recommendations including dismantling of Existing Floor and Excavation upto required depth 1:4:8 PCC, Block maonry on all sides as per manufacturer recommendation including the cost of plaster of the sides and waterproofing with 4mm thick torch applied bitumen membrane.	Job	1		
Plumbing Works					
43.	Making of holes in the RCC wall/ slab etc. with the help of core cutter and repairing the same up to full depth after fixing of the pipes with Max Track of SIKA, CHEMAFLEX of ICPL or other approved equivalent sealant, including 1" x ½" size ring of sealant all around the pipe at slab top, ensuring under floors safety by placing rubberize mats and a watch man to aviod any damages to human and material complete in all respects as per site requirement and as directed by the Engineer In-charge (for 4"/3" pipe)	Each	20		
44.	Providing and fixing PPR-C pipe of Turkplast of PN-20 or approved equivalent make including the cost of required sockets, elbows, plug elbows, Tees, bushes, reducers, sockets, threaded fittings, cutting, jointing etc. including connections to existing water supply lines, including cost of cutting/grooves in walls/making holes in walls, including the cost of repairing of cutting/holes after completion of plumbing, complete in all respect as per site requirements and as directed by the Engineer In-Charge				
	c. 3/4" dia.	Rft	130		
	b. 1" dia	Rft	80		
45.	Providing and fixing 1" dia heavy duty brass Ball valve with handle of specified diameter made of Kitz Japan or approved equivalent complete in all respect as approved and directed by the Engineer Incharge.	Nos	2		
46.	Providing & laying Sch.40 uPVC pipe of AGM (Jeddah)or approved make & quality for waste water in floors/outer wall, including the cost of required sockets, elbows, plug elbows, Tees, Y-Tees, Four way Tees, bushes, reducers, sockets & jointing solutions etc including termination of pipes to nearest Manhole outside Building , making of holes in walls where required and repairing of the same after laying of pipes as per original look etc, including connections with existing vent pipes/manholes/sewer pipes etc. including the cost of clamps made from 1.5" wide 12SWG stainless steel patti, in the form				

	of two half circles with 1.5" long collars, suspended with the ceiling with the help of two 10mm dia. rawl bolts/rods and nuts after laying of the pipes, complete in all respects as per site requirements and as directed by the Engineer In Charge				
	a) 3" dia	Rft	100		
	b) 4" dia	Rft	200		
47.	Providing & fixing one piece commode of about 714 x 40 x 665 mm size , HD-131 A of Porta or other approved equivalent make, approved equivalent make, with S-trap & heavy duty plastic type hydraulic seat cover, approved quality CP T-stop cock of Master/Sonex/Faisal or approved equivalent, CP connection pipe of approved quality & make, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	4		
48.	Providing & fixing squatting pan (W.C) of about 16" x 21" size, HD-43 of Porta or other approved equivalent make, including the cost of uPVC P-trap, concealed flushing pipe (1.5" dia. uPVC Sche.40), providing and applying sealant Max Track of Sika, CHEMAFLEX of ICPL or other approved equivalent make around flush pipe at joint with WC, and around WC neck before placing the WC in position, etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	2		
49.	Providing & fixing of wall hung type flush tank of Porta (HDPT700) or other approved equivalent make, including the cost approved quality CP T-stop cock of Master/Sonex/Faisal or approved equivalent, CP connection pipe, including connection with the WC/ commode, complete in all respects as per site requirements and as directed by the Engineer In-Charge	Nos	2		
50.	Providing & fixing under counter type wash basin of Porta or approved equivalent make, including the cost of stainless steel screws, fixing bracket, approved quality bottle trap, connection pipes, waste pipes etc. complete in all respects as per site requirements and as directed by the Engineer In-charge.	Nos	3		
51.	Providing & fixing in position, Powder coated Double Bib cock of Master, Sonex, Faisal or other approved equivalent make of approved shape/design, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	6		
52.	Providing & fixing in position approved quality plastic body Muslim Shower of Master,Sonex, Faisal or other approved equivalent make of approved shape/design including the cost of flexible connection pipe of approved quality, complete in all respects as per site requirements and as directed by the Engineer In-Charge	Nos	6		
53.	Providing and fixing Powder Coated T-Stop Cocks (as per approved sample) of Master, Sonex or approved equivalent make, including the cost of approved quality connection pipes, complete in all respects as per site requirements and as directed by the Engineer In-Charge	Nos	12		
54.	Providing and Fixing Hand Dryer as per approved quality of Siemens or its equivalent etc. complete and as per instruction of engineer in charge	Nos	1		

55.	Providing & fixing in position 5mm thick imported approved quality looking mirror of 2' x 4' size approx. with 12mm thick 1.5" wide Corian edging all-around of approved color, including fixing approximately 4" away from the wall with the help of stainless steel studs, etc. required for fixing of the mirror, complete in all respects as per site requirements and as directed by the Engineer In-charge.	Nos	3		
56.	Providing & fixing in position, heavy duty Soap Dispensors of approved quality of Master, Sonex, Faisal or other approved equivalent make, complete in all respects as per site requirements and as directed by the Engineer In-Charge	Nos	2		
57.	Providing & fixing in position, Powder Coated toilet paper holder of Master, Sonex, Faisal or other approved equivalent, complete in all respects as per site requirements and as directed by the Engineer In-Charge	Nos	4		
58.	Providing & fixing in position uPVC floor traps of 6"x6" size with heavy duty Stainless Steel floor trap jali/ strainer of approved quality, complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	10		
59.	Providing & fixing 24" x 18" x 8" sinks complete with & including the cost of C.I or W.I brackets 6 inches built into walls, 1-1/2" rubber plug & chrome plated brass chain 1/2" CP brass washer 1-1/2" dia malleable iron or CP brass trap with malleable iron of brass union & making requisite number of holes in wall, plinth & floor for pipe connection & making good in cement concrete 1:2:4 (Grohe, Master, Clever or equivalent)	Nos	1		
60.	Providing and fixing of long neck pillar cock of Master, Sonex,Faisal or other approved equivalent make of approved shape/design including the cost of connection pipes, Powder Coated- T-stop cocks etc. complete in all respects as per site requirements and as directed by the Engineer In-Charge.	Nos	3		
61.	Providing & Fixing CP Mixer, fancy head, (Grohe, master, Clever or equivalent) pattern and shape, screw down, high pressure, lettered Hot and cold with long screw channels and fly nuts complete, supply and fixing.	Nos	1		
				Total -A	
LIFT Works					
62.	Supply of Machine Roomless (MRL) (completely imported) passenger lift programmed for 03stops (Ground + 02) of minimum loading capacity 800Kg, as per EN-81 standards, operational on 380-415 Volts, 3-phase, 50 Hz, 03 stops, minimum speed of 1.0m/s as per **Annexure A. Required Technical Parameters and** with following features: • Complete gearless hoisting motor capable of serving Ground + 02 Floors with microprocessor/control panel full Collective Selective AC VVVF operation • landing door panels, door track, sill and door drive • Complete cabin with Car Operating Panel (COP) showing all floor numbers, hoisting ropes and trailing cables • Hall operating panel (HOP) with LED display panel on each floor showing all floors numbers (from Ground to 2nd floor) on all floors • Indicator flicker and chime before car arrival. • Automatic control of the door's operating closing time	No	1		

	according to the kind of floor and call. • Automatic rescue device (ARD)/Emergency Landing Device, complete in all respects to allow the lift to travel to the nearest floor stop and lifts door would open automatically in case of power failure for evacuation of passengers • Full length light curtain, with door closing force limiting device or photoelectric beam as backup • Weight overload buzzer with safety device . All safety devices as per safety standards of EN-81 • Telephone intercom system • Alarm bell • Door Open/Close push buttons inside car • Voice Prompt System for blind persons indicating each floor reached. • Further equipped with lights, fan, call bell, emergency backup for lights, fan, alarm and intercom • Digital Control Panel, Automatic door control with central opening. • Operation manual, maintenance manual and circuit diagrams (English Version). Two Hard Copies & One Soft copy in CD/USB. • In accordance with manufacturer's standard design/drawings and confirming to Technical Specifications and Data. Submission of Shop Drawings after work order and As-Built Drawings after completion along with final bill. **Note:** Where applicable, lift should be equipped with lift operating software for printing of data reports and error logs, change operating parameters etc.				
63.	Installation, Testing, Commissioning of Lift at Sr. 59 above, in accordance with drawings and confirm to Technical Specifications, Technical Data and specified Installation Material. The work includes installation of new doors/frame as per new requirement of floor levels/height, control panel, main hoisting motor, control wiring, ERD, landing door panels, door track, sill and door drive motor and track, complete cabin with COP, hoisting ropes and trailing cables, Hall Call destination panel on all floors, including dismantling and repairing work for installation if display board of lift position, including all required Civil repair work of plaster/paint finish as per adjacent lift, including the cost of material, labor, cutting necessary holes in slab, machine, tools, all finishing work after fixing doors, thresholds, panels etc required to complete the installation of lift. Complete in all respects as required to the entire satisfaction of the Engineer-in charge. Dismantling and stacking of all mechanical, electrical and electronic parts with proper wrapping and shifting to engineering store "	Job	1		
64.	Technical & Maintenance Services for the Lifts, one (01) lift technician to be provided by the Contractor for support including Troubleshooting, Inspections, Preventive and Corrective Services	Months	12		

65.	Supply of following critical spare parts for the above mentioned passenger lift at Sr. 59 : **1.** Control PCB card of COP (Car Operating Panel) (01 No) **2.** Complete set of all push buttons (G-10, Up/Down, Open/Close) (01 Set) **3.** Floor Indicator card on the lobby(01 No) **4.** Floor Indicator card inside the cabin(01 No) **5.** Door Full beam sensor with mechanical push and power supply module complete in all respect(01 No)	Lump sum	1		
Electrical Works					
66.	Supply & installation of Suspended Type LED Panel lights 2x2 with following specifications: Power Rating : 32-40 Watts Color Temperature : 6500K/6000K Efficiency = 115 Lm/W or above Power Factor >= 0.9 Color Rendering Index >= 80 IP Class 20 or above Life span: 20,000 hours or above Thermally conductive plastic-coated aluminum housing Compliance with IEC Code 60598 or 62471 **Warranty**: At least 2 years Rate includes the cost of connectors, pins, wires, clips, ropes, pipes and all material required for hanging etc complete in all respect as per manufacturer's instructions complete in all respects as directed by Engineer-in-charge.	Jobs	150		
67.	Supply, installation, testing and commissioning of 6A double pole MCB Circuit Breaker Icu= 6kA with breaker box for floodlight complete in all respects	Jobs	2		
68.	Supply, installation, testing, and commissioning of Power circuits from Power DB to Power Points: 2 x 4mm sqr. & 1.5mmsqr. as ECC copper/PVC wire (Electrical wiring must be compliant with IEC 60364 or BS 7671 and type tested certification from KEMA/RAWAT/PQSIR) and PVC pipe of 25 mm dia of class C (Electrical PVC pipe must be in compliant with BS 6099-1 or PS 1905-87 standards) The cost includes supply, laying, and installation of wires in PVC conduit pipe with wall/floor cutting with all necessary installation material and redressing as per original condition, complete in all respects as per standard industry practice to the satisfaction of the Engineer In-charge .	ft	1850		
69.	Supply, installation, testing, and commissioning of lighting circuits from DB to Switch/Breaker for Floodlight LED lights mentioned in above item no. 02 by using: 2 x 1.5mm sqr. & 1.5mmsqr. as ECC copper/PVC wire (Electrical wiring must be compliant with IEC 60364 or BS 7671 and type tested certification from KEMA/RAWAT/PQSIR) and PVC pipe of 25 mm dia of class C (Electrical PVC pipe must be in compliant with BS 6099-1 or PS 1905-87 standards). The cost includes supply, laying, and installation of wires in PVC conduit pipe with wall/floor cutting with all necessary installation material and redressing as per original condition,	ft	250		

	complete in all respects as per standard industry practice to the satisfaction of the Engineer In-charge .				
70.	Supply, installation, testing, and commissioning of power backbone 4 core 25mm sqr. PVC/PVC cable & 16mmsqr. as ECC copper/PVC wire (Electrical wiring must be compliant with IEC 60364 or BS 7671 and type tested certification from KEMA/RAWAT/PQSIR) in existing cable tray or conduit. The cost includes supply, laying, and installation of wires in provided PVC conduit/ pipe/tray with wall/floor cutting with all necessary installation material and redressing as per original condition, complete in all respects as per standard industry practice to the satisfaction of the Engineer In-charge .	ft	180		
71.	Supply, installation, testing, and commissioning of lighting backbone 4 core 16mm sqr. PVC/PVC cable & 10mmsqr. as ECC copper/PVC wire (Electrical wiring must be compliant with IEC 60364 or BS 7671 and type tested certification from KEMA/RAWAT/PQSIR) in existing cable tray or conduit. The cost includes supply, laying, and installation of wires in provided PVC conduit/ pipe/tray with wall/floor cutting with all necessary installation material and redressing as per original condition, complete in all respects as per standard industry practice to the satisfaction of the Engineer In-charge .	ft	350		
72.	Supply and Installation of 14 SWG GI Cable Tray of size 3" x 4" powder coated in approved color anchored nuts and bolts with all cables stacked inside cable tray for with cable ties and all fixing material and fitting, fixing material, drilling, chipping, wall/floor cutting, paint work and repairing as per original complete in all respect, as per standard practices and instructions of the Engineer In-charge.	ft	200		
73.	Supply and Installation of 16 SWG GI Cable Tray of size 6" x 3" powder coated in approved color anchored nuts and bolts with all cables stacked inside cable tray for with cable ties and all fixing material and fitting, fixing material, drilling, chipping, wall/floor cutting, paint work and repairing as per original complete in all respect, as per standard practices and instructions of the Engineer In-charge.	ft	400		
74.	Supply Installation Testing and commissioning of CAT-6 UTP voice cables in PVC pipe including labelling, termination and testing at both ends in compliance with ISO 11801 and EN 50173 complete in all respects as directed by Engineer in charge (Length of each coil = 305m)	Coils	3		
75.	Supply, Installation, testing & Commissioning of Analog Subscriber Line Module 24 Ports (SLMAV24N) with licenses for Unify OpenScape Business X8 PABX complete in all respects as directed by engineer-in-charge	Nos.	1		
76.	Supply and installation of 04 Gang switch sheets/face plates with metallic powder coated back box/PVC back box 3"x3" with fixing material by observing beauty and proper level on wall from floor level. Complete in all respects as directed by engineer-in-charge.	Nos.	5		
77.	Supply, installation, testing, and commissioning of : • AC circuit wiring using:3 x 4 mm sqr. & 1.5mmsqr. as ECC copper/PVC wire (Electrical wiring must be compliant with IEC 60364 or BS 7671 and type tested certification from KEMA/RAWAT/PQSIR) and	ft	150		

	• PVC pipe of 25 mm dia of class C (Electrical PVC pipe must be in complaint with BS 6099-1 or PS 1905-87 or equivalent). The cost includes supply, laying, and installation of above mentioned PVC pipe and wires on wall/floor cutting with all necessary installation material and redressing as per original condition, complete in all respects as per standard industry practice to the satisfaction of the Engineer In-charge.				
78.	Supply and installation of 06 Gang switch sheets/face plates of with metallic powder coated back box/PVC back box 3"x3" with fixing material by observing beauty and proper level on wall from floor level. Complete in all respects as directed by engineer-in-charge.	Nos.	14		
79.	Supply, installation, testing & commissioning of Electric Distribution Board (DB) Concealed type, double door with separate compartment of power and lighting, finished with 16SWG MS sheet, drawing pocket, transparent sheet, powder coated paint of approved color (RAL 7032), moveable & lockable handles of suitable brand, magnetic locks, flush type hinged door with Earthling braid consisting of danger plate with handle, complete internal power and control wiring, MCCB Safety Plates as per DB Gauge, fixing material nut bolts, Lugs, glands and with following components:- Main Incoming: • 01 Nos. 80 Amp T.P MCCB Icu = 10kA & Ics = 50% • 01 Nos. 32 Amp T.P MCCB Icu = 10kA & Ics = 50% N&E busbar set • 06 Nos. Indication lights Outgoing • 08 Nos. 10 Amp SP MCB, 6kA • 08 Nos. 16 Amp SP MCB, 6kA • 02 Nos, 32Amp TP MCB, 10KA • 06 Nos, 6Amp DP MCB, 10KA • N&E bus bar set All cable links/bus bar links must be as per outgoing MCCB load	Job	1		
80.	Supply, installation, testing & commissioning of Electric Distribution Board (DB) Concealed type, double door with separate compartment of power and lighting, finished with 16SWG MS sheet, drawing pocket, transparent sheet, powder coated paint of approved color (RAL 7032), moveable & lockable handles of suitable brand, magnetic locks, flush type hinged door with Earthling braid consisting of danger plate with handle, complete internal power and control wiring, MCCB Safety Plates as per DB Gauge, fixing material nut bolts, Lugs, glands and with following components:- Main Incoming: • 01 Nos. 32 Amp T.P MCCB Icu = 10kA & Ics = 50% • 01 Nos. 32 Amp T.P MCCB Icu = 10kA & Ics = 50% N&E busbar set • 06 Nos. Indication lights Outgoing • 8 Nos. 10 Amp SP MCB, 6kA • 8 Nos. 16 Amp SP MCB, 6kA • 6 Nos, 6Amp DP MCB, 10KA • N&E bus bar set	Job	1		

	All cable links/bus bar links must be as per outgoing MCCB load				
81.	Supply, installation, testing, and commissioning of: • Switch to light point using:2 x 1.5mm sqr. & 1.5mmsqr. as ECC copper/PVC wire (Electrical wiring must be compliant with IEC 60364 or BS 7671 and type tested certification from KEMA/RAWAT/PQSIR) • PVC pipe of 25 mm dia of class C (Electrical PVC pipe must be in complaint with BS 6099-1 or PS 1905-87 standards). The cost includes supply, laying, and installation of above mentioned PVC pipes and wires on wall/floor cutting with all necessary installation material and redressing as per original condition, complete in all respects as per standard industry practice to the satisfaction of the Engineer In-charge .	ft	7500		
82.	Supply, installation, testing, and commissioning of : • Lighting circuits from DB to Switch/Breaker for LED lights using: 2 x 1.5mm sqr. & 1.5mmsqr. as ECC copper/PVC wire (Electrical wiring must be compliant with IEC 60364 or BS 7671 and type tested certification from KEMA/ RAWAT/ PQSIR) • PVC pipe of 25 mm dia of class C (Electrical PVC pipe must be in compliant with BS 6099-1 or PS 1905-87 standards). The cost includes supply, laying, and installation of above mentioned PVC pipes and wires on wall/floor cutting with all necessary installation material and redressing as per original condition, complete in all respects as per standard industry practice to the satisfaction of the Engineer In-charge .	ft	1182		
83.	Supply, installation, testing, and commissioning of : • Point to point circuit wiring (Looping) using: 2 x 2.5mm sqr. & 1.5mmsqr. as ECC copper/PVC wire (Electrical wiring must be compliant with IEC 60364 or BS 7671 and type tested certification from KEMA/RAWAT/PQSIR) • PVC pipe of 25 mm dia of class C (Electrical PVC pipe must be in complaint with BS 6099-1 or PS 1905-87 or equivalent). The cost includes supply, laying, and installation of above mentioned PVC pipes and wires on wall/floor cutting with all necessary installation material and redressing as per original condition, complete in all respects as per standard industry practice to the satisfaction of the Engineer In-charge .	ft	1200		
84.	Supply Installation Testing and commissioning of Dual Face plate RJ-11 faceplate socket outlet with I/Os back boxes complete in all respects as directed by Engineer in charge	Nos.	8		
85.	Dismantling of existing lighting fixtures, tube rods, conduit pipes, distribution boxes, faceplates etc as directed by engineer-in-charge, and handing over of healthy tube rods, sockets, chokes, starters and holders in Bank's stores	Job	1		
86.	Supply, installation, testing & commissioning of Electric Distribution Board (DB) Concealed type, single door with, finished with 16SWG MS sheet, drawing pocket, transparent	Job	1		

	sheet, powder coated paint of approved color (RAL 7032), moveable & lockable handles of suitable brand, magnetic locks, flush type hinged door with Earthling braid consisting of danger plate with handle, complete internal power and control wiring, MCCB Safety Plates as per DB Gauge, fixing material nut bolts, Lugs, glands and with following components:- Main Incoming: • 01 Nos. 150 Amp T.P MCCB Icu = 25kA & Ics = 100% N&E busbar set • 03 Nos. Indication lights Outgoing • 01 Nos. 100 A TP MCCB, 15kA Icu=50% • 01 Nos. 60 A TP MCCB, 15kA Icu=50% • N&E bus bar set All cable links/bus bar links must be as per outgoing MCCB load				
87.	Supply, installation, testing, and commissioning of Power circuits for FCUs from DB to FCU DP breaker: • 2 x 1.5mm sqr. & 1.5mmsqr. as ECC copper/PVC wire (Electrical wiring must be compliant with IEC 60364 or BS 7671 and type tested certification from KEMA/RAWAT/PQSIR) • PVC pipe of 25 mm dia of class C (Electrical PVC pipe must be in compliant with BS 6099-1 or PS 1905-87 or equivalent standards) The cost includes supply, laying, and installation of above mentioned PVC pipes and wires on wall/floor cutting with all necessary installation material and redressing as per original condition, complete in all respects as per standard industry practice to the satisfaction of the Engineer In-charge.	ft	784		
88.	Supply, installation, testing and commissioning of fancy lights 10W LED for planters complete with fixture as directed by engineer in charge	Jobs	12		
89.	Supply and installation of Multiset/Power switch socket sheet/face plates of make Clipsal or equivalent with metallic powder coated back box with fixing material by observing beauty and proper level on wall/floor box . Complete in all respects as directed by engineer-in-charge.	Nos.	51		
90.	Supply and installation of 100A MCCB 25kA in existing panel along with modification works in Electrical Distribution Room. The cost includes cost of bus bar/cable links required to connect breaker incoming supply and termination of existing cables on outgoing side, complete in all respects as directed by Engineer In-charge	Jobs	3		
91.	Supply installation, testing and commissioning of 50W floodlights Operating voltage 200-240V, IP-65, CRI > 70, Lumen output >100 lm/W, Life =>25,000 hours color temperature 6500 or as advised by Engineer in charge, with in built driver along with supporting frame and fixing material for mounting on wall complete in all respects as directed by Engineer In-charge	Jobs	2		
92.	Supply, installation, testing, and commissioning of lighting backbone 4 core 16mm sqr. PVC/PVC cable & 10mmsqr. as ECC copper/PVC wire (Electrical wiring must be compliant	ft	85		

	with IEC 60364 or BS 7671 and type tested certification from KEMA/RAWAT/PQSIR) in existing cable tray or conduit. The cost includes supply, laying, and installation of wires in provided PVC conduit/ pipe/tray with wall/floor cutting with all necessary installation material and redressing as per original condition, complete in all respects as per standard industry practice to the satisfaction of the Engineer In-charge .				
93.	Supply, installation, testing and commissioning of floor Box 12" x 12" with four sockets installation space, base body metal and cover of made of polycarbonate material complete in all respects as directed by Engineer Incharge	Nos.	7		
94.	Supply and installation of plastic body wall mounted exhaust fan 12" with necessary fitting, fixing, drilling, chipping, wall cutting and repairing as per original with termination, connections, complete in all respects as standards and instructions by engineer-in-charge.	Nos.	6		
95.	Supply and installation 60A MCCB 25kA in panel along with modification works in Electrical Distribution Room. The cost includes cost of bus bar/cable links required to connect breaker incoming supply and termination of existing cables on outgoing side, complete in all respects as directed by Engineer In-charge	Jobs	2		
HVAC Works					
96.	Supply, fabricating & Installation of G.I Sheet Ducting (22 SWG) including the cost of hangers, tees, bends, reducers, elbows, turning vanes, jointing sealant, mounting supports @ 8 ft c/c and leakage testing complete in all respect.	Sft	6300		
97.	Supply & Installation of Supply Air Diffusers. Diffusers shall be furnished with volume dampers as furnished by the diffuser manufacturer, finished in black paint. Volume control for these diffusers shall be accessible through the diffuser from below the ceiling and shall maintain their setting when adjusted. Each diffuser shall be provided with sponge rubber or felt gasket.	Sft	30		
98.	Supply & Installation of Return Air Grills	Sft	40		
99.	Supply & Installation of Insulation (Type: 2" Thick Fiberglass Blanket, Vapour Barrier: Reinforced Aluminum Foil, 4-Oz canvas with water proof paint) of G.I Ducting	Sft	6300		
100.	Supply & Installation of Fan Coil Units (ceiling Exposed) with net cooling capacity not less than 22,000 BTU/h – Comprising of 1x ceiling exposed indoor unit with all accessories, electrical controls, thermostat, safety valves with standard installation, Remote Control, two way motorize valve etc. having 1-year warranty along with interconnection of MS piping (liquid lines) and hanging/ mounting of indoor with standard base plate as per manufacturer's design. Complete unit in all respect as per manufacturer’s specifications and instructions of the Engineer In Charge.	Nos.	5		
101.	Supply & Installation of Fan Coil Units (Wall Mounted Decorative Type) with net cooling capacity not less than 22,000 BTU/h – Comprising of 1x wall mounted indoor unit with all accessories, electrical controls, thermostat, safety valves with standard installation, Remote Control, two way motorize valve etc. having 1-year warranty along with interconnection of MS piping (liquid lines) and hanging/ mounting of indoor with standard base plate as per manufacturer's design. Complete unit in all respect as per manufacturer’s specifications and instructions of the Engineer In Charge.	Nos.	2		

102.	Supply & Installation of Fan Coil Units (Floor Standing) with net cooling capacity not less than 46,000 BTU/h – Comprising of 1x floor standing indoor unit with all accessories, electrical controls, thermostat, safety valves with standard installation, Remote Control, two way motorize valve etc. having 1-year warranty along with interconnection of MS piping (liquid lines) and hanging/ mounting of indoor with standard base plate as per manufacturer's design. Complete unit in all respect as per manufacturer's specifications and instructions of the Engineer In Charge.	Nos.	2		
103.	Supply & Installation of Split AC 4 TR Floor Mounted Inverter AC (Heat & Cool) with net cooling capacity of minimum 48,000 BTU/hr and EER not less than 3.0 comprising One Condensing unit for outdoor and One floor mounted indoor units including brackets for hanging AC outer units on the wall or MS stand for fixing of AC outer units on shade/ roof and the cost of one MS stand for placement of indoor unit, as per unit size, fabricated with MS angle iron, with all accessories, electrical controls, thermostat, safety valves with standard installation kit etc. with auto restart option after sudden failure, having warranty of 3-years for compressor and one year for parts. Complete unit in all respect as directed by Engineer/In-charge	Nos.	2		
104.	Supply of copper piping make Muller or approved equivalent suitable(22SWG) for 4-TR Floor Standing split AC units, with suitable aero flex insulation or equivalent covering with water proof tape as per site requirement.	Rft	80		
105.	Supply & Installation of MS Seamless Schedule 40 Piping (2")	Rft	280		
106.	Supply & Installation of MS Seamless Schedule 40 Piping (3/4")	Rft	70		
107.	Supply & Installation of High density (64 Kg/m3) aluminum foil faced fiberglass pipe insulation of MS Seamless Schedule 40 Piping (2") including the cost of canvas cloth	Rft	280		
108.	Supply & Installation of High density (64 Kg/m3) aluminum foil faced fiberglass pipe insulation of MS Seamless Schedule 40 Piping (3/4") including the cost of canvas cloth	Rft	70		
109.	Supply & Installation of Valves & Fittings of FCU's	Job	1		
110.	Supply & Installation of uPVC Class "D" drain pipe 2 inch dia with tees, bends,/elbows and other accessories, from Inner Unit to the drain Network.	Rft	250		
111.	Supply & Installation of uPVC Class "D" drain pipe 3/4 inch dia with tees, bends,/elbows and other accessories, from Inner Unit to the main drain pipe	Rft	120		
112.	Supply & Installation of 5 mm thick polyethylene (PE) insulation for condensate drain pipe covered with PVC tape (3/4" dia pipe)	Rft	120		
113.	Supply & installation of Volume Control Dampers as per latest SMACNA Duct Construction of prime quality G.I sheet. Dampers shall have galvanized or painted steel interlocking blades. Blades shall be fabricated from 16 gauge steel with seamed edges.	Nos.	10		
				Total -B	
Access Control System					
114.		Nos.	2		

	Time Attendance Machine with Access Control (Authentication from Face, Palm Vein Recognition and RFID Card) Dual Authentication: Face + Palm Vein Dual User Verification Mode: Must Required Display: approximate 5'' IPS Touch Screen Users for Face: Minimum 10,000 Users for Palm Vein: Minimum 10,000 Users for RFID Card: Minimum 10,000 OS: Linux / Windows 10 or latest Detection: Single / Multi Face Read Range: Approximately 2 meters Palm Read Range: 15~40cm RFID Card: Proximity & Mifare Cards Compatible Communication: TCP/IP and Wifi Input Ports: 2ea utput Ports: 2ea Temperature: -20 C - 60 C (variation 10%) Humidity: 10% - 90% Protection Class: IP65 Compliance: CE, FCC, RoHS Data Protection: CCPA, GDPR				
115.	Electromagnetic Locks for Doors Power: 12V, 500mA, Holding Force: 600LB (280Kg) Alarm Indication after Power Shut down. Body Size: 250mm (L) X 47mm (W) X 27mm (D)	Nos.	2		
116.	Brackets for Electromagnetic Door Locks	Nos.	2		
117.	Steel Push Button	Nos.	3		
118.	Time Attendance Software	Nos.	1		
119.	Delivery, Installation, Training & Commissioning	Nos.	1		
CCTV System					
120.	**Supply of 4MP IR Bullet Network Camera,** 1/1.8" CMOS image sensor, low luminance and high definition image. Outputs max. 4 MP (2688 ×1520)@50/60 fps. Built-in IR LED, and the max. illumination distance is 120 m.	Nos.	4		
121.	**Supply of 4MP IR Vari-focal Bullet Network Camera,** 1/2.9" CMOS image sensor, low luminance, and high definition image. Outputs max. 4 MP (2688 ×1520)@20 fps, and supports 2560 × 1440 (2560 ×1440)@25/30 fps. H.265 codec, high compression rate, ultra-low bit rate. Built-in IR LED, and the max. illumination distance is 60 m.	Nos.	10		
122.	**Supply of 4MP IR Vari-focal Dome Network Camera,** 1/2.9" CMOS image sensor, low luminance, and high definition image. Outputs max. 4 MP (2688 ×1520)@20 fps and supports 2560 × 1440 (2560 × 1440)@25/30 fps. H.265 codec, high compression rate, ultra-low bit rate. Built-in IR LED, and the max. illumination distance is 40 m.	Nos.	11		

123.	**Supply of Network Video Recorder (NVR),** Supports Smart H.265+, H.265, Smart H.264+, H.264 and MJPEG decoding formats. Max. decoding capability: 32×1080p@30 fps or 32× 2MP@30 fps. Max. 384/384/384 Mbps incoming/recording/outgoing bandwidth. Supports IP cameras with a resolution up to 32 MP. Supports AcuPick with up to 32 channels.	Nos.	1		
124.	**Supply of 20-Port Gigabit Switch with 16-Port PoE.** Meets the requirements of IEEE802.3, IEEE802.3u, IEEE802.3x, IEEE802.3ab, IEEE802.3z standards. Meets the requirements of IEEE802.3af, IEEE802.3at, Hi-PoE and IEEE802.3bt power supply standards. Manages PoE power consumption and PoE power on/off. Supports Intelligent PoE.	Nos.	2		
125.	Supply and installation of Fiber Optic Cable including cost of splicing	Meter	120		
126.	Supply and installation of Media Converter	Nos.	2		
127.	Supply and installation of 4 Port Optical Distribution Frame (ODF)/ Fiber Terminal Box	Nos.	2		
128.	Supply and laying of CAT6 Cable in PVC conduits with all accessories in compliance with ISO 11801 and EN 50173. The cost includes supply, laying, and installation of wires in provided PVC conduit/ pipe/tray with wall/floor cutting with all necessary installation material, including use as patch cord of required lengths at separate places, including the cost of connectors if required, complete in all respects, and redressing as per original condition, complete in all respects as per standard industry practice	Rft	4000		
129.	Supply and installation of PVC Box	Nos.	25		
130.	Supply and installation of Surveillance Hard Drive 8TB with SATA interface	Nos.	2		
131.	Supply and installation of 4U Rack	Nos.	2		
132.	Supply and installation of PDU rack mount	Nos.	2		
133.	Supply and installation of RJ45 Connector Box	Nos.	1		
134.	Supply and installation of Camera Pole 10FT	Nos.	1		
135.	Supply and installation of 43" LED Smart Android TV	Nos.	1		
136.	Supply and installation of HDMI CABLE 3MTR	Nos.	1		
137.	Supply and laying of Power Cable 40/0.076 in PVC conduit. Electrical wiring must be compliant with IEC 60364 or BS 7671 and must have certification from KEMA/RAWAT/PQSIR) The cost includes supply, laying, and installation of wires in provided PVC conduit/ pipe/tray with wall/floor cutting with all necessary installation material and redressing as per original condition, complete in all respects as per standard industry practice	Rft	295		
Fire Extinguishers					
138.	Supply and Installation on site DRY CHEMICAL POWDER (DCP) TYPE FIRE EXTINGUISHER 50.KG (ABC CLASS) (MULTI PURPOSE) (5 TO 10 YEARS WARRANTY) (COMPLETE SET). mobile pressure type, capacity :50kg, fire rating :IIB 113B,red color, LPCB/BSI Kitemark approved	No	1		
139.	Supply and Installation on site DRY CHEMICAL POWDER (DCP) TYPE FIRE EXTINGUISHER 6.KG (ABC CLASS) (MULTI PURPOSE) (5 TO 10 YEARS WARRANTY)	No	6		

	(COMPLETE SET WITH BRACKET). portable pressure type, capacity : 6kg, fire rating 21A & 113B,CE/Kitemark/MED/LPCB approved				
140.	Supply and Installation on site CO2 TYPE FIRE EXTINGUISHER 3.KG (IMPORTED). red color, fire rating:55B,CE/KITEMARK/MED/LPCB Approved (Complete with bracket).	No	3		
New Addressable Automatic Fire Alarm System					
141.	supply, installation, testing and commissioning of 2-loop analogue addressable fire alarm control panel expandable upto 4 loops, UL 864 10th edition listed & FM approved with 4 notification appliance circuits – minimum 300 devices with inbuilt power supplies for sounders as required. temperature: 0 to 49°c (32 to 120°f) relative humidity: 10 to 90% noncondensing, battery back-up 2 x 18ah dry maintenance free rechargeable complete in all respect	No	1		
142.	Supply, installation, testing and commissioning of Indoor electronic Sounder Flasher (UL 268 - 7th edition listed & FM approved) .strobe feature fields electable 15, 30, 75 or 110 cd light output. Minimum sound output 92 dB. Device Operating environment Temperature Relative humidity 32 to 122°F (0 to 50°C) 10 to 90% noncondensing.	No	3		
143.	Addressable Optical / Photoelectric Point Type Smoke Detectors (UL 268 - 7th edition listed & FM approved) with twist lock tamper proof Base. Technical Specifications must include SINGLE status LED (Red LED = Alarm & Green LED = Normal). Operating environment 32 to 120°F (0 to 49°C), 10 to 90% RH, noncondensing.	No	22		
144.	Analogue Addressable Manual Pull Station. Double action (Push-Pull) (UL 268 - 7th edition listed & FM approved) Operating Temperature: 32ºF to 120ºF (0ºC to 49ºC) Humidity:10 to 90% RH	No	8		
145.	supply and installation of Complete wiring of initiating devices by fire resistant cable (fr) From Fire Alarm Control Panel to all detectors, call points, intelligent interfacing modules etc. using 2C, 1.5 Sq. mm Shielded fire rated cable including surface wall / ceiling / column mounted UPVC for indoor. Complete in all respects. The cost shall include all works required including cost of pipe, cost of holes, making good any holes, cost of additional tools, plants, material and labour to complete the job.	Rft	4500		
146.	Testing & commissioning of entire system as per NFPA, including training of employer's personnel.	Job	1		
				Total C	
UPS Infrastructure Works					
147.	Supply, Installation and Testing of concealed /open surface wiring on wall/ floor from main UPS power DB to the UPS Power socket & point to point of power circuits with 3 x 7/29 (2.5 Sqr.mm) Single core (Red + Black + Green for Phase, Neutral & Earth respectively), CU/PVC make Pakistan Cables or approved equivalent through new PVC pipe / PVC flexible pipe of 1" size and other necessary fittings, drilling, chipping, cutting of wall or floor whatever come in the alignment for wiring to complete the job and termination of cables at both ends i.e. Faceplates & Power DB. Job complete in all respect as per site requirement as directed by SBP Engineer.	Rft	1500		

148.	Supply, installation / fixing and testing of Good Quality dual Power Faceplate 13 Amp Duplex) with concealed / open Back Box 16 AWG for UPS supply (Clipsal or equivalent brand) and related accessories as per site requirement complete in all respects as directed by the engineer In-charge.	No	15		
149.	Supply, installation / fixing and testing of Good Quality popup flush mounting box equipped with 4 modules (clipsal , legrand or equivalent brand) with two slot for single Power Faceplate 13 Amp for UPS power, one slots for Cat-6 Tool less I/O (optional) and one slot for telephone port and related accessories as per site requirements including cable management complete in all respects as directed by the engineer in-charge.	No	10		
150.	Supply and installation of a cable management floor box made of stainless steel of 16SWG having minimum size of 12"x 12"x4" with dual power face plate 13A & space for data, HDMI, USB, and other connections for a floor surface which can be installed in concrete, raised, or wood floors, including concealed / open surface conduit (for data, HDMI & USB while for UPS power conduit also included in item#1) depending on the model and design and site requirement.	No	6		
				Total D	
				Grand Total (A+B+C+D)	

In words (Rs.): _____

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