



Gateway to National Prosperity

PORT QASIM AUTHORITY **BIN QASIM, KARACHI-75020**

NOTICE INVITING TENDER

1. Port Qasim Authority (PQA) invites sealed bids from the reputed Contractors / Firms registered with (i) Pakistan Engineering Council (PEC) in C-5 Category or above, valid upto June, 2025 (ii) with specialization codes EE-04 and EE-5 (iii) registered with Income Tax department under FBR (Federal Board of Revenue) on active Tax Payer list having Tax Payers Registration Certificate (iv) registered with SRB (Sindh Revenue Board) (v) duly licensed by Electric Inspector, Govt of Sindh valid for current year (vi) and also registered with e-Pak Acquisition and Disposal System (e-PADS) of PPRA for the works mentioned here under:

Tender No.	Name of work	Annual Contract Ceiling	Earnest Money	Tender fee by Pay Order	Contract Period	Tender Submission & Opening date
186	Annual Running Operation, Repair & Maintenance Contract of Electrical Equipments, Machinery & installation at PQA.	Rs. 55.0 Million	Rs.1,100,000/- in shape of pay order in favor of PQA. (Refundable)	Rs. 5,000/- In favor of PQA (Non-Refundable)	12 Months	24/07/2025

2. Bidding documents containing detailed Terms & Conditions are available for the interested bidders at the office of Director (M&E), PQA, Bin, Karachi. The documents will be provided upon providing evidence for registration in relevant PEC Category, specialization as mentioned above and upon payment of a non-refundable bid documents price of Rs.5,000/= (Rupees, five thousand only), in the shape of pay order from any scheduled bank of Pakistan in favour of "Port Qasim Authority". Bidding documents can also be downloaded from PQA/ PPRA websites.
3. **Single Stage Two Envelope Procedure, under rule 36(b)** of PPRA-2004 shall be adopted. One envelope containing Information regarding Qualification of bidder and respective information shall be clearly marked "**Technical Proposal**" & the second envelope containing the Bid price shall clearly marked "**Financial Proposal**". Technical proposal must contain the earnest money amounting to Rs.1,100,000/- (Rupees One million and one hundred thousand only) in the form of pay order in favour of Port Qasim Authority, issued by a scheduled Bank of Pakistan located in Karachi having minimum AA rating. Tender submitted without Earnest Money shall be rejected.
4. Technical Proposal and Financial Proposal (Both Envelopes) covered in single envelope are to be submitted in the office of Director (M&E) on or before at 1200 hours on Bid submission date. Technical proposals only shall be opened on the same date at 1230 hours in the presence of Bidders or their authorized representative who may wish to be present.
5. Financial proposal of technically qualified bidders shall be opened in the presence of bidders or their authorized representatives who may wish to attend. The date, time & venue will be intimated later. The financial proposal of technically non-qualified bidders shall be returned unopened.
6. In case of holiday on the date of submission/opening of tender, the same will be opened on the next working day at the same time.
7. Port Qasim Authority reserves the right to accept or reject any or all bids as per PPRA-2004 and no claim whatsoever shall be entertained in this regards. Authority's decision in this respect shall be final and binding upon all bidders.


(SHAHNAWAZ MANGRIO)
SECRETARY PQA



NBP National Bank of Pakistan
بئنیشنل بینک آف پاکستان

NATIONAL BANK OF PAKISTAN
0279-PORT QASIM BRANCH
PORT BIN QASIM-KARACHI

A/C Payee

Cheque No. 59809143

Date 23/Jan/2025

Public Procurement Regulatory Authority (PPRA)

Pay _____ or bearer

** Fifteen Thousand **

Rupees

PKR #15,000/-

PK33NBPA0279004014907583
PORT QASIM AUTHORITY.

Please do not write below this line.

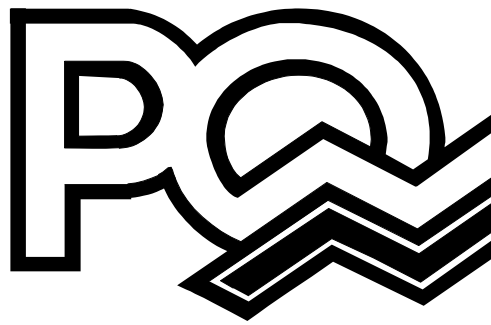
Signature
Director (General)
Public Procurement
Regulatory Authority

Signature

⑈ 59809143 ⑆ 0700279 ⑆ 0279004014907583 ⑆ 000 ⑆

**PORT QASIM AUTHORITY
MINISTRY OF MARITIME AFFAIRS
GOVERNEMENT OF PAKISTAN**

MECHANICAL & ELECTRICAL DEPARTMENT



Gate way to National Prosperity

TENDER & CONTRACT DOCUMENTS

FOR

**ANNUAL RUNNING OPERATION, REPAIR & MAINTENANCE
CONTRACT OF ELECTRICAL EQUIPMENTS, MACHINERY AND
INSTALLATIONS AT PQA
(2025-2026)**

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INSTRUCTIONS TO BIDDERS/TENDERER

A. GENERAL

IB.1 Scope of Bid

- 1.1 The Employer as defined in the Bidding Data hereinafter called "Port Qasim Authority" wishes to receive bids for the "Annual running repair & maintenance contract of Electrical Equipments, Machinery and Installation at PQA" as described in these Bidding Documents, and summarized in the Bidding Data hereinafter referred to as the "Works".
- 1.2 The successful bidder will be expected to complete the Works within the time specified in Appendix-A to Bid.

IB.2 Source of Funds

- 2.1 The Employer has finances for the cost of the project specified in the Bidding Data and for which these Bidding Documents are issued.

IB.3 Eligible Bidders

- 3.1 This invitation for Bids is open to local firms / Contractors:-
 - a. Firms / Contractor shall have to submit with bid the following:-
 - i)- Duly licensed by the Pakistan Engineering Council (PEC) in the Category C-5 and above with code EE-04 & EE-05 valid up to June, 2025.
 - ii)- Duly licensed by Electric Inspector, Govt of Sindh valid for current year.
 - iii)- Relevant experience in HT/LT Sub-station equipment and distribution network and completion certificate with value of work ,documentary proof for last three year.
 - iv)- List of tool and equipments (Owned & Hired)
 - v)- Registration with Income Tax & Sales Tax Departments of Federal Bureau of Revenue (FBR) and Sindh Revenue Board (SRB) on active tax payer list.
 - vi)- Registered with e-Pak Acquisition and Disposal System (e-PADS) of PPRA.
 - vi)- Current Bank Certificate with Financial Soundness.
 - vii) Audited financial Accounts for last three (03) years.
- 3.2 In case the bidders / contractors consist of a Joint Venture of more than one entity then each member of the Joint Venture shall be jointly and severally bound to the Employer for fulfillment of the terms of the tender/contract and the Joint Venture shall designate one member to act as leader of the Joint Venture for purposes of representing the Joint Venture.

IB.4 One Bid per Bidder

- 4.1 Each bidder shall submit only one bid. A bidder who submits or participates in more than one bid will be disqualified.

IB.5 Cost of Bidding

- 6.1 The bidders shall bear all costs associated with the preparation and submission of their respective bids and the Employer will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

IB.6 Site Visit

- 6.1 The bidders are advised to visit and examine the Site of Works and its surroundings and obtain for themselves on their own responsibility all information that may be necessary for preparing the bid and entering into a contract for construction of the Works. All cost in this respect shall be at the bidder's own expense.
- 6.2 The bidders and any of their personnel or agents will be granted permission by the Employer to enter upon his premises and site for the purpose of such inspection, but only upon the express condition that the bidders, their personnel and agents, will release and indemnify the Employer, his personnel and agents 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 such inspection.

B. BIDDING DOCUMENTS

IB.7 Contents of Bidding Documents

- 7.1 The Bidding Documents, in addition to invitation for bids, are those stated below and should be read in conjunction with any Addenda issued in accordance with Clause IB 9.

1. Bidding Documents.
2. General Conditions of Contract (GCC).
3. Contract Data.
4. Specifications.
5. Form of Bid & Appendices to Bid.
6. Form of Bid Security.
7. Form of Contract Agreement.
8. Forms of Performance Security
9. Bill of Quantities

- 7.2 The bidders are expected to examine carefully the contents of all the above documents. Failure to comply with the requirements of bid submission will be at the Bidder's own risk. Pursuant to Clause IB.26, bids which are not substantially responsive to the requirements of the Bidding Documents will be rejected.

IB.8 Clarification of Bidding Documents

- 8.1 Any prospective bidder requiring any clarification (s) in respect of the Bidding Documents may notify the Employer in writing at the following address:-

Director (M&E),
Mechanical & Electrical Department,
Port Qasim Authority, Port Qasim
Karachi, Pakistan
Phone: +92-(21)-99272182,
E-mail: secretary@pqa.gov.pk

The Employer will respond to any request for clarification which he receives earlier than 07 days prior to the deadline for submission of bids.

Copies of the Employer's response will be forwarded to all purchasers of the Bidding Documents, including a description of the enquiry but without identifying its source.

IB.9 Amendment of Bidding Documents

- 9.1 At any time prior to the deadline for submission of bids, the Employer may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective bidder, modify the Bidding Documents by issuing addendum.
- 9.2 Any addendum thus issued shall be part of the Bidding Documents pursuant to IB. 7.1 hereof and shall be communicated in writing to all purchasers of the Bidding Documents. Prospective bidders shall acknowledge receipt of each addendum in writing to the Employer.
- 9.3 To afford prospective bidders reasonable time in which to take an addendum into account in preparing their bids, the Employer may extend the deadline for submission of bids in accordance with Clause IB.19

C. PREPARATION OF BIDS

IB.10 Language of Bid

- 10.1 The bid and all correspondence and documents related to the bid exchanged by a bidder and the Employer shall be in the bid language stipulated in the Bidding Data and Particular Conditions of Contract. Supporting documents and printed literature furnished by the bidders may be in any other language provided the same are accompanied by an accurate translation of the relevant parts in the bid language, in which case, for purposes of evaluation of the bid, the translation in bid language shall prevail.

IB.11 Documents Accompanying the Bid

- 11.1 Each bidder shall:
 - (a) Submit a written power of attorney authorizing the signatory of the bid to act for and on behalf of the bidder;
 - (b) The bidder shall furnish, as part of its bid, documents establishing the bidder's eligibility to bid and its qualification to perform the contract if its bid is accepted.
 - (c) Bidder must possess and provide evidence of its capability and the experience as stipulated in bidding data and qualification criteria stipulated in the bidding documents.

- (d) The documentary evidence of the works' conformity to the bidding documents may be in form of literature, drawings and data and the bidder shall furnish documentation as set out in bidding data.
 - (e) Furnish a bid taking into account the various Appendices to Bid and other pertinent information such as mobilization programme etc.
- 11.2 Bidders shall also submit bid of work methods and schedule, in sufficient detail to demonstrate the adequacy of the Bidders to meet the technical specifications and the completion time referred to in IB. 1.2 hereof.

IB.12 Bid Prices

- 12.1 Unless stated otherwise in the Bidding Documents, the Contract shall be for the whole of the Works as described in IB. 1.1 hereof, based on the unit rates and / or prices submitted by the bidder.
- 12.2 The bidders shall fill in rates and prices for all items of the Works described in the Bill of Quantities. Items against which no rate or price is entered by a bidder will not be paid for by the Employer when executed and shall be deemed covered by rates and prices for other items in the Bill of Quantities.
- 12.3 All federal, provincial and local duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as on the date 14 days prior to the deadline for submission of bids shall be included in the rates and prices and the total Bid Price submitted by a bidder.

IB.13 Currencies of Bid and Payment

- 13.1 The unit rates and the prices shall be quoted by the bidder entirely in Pak rupees only.

IB.14 Bid Validity

- 14.1 Bids shall remain valid for the period stipulated in the Bidding Data after the Date of Bid Opening.
- 14.2 In exceptional circumstances, prior to expiry of the original bid validity period, the Employer may request that the bidders extend the period of validity for a specified additional period which shall in no case be more than the original bid validity period. The request and the responses thereto shall be made in writing. A bidder may refuse the request without forfeiting his Bid Security. A bidder agreeing to the request will not be required or permitted to modify his bid, but will be required to extend the validity of his Bid Security for the period of the extension, and in compliance with Clause IB.15 in all respects.

IB.15 Bid Security

- 15.1 Each bidder shall furnish, as part of his bid, Rs.1,100,000/= as earnest money in the shape of pay order issued from minimum "AA" rating Bank situated in Karachi, Pakistan in favour of Port Qasim Authority to be submitted alongwith bid
- 15.2 The Bid Security shall be, at the option of the bidder, in the form of Pay Order or a Bank Guarantee issued by a Scheduled Bank of Pakistan having "AA" rating in favour of the Employer valid for a period 28 days beyond the bid validity date.

- 15.3 Any bid not accompanied by an acceptable Bid Security shall be rejected by the Employer as non-responsive.
- 15.4 The bid securities of unsuccessful bidders will be returned as promptly as possible, but not later than 28 days after the expiration of the period of bid validity or award of contract whichever is earlier.
- 15.5 The Bid Security of the successful bidder will be returned when the bidder has furnished the required Performance Security and signed the Contract Agreement.
- 15.6 The Bid Security may be forfeited:
- (a) if the bidder withdraws his bid except as provided in IB. 21.1;
 - (b) if the bidder does not accept the correction of his Bid Price pursuant to IB. 26.2 hereof; or
 - (c) In the case of successful bidder, if he fails within the specified time limit to:
 - (i) Furnish the required Performance Security; or
 - (ii) Sign the Contract Agreement.

IB.16 Format and Signing of Bid

- 16.1 Bidders are particularly directed that the amount entered on the Form of Bid shall be for performing the Contract strictly in accordance with the Bidding Documents.
- 16.2 All pages of the Tender / Bid and appendices to Bid are to be properly completed, signed and stamped.
- 16.3 No alteration is to be made in the Form of Bid nor in the Appendices thereto except in filling up the blanks as directed. If any such alterations be made or if these instructions be not fully complied with, the bid may be rejected.
- 16.4 Each bidder shall prepare by filling out the forms completely and without alterations one (1) original and (2) one number of copy, specified in the Bidding Data, of the documents comprising the bid as described in Clause IB.7 and clearly mark them "ORIGINAL" and "COPY" as appropriate. In the event of discrepancy between them, the original shall prevail.
- 16.5 The original and all copies of the bid shall be typed or written in indelible ink (in the case of copies, Photostats are also acceptable) and shall be signed by a person or persons duly authorized to sign on behalf of the bidder pursuant to IB. 11.1(a) hereof. All pages of the bid shall be initialed and stamped by the person or persons signing the tender / bid.
- 16.6 The bid shall contain no alterations, omissions or additions, except to comply with instructions issued by the Employer, or as are necessary to correct errors made by the bidder, in which case such corrections shall be initialed by the person or persons signing the bid.

- 16.7 Bidders shall indicate in the space provided in the Form of Bid their full and proper addresses at which notices may be legally served on them and to which all correspondence in connection with their bids and the Contract is to be sent.
- 16.8 Bidders should retain a copy of the Bidding Documents as their file copy.

D. SUBMISSION OF BIDS

IB.17 Sealing and Marking of Bids

- 17.1 The completed Tender marked as 'Original' and Two copies are to be inserted in double self-addressed envelope and delivered in person or sent by Registered Air mail / courier so as to reach the:

Director (M&E)
Port Qasim Authority,
P.O. Port Qasim
Bin Qasim Karachi – 75020
Pakistan

- 17.2 The inner envelope is to bear the name and address of the Tendered and is to be sealed and inscribed as follow:

"Tender for the "Annual running operation & repair/ maintenance contract of Electrical Equipment, Machinery and Installations at PQA".

- 17.3 The ORIGINAL and copies of the completed Tender Set including Appendices and supplementary information and the Bid Security must reach the Director (M&E) Port Qasim Authority, Bin Qasim, and Karachi-75020 before the time and date fixed in the Tender Notice for opening of the Tenders. Tenders received after opening of the Tenders will be rejected and returned unopened.
- 17.4 Documents submitted by prospective Tenderness or Contractors in connection with the Tender for above named Works will be treated as confidential and will not be returned.

IB.18 Deadline for Submission of Bids

- 18.1 (a) Bids must be received by the Employer at the address specified not later than the time and date stipulated in the Bidding Data.
- (b) Bids with charges payable will not be accepted, nor will arrangements be undertaken to collect the bids from any delivery point other than that specified above. Bidders shall bear all expenses incurred in the preparation and delivery of bids. No claims will be entertained for refund of such expenses.
- (c) Where delivery of a bid is by mail and the bidder wishes to receive an acknowledgment of receipt of such bid, he shall make a request for such acknowledgment in a separate letter attached to but not included in the sealed bid package.
- (d) Upon request, acknowledgment of receipt of bids will be provided to those making delivery in person or by messenger.

- 18.2 The Employer may, at his discretion, extend the deadline for submission of bids by issuing an amendment in accordance with Clause IB.9, in which case all rights and obligations of the Employer and the bidders previously subject to the original deadline will thereafter be subject to the deadline as extended.

IB.19 Late Bids

- 19.1 (a) Any bid received by the Employer after the deadline for submission of bids prescribed in Clause IB.18 will be returned unopened to such bidder.
- (b) Delays in the mail, delays of person in transit, or delivery of a bid to the wrong office shall not be accepted as an excuse for failure to deliver a bid at the proper place and time. It shall be the bidder's responsibility to determine the manner in which timely delivery of his bid will be accomplished either in person, by messenger or by mail.

IB.20 Modification, Substitution and Withdrawal of Bids

- 20.1 Any bidder may modify, substitute or withdraw his bid after bid submission provided that the modification, substitution or written notice of withdrawal is received by the Employer prior to the deadline for submission of bids.
- 20.2 The modification, substitution, or notice for withdrawal of any bid shall be prepared, sealed, marked and delivered in accordance with the provisions of Clause IB.18 with the outer and inner envelopes additionally marked "MODIFICATION", "SUBSTITUTION" or "WITHDRAWAL" as appropriate.
- 20.3 No bid may be modified by a bidder after the deadline for submission of bids except in accordance with Sub-Clauses 21.1 and 26.2.
- 20.4 Withdrawal of a bid during the interval between the deadline for submission of bids and the expiration of the period of bid validity specified in the Form of Bid may result in forfeiture of the Bid Security in pursuance to Clause IB.15.

E. BID OPENING AND EVALUATION

IB.21 Bid Opening

- 21.1 The Employer will open the bids, including withdrawals, substitution and modifications made pursuant to IB.20, in the presence of bidders' representatives who choose to attend, at the time, date and location stipulated in the Bidding Data. The bidders' representatives who are present shall sign a register evidencing their attendance.
- 21.2 Envelopes marked "MODIFICATION", "SUBSTITUTION" or "WITHDRAWAL" shall be opened and read out first. Bids for which an acceptable notice of withdrawal has been submitted pursuant to IB.20 shall be returned unopened.
- 21.3 The bidder's name, total Bid Price and any discounts, bid modifications, substitution and withdrawals, the presence or absence of Bid Security, and such other details as the Employer may consider appropriate, will be announced by the Employer at the opening of bids.

- 21.4 Employer shall prepare minutes of the bid opening, including the information disclosed to those present in accordance with the IB. 22.3.

IB.22 Process to be Confidential

- 22.1 Information relating to the examination, clarification, evaluation and comparison of bid and recommendations for the award of a contract shall not be disclosed to bidders or any other person not officially concerned with such process before the announcement of bid evaluation report which shall be done at least ten (10) days prior to issue of Letter of Acceptance. The announcement to all Bidders will include table(s) comprising read out prices, discounted prices, price adjustments made, final evaluated prices and recommendations against all the bids evaluated and a report giving justification for acceptance / rejections of the bids. Any effort by a bidder to influence the Employer's processing of bids or award decisions may result in the rejection of such bidder's bid. Whereas any bidder feeling aggrieved may lodge a written complaint not later than fifteen (15) days after the announcement of the bid evaluation report; however mere fact of lodging a complaint shall not warrant suspension of the procurement process. PQA Committee shall investigate and decide upon the complaint within fifteen days of the receipt of the complaint.

IB.23 Clarification of Bids

- 23.1 To assist in the examination, evaluation and comparison of bids, the Employer may, at his discretion, ask any bidder for clarification of his bid, including breakdowns of unit rates. The request for clarification and the response shall be in writing but no change in the price or substance of the bid shall be sought, offered or permitted except as required to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the bids in accordance with Clause IB.26.

IB.24 Examination of Bids and Determination of Responsiveness

- 24.1 Prior to the detailed evaluation of bids, the Employer will determine whether each bid is substantially responsive to the requirements of the Bidding Documents.
- 24.2 A substantially responsive bid is one which (i) meets the eligibility criteria; (ii) has been properly signed; (iii) is accompanied by the required Bid Security; and (iv) conforms to all the terms, conditions and specifications of the Bidding Documents, without material deviation or reservation. A material deviation or reservation is one (i) which affect in any substantial way the scope, quality or performance of the Works; (ii) which limits in any substantial way, inconsistent with the Bidding Documents, the Employer's rights or the bidder's obligations under the Contract; or (iii) adoption/rectification whereof would affect unfairly the competitive position of other bidders presenting substantially responsive bids.
- 24.3 If a bid is not substantially responsive, it will be rejected by the Employer, and may not subsequently be made responsive by correction or withdrawal of the non-conforming deviation or reservation

IB.25 Correction of Errors

- 25.1 Bids determined to be substantially responsive will be checked by the Employer for any arithmetic errors. Errors will be corrected by the Employer as follows:
- (a) Where there is a discrepancy between the amounts in figures and in words, the amount in words will govern; and
 - (b) 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, unless in the opinion of the Employer there is an obviously gross misplacement of the decimal point in the unit rate, in which case the line item total as quoted will govern and the unit rate will be corrected.
- 25.2 The amount stated in the Form of Bid will be adjusted by the 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 Bid Price, his Bid will be rejected, and the Bid Security shall be forfeited in accordance with IB. 15.6(b) hereof.

IB.26 Evaluation and Comparison of Bids

- 26.1 The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with IB.24
- 26.2 In evaluating the Bids, the Employer will determine for each Bid the evaluated Bid Price by adjusting the Bid Price as follows:
- (a) Making any correction for errors pursuant to Clause IB.25;
 - (b) Making an appropriate adjustment for any other acceptable variation or deviation.
- 26.3 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.
- 26.4 If the Bid of the successful bidder is seriously unbalanced in relation to the Employer's estimate of the cost of work to be performed under the Contract, 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, the Employer may require that the amount of the Performance Security set forth in Clause IB.30 be increased at the expense of the successful bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful bidder under the Contract.

F. AWARD OF CONTRACT

IB.27 Award

- 27.1 Subject to Clauses IB.28 and IB.32, the Employer will award the Contract to the bidder whose bid has been determined to be substantially responsive to the Bidding Documents and who has offered the lowest evaluated Bid Price, provided that such bidder has been determined to be eligible in accordance with the provisions of IB.3 and qualify pursuant to IB 27.2.
- 27.2 The Employer, at any stage of the bid evaluation, having credible reasons for or prima facie evidence of any defect in supplier's or contractor's capacities, may require the suppliers or contractors to provide information concerning their professional, technical, financial, legal or managerial competence whether already provided or not:

Provided that such qualification shall only be laid down after recording reasons therefore in writing. They shall form part of the records of that bid evaluation report.

IB.28 Employer's Right to Accept any Bid and to Reject any or all Bids

- 28.1 Notwithstanding IB.27, the Employer reserves the right to accept or reject any Bid, and to annul the bidding process and reject all bids, at any time prior to award of Contract, without thereby incurring any liability to the affected

bidders or any obligation except that the grounds for rejection of all bids shall upon request be communicated to any bidder who submitted a bid without justification of grounds. Rejection of all bids shall be notified to all bidders promptly.

IB.29 Notification of Award

- 29.1 Prior to expiration of the period of bid validity prescribed by the Employer, the Employer will notify the successful bidder in writing ("Letter of Acceptance") that his Bid has been accepted. This letter shall name the sum which the Employer will pay the Contractor in consideration of the execution and completion of the Works by the Contractor as prescribed by the Contract (hereinafter and in the Conditions of Contract called the "Contract Price").
- 29.2 No Negotiation with the bidder having evaluated as lowest responsive or any other bidder shall be permitted, however, Employer may have clarification meetings to get clarify any item in the bid evaluation report.
- 29.3 The notification of award and its acceptance by the bidder will constitute the formation of the Contract, binding the Employer and the bidder till signing of the formal Contract Agreement.
- 29.3 Upon furnishing by the successful bidder of a Performance Security, the Employer will promptly notify the other bidders that their Bids have been unsuccessful and return their bid securities.

IB.30 Performance Security

- 30.1 The successful bidder shall furnish to the Employer a Performance Security in the form and the amount stipulated in the Bidding Data and the Conditions of Contract within a period of 14 days after the receipt of Letter of Acceptance.
- 30.2 Bid Security. Failure of the successful bidder to comply with the requirements of Sub-Clause IB.30.1 or Clauses IB.31 or IB.33 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.
- 30.3 The successful Tendered will be required to furnish a performance Bond in the amount of 10% of the Contract Price mentioned in the bids at the time of signing the formal Contract Agreement.

IB.31 Signing of Contract Agreement

- 31.1 Within 7 days from the date of furnishing of acceptable Performance Security under the Conditions of Contract, the Employer will send the successful bidder the Contract Agreement in the form provided in the Bidding Documents, incorporating all agreements between the parties.
- 31.2 The formal Agreement between the Employer and the successful bidder shall be executed within 14 days of the receipt of the Contract Agreement by the successful bidder from the Employer.
- 31.3 All costs incidental to signing of the contract (inclusive of stamp duty) will be borne by the successful bidder

IB.32 General Performance of the Bidders

The Employer reserves the right to obtain information regarding performance of the bidders on their previously awarded contracts/works. The Employer may in case of consistent poor performance of any Bidder as reported by the employers of the previously awarded contracts, interalia, reject his bid and/or refer the case to the Pakistan Engineering Council (PEC). Upon such reference, PEC in accordance with its rules, procedures and relevant laws of the land take such action as may be deemed appropriate under the circumstances of the case including black listing of such Bidder and debarring him from participation in future bidding for similar works.

IB.33 Lowest Evaluated Bid

Lowest Evaluated Bid means:

- i) A Bid most closely conforming to evaluation conditions specified in the Bidding document; and
- ii) Having lowest evaluated cost;

IB.34 Abnormally Low Bids.

34.1 If the Bid Price of the successful Bidder is more than 15% below the lower of the Employer's estimate of the cost of work to be performed under the Contract or average of other lowest two evaluated substantially responsive Bids, 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, the Employer may require an additional Performance Security by 10% of the difference of the Bid Price as determined hereinabove upto issuance of Taking Over Certificate at the expense of the successful Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract. The Bids having Bid Price lower than 25% shall be liable to be rejected

IB.35 Integrity Pact

The Bidder shall sign and stamp the Integrity Pact provided at Appendix-I to Bid in the Bidding Documents for all Federal Government procurement contracts exceeding Rupees ten million. Failure to provide such Integrity Pact shall make the bidder non-responsive.

G. MISCELLANEOUS

IB.36 Misc. Information

36.1 Fraud and Corruption

It is the policy of the PQA to require its staff and its Contractors to observe the highest standard of ethics during the selection and execution of contracts. In pursuance of this policy, PQA:

- (a) Defines, for the purposes of this provision, the terms set forth below:
 - (i) "Corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of any thing of value to influence the action of a public official in the selection process or in contract execution; and
 - (ii) "Fraudulent practice" means a misrepresentation or omission of facts in order to influence selection process or the execution of contract;
 - (iii) "Collusive practices" means a scheme or arrangement between two or more contractors with or without the knowledge of PQA, designed to establish prices at artificial, noncompetitive levels and to deprive PQA of the benefits of free and open competition;
 - (iv) "Coercive practices" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in a procurement process, or affect the execution of a contract.
- (b) will reject a Bid for award if it determines that the contractor recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, elusive or coercive practices in competing for the contract in question;

- (c) will sanction contractor, including declaring the contractor ineligible, either indefinitely or for a stated period of time, to be awarded a PQA contract if it at any time determines that the consultant has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices.

36.2 Procedures of Open Competitive Bidding

The following procedures shall be adopted for open competitive Bidding as provided in Public Procurement Rules-2004, namely:-

Single stage – two envelope procedure

- (i) The Bid shall comprise a single package containing two separate envelopes. Each envelope shall contain separately the financial proposal and the technical proposal;
- (ii) The envelopes shall be marked as “FINANCIAL PROPOSAL” and “TECHNICAL PROPOSAL” in bold and legible letters to avoid confusion;
- (iii) Initially, only the envelope marked “TECHNICAL PROPOSAL” shall be opened;
- (iv) The envelope marked as “FINANCIAL PROPOSAL” shall be retained in the custody of the procuring agency without being opened;
- (v) The procuring agency shall evaluate the technical proposal in a manner prescribed in advance, without reference to the price and reject any proposal which does not conform to the specified requirements;
- (vi) During the technical evaluation no amendments in the technical proposal shall be permitted;
- (vii) The financial proposals of Bids shall be opened of the qualified bidders publicly at a time, date and venue announced and communicated to the Bidders in advance;
- (viii) After the evaluation and approval of the technical proposal the procuring agency, shall at a time within the Bid validity period, publicly open the financial proposals of the technically accepted Bids only. The financial proposal of Bids found technically non-responsive shall be returned unopened to the respective Bidders;
- (ix) The Bid found to be the lowest evaluated Bid shall be accepted.

36.3 Lowest Evaluated Bid

Lowest Evaluated Bid means:

- i) A Bid most closely conforming to evaluation criteria and other conditions specified in the Bidding document; and
- ii) Having lowest evaluated cost;

36.4 EVALUATION CRITERIA

The Tenderer shall submit, design details of the proposed Works, construction method (a narrative work methodology), relevant production assessment figures, and other items required by Employer's Requirements (Refer to Specifications), all of which is considered part of the Contract.

The Evaluation Criteria for Technical qualification of the firm is given below:-

MANDATORY

- A. Firms shall have to submit with Technical Bid the following:-
- i)- Duly licensed by the Pakistan Engineering Council (PEC) in the Category C-5 and above with code EE-04 & EE-05 valid upto June, 2025 .
 - ii)- Registration with Income Tax & Sales Tax Departments of Federal Bureau of Revenue (FBR) and Sindh Revenue Board (SRB) on active Tax Payer list (ALT).
 - iii) Registered with e-Pak Acquisition and Disposal System (e-PADS) of PPRA.
- B. Credentials of the firms/Companies, head office & branch offices addresses, telephone, fax, e-mail address of the firms/companies
- C. Duly licensed by Electric Inspector, Govt of Sindh valid for current year.
- D. Audited financial accounts for last three (03) years.

Total Marks for technical qualification: **100 Marks**

S/No	Description	Min Marks	Max Marks
1	Status of the firm	05	10
	a. Public Limited Company 10 points b. Private Limited Company / Joint Venture (JV) 08 points c. Sole Proprietorship 05 points		
2	Total Work Experience	10	20
	a. Experience in the relevant field: 05+ years 20 Points 03+ - 05 years 16 points 02+ - 03 years 12 points 01 - 02 years 10 points		
3	Working Capability a. List of Similar completed projects of operation, repair & maintenance of Electrical Equipments, Machinery, LT/ HT Distribution Network, Sub-Stations etc. •15 points will be given if the contractor has completed one (01) similar nature project having minimum cost of Rs. 5.0 Million in last seven (07) years.	15	25

	<p>•Full points (25 points) will be given if the contractor has completed 02 or more similar nature projects having minimum cost of each Rs. 5.0 Million or above in last seven (07) years.</p> <p>b. General Electrical Works except similar nature projects completed in last five (05) years. (Three (03) points for collective work of at least Rs. 2.0 Million and for each additional Rs.1.0 Million, 01 Point will be given subject to Maximum five (05) points).</p>	3	5
4	<p>Financial Soundness</p> <p>a. Ten (10) points will be given for minimum Average Working Capital of Rs. 10.0 Million for last three (03) years audited account and for each additional Rs.2 Million, 01 Point will be given subject to Maximum 15 points.</p> <p>b. Seven (07) points will be given for minimum Average Gross Revenue of Rs. 15.0 Million for last three (03) years audited account and for each additional Rs.5.0 Million, 01 Point will be given subject to Maximum ten (10) points.</p>	10	15
5	<p>Qualification of Key Personal.</p> <p>a. Qualification:</p> <p>i. B.E in relevant field 6 Points ii. B Tech in relevant field 5 Points iii. DAE in relevant field 4 Points</p> <p>b. Relevant Experience:</p> <p>i. 05+ years 6 Points ii. 03+ - 05 years 5 Points iii. 01 - 03 years 4 Points</p> <p>c. Permanency with the firm:</p> <p>i. 24+ - 36 months 3 Points ii. 12 - 24 months 2 Points</p>	04	06
		04	06
		02	03
		03	03
		02	03
	Total	60	100

Note:

- i. CV of personal must be provided duly signed by the Employee himself and authorized officer of the firm/company.
- ii. Joint Venture members will be evaluated jointly.
- iii. Minimum **60 points** are required for qualification of the firm / Company and firm shall qualify minimum marks criteria in each category.

BIDDING DATA

BIDDING DATA

Instruction to Bidders

Clause Reference

1.1	<p><u>Name of Employer:</u> Port Qasim Authority and represented by Director General (Technical)</p> <p><u>Brief Description of Works:</u> " Annual Running Operation & Repair/ Maintenance Contract of Electrical Equipments, Machinery and Installations at PQA"</p>
8.1	<p><u>(a) Employer's address:</u> Director General (Technical), Head Office Building, Port Qasim Authority, Bin Qasim Karachi-75020 Fax. No. 021-34730107</p> <p><u>(b) Engineer's address:</u> Director (M&E), Port Qasim Authority, Tel.No.99272182 Fax: No. 021-34730107</p>
10.1	<p><u>Bid language:</u> English</p>
11.1 (b)	<p>The bidder/manufacturer has the financial, technical and production capability necessary to perform the Contract as follows:</p> <ol style="list-style-type: none"> i. Balance sheet for last three years audited by Chartered Accountant. ii. CV's of key personal signed by individual. iii. List of completed projects and complete technical information as mentioned in clause 11.1(a & b).
11.1 (d)	<p>(a) A detailed description of the Works, essential technical and performance characteristics.</p> <p>(b) Complete set of technical information, description data, literature and drawings. This will include but not be limited to a sufficient number of drawings, photographs, catalogues, illustrations and such other information as is necessary to illustrate clearly the significant characteristics such as general dimensions and other relevant information about the works to be performed.</p>
13.1	<p>Bid shall be quoted entirely in Pak. Rupees. The payment shall be made in Pak. Rupees.</p>
15.1	<p>Amount of Bid Security Earnest money of Rs.1,100,000/= in shape of Pay order from minimum "AA" rating Bank of Pakistan in favour of Port Qasim Authority, to be submitted along with Bid .</p>
14.1	<p>Period of Bid Validity 180 days</p>
17.4	<p>Number of Copies of the Bid to be Submitted One original plus one copy</p>
18.1	<p>Employer's Address for the Purpose of Bid Submission Office of the Director (M&E), Port Qasim Authority, Karachi.</p>
19.1	<p>Deadline for Submission of Bids As notified in NIT.</p>

22.1	Venue, Time, and Date of Bid Opening As notified in NIT.
25	Responsiveness of Bids <ul style="list-style-type: none"> <li data-bbox="293 296 862 327">(i) the Bid is valid till required period, <li data-bbox="293 331 1398 401">(ii) the Bid prices are firm during currency of contract (if it is a fixed price bid) <li data-bbox="293 405 1089 436">(iii) completion period offered is within specified limits, <li data-bbox="293 441 1398 548">(iv) The Bidder/Manufacturer is eligible to Bid and possesses the requisite experience, capability and qualification as per evaluation criteria given with these documents. <li data-bbox="293 552 1276 583">(v) the Bid does not deviate from basic technical requirements and <li data-bbox="293 588 878 619">(vi) the Bids are generally in order, etc.

**FORM OF TENDER
AND
APPENDICES TO TENDER**

FORM OF TENDER

Director (M&E)
Port Qasim Authority,
Bin Qasim

Subject:

Gentleman,

1. Having examined the Bidding Documents including Instructions to Bidders, Bidding Data, and Conditions of Contract, Specifications, Drawings and Bill of Quantities and Addenda Nos. _____ for the execution of the above-named Works, we, the undersigned, offer to execute and complete such Works and remedy any defects therein in conformity with the Conditions of Contract. Specifications, Drawings, Bill of Quantities and Addenda for the sum of Rs. _____ (Rupees _____) or such other sum as may be ascertained in accordance with the said conditions.
2. We understand that all the Appendices attached hereto form part of this Bid.
3. As security for due performance of the undertakings and obligations of this Bid, we submit herewith a Bid Security in the amount of Rupees _____ (Rs. _____) drawn in your favour made payable to you and valid for a period of _____ days beginning from the date Bids are opened.
4. We undertake, if our Bid is accepted, to commence the Works and to complete the whole of the Works comprised in the Contract within the time stated in Appendix-A to Bid.
5. We agree to abide by this Bid for the period of 180 days from the date fixed for receiving the same and it shall remain binding upon us and may be accepted at any time before the expiration of that period or extension thereof.
6. Unless and until a formal Agreement is prepared and executed, this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
7. We do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other bidder for the Works.
8. We understand that you are not bound to accept the lowest or any Bid you may receive.

Dated this _____ day of _____ 20 _____

Signature: _____

in the capacity of _____duly authorized to sign Bids for and on behalf of

(Name of Bidder in Block Capitals)
(Seal)

Address: _____

Witness:

Signature: _____

Name: _____

Address. _____

Occupation _____

SPECIAL STIPULATIONS

CLAUSE CONDITIONS OF CONTRACT			
1.	Amount of Performance Bond	4.4	10% of Contract Price in shape of Bank guarantee / Pay order from any Scheduled Bank of Pakistan having "AA" rating situated in Karachi. Performance bond shall be released after completion of contract period.
2.	Time for Furnishing Programme	1.7.1	14 days from the date of receipt of Letter of Acceptance.
3.	Minimum amount of Third Party Insurance	14.1	Rs. 300,000/=
4.	Submission of Insurance Policies	14	Insurance policies may be submitted from the following insurance companies acceptable to the Client. a) Adamjee Insurance Company. b) EFU General Insurance Ltd. c) New Jubilee Insurance Company
5.	Period of commencement	1.7.1	14 Days from the Employer's order to commence the work.
6.	Stipulated time of completion. Whole of the works.	1.1.9	Contract period is 12 months from the date of award of contract.
7.	Extension of Contract	7.4	Applicable
8.	Amount of Liquidated Damages for late completion after due date for completion.	7.5	Delay: 0.1% of Contract Price/day for late completion of works. Maximum 10% of the Contract price stated in the letter of Acceptance
9.	Defect Liability Period	9.1	Within contract period i.e. 12 months till issuance of Certificate of completion after completion of contract period under sub clause-9 GCC
10.	Mobilization / Demobilization Payment as per BOQ.	11.1a (i)	Not Applicable
11.	Mode of Payment	11.1	100% in local currency
12	Percentage of Retention Money	11.4	5% of all payments made to Contractor will be released after completion of contract period.

13	Time within which payment to be made after submission of certificate from Engineer	11	45 Calendar Days
----	--	----	------------------

Signature: _____

Name: _____

Date: _____

PROPOSED REPAIR & MAINTENANCE SCHEDULE

Pursuant to Sub-Clause 7.1 of the General Conditions of Contract, the Works shall be completed on or before the date stated in Appendix-A to Bid. The Bidder shall provide the R&M Schedule in the bar chart showing the sequence of work items and the period of time during which he proposes to complete each work item in such a manner that his proposed programme for completion of the whole of the Works and parts of the Works may meet Employer's completion targets on the date noted below and counted from the date of receipt of Engineer's Notice to Commence (Attach sheets as required for the specified form of r/m Schedule):

METHOD STATEMENT OF PERFORMING THE WORK

The Bidder is required to submit a narrative outlining the method of performing the Work. The narrative should indicate in detail and include but not be limited to:

1. Organization Chart indicating head office and field office personnel involved in management and supervision, engineering, equipment maintenance and purchasing.
2. The method of executing the Works, the procedures for repair & maintenance work mobilization of equipment and materials to the site.

LIST OF INTENDED SUB-CONTRACTORS

We intend to engage the following firms as sub-contractors experienced in their respective field as mentioned against their names for executing the works specified below:

S. No.	Name and address of Intended Sub-Contractors	Type of work	Reason for sub-letting

Signature: _____

Name: _____

Date: _____

CONTRACTOR'S SUPERVISORY STAFF AND KEY PERSONNEL

1. The following personnel would comprise the supervisory staff to be assigned by us to the construction site for fulfillment of the Contract.
2. The biographical data with relevant testimonials and details of experience of the above key personnel are attached to our Tender.

S. No.	Proposed Assignment	Full Name	Age	Nationality

Signature: _____

Name: _____

Date: _____

(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 No:

Contract Value: _____

Contract Title: **"Annual Running Operation & Repair/ Maintenance Contract of Electrical Equipments, Machinery & Installations at PQA"**

..... [Name of Supplier] 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 (GoP) or any administrative subdivision or agency thereof or any other entity owned or controlled by GoP through any corrupt business practice.

Without limiting the generality of the foregoing, [name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fees 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 consultation 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 Supplier] 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, representation or warranty.

[name of Supplier] accepts full responsibility and strict liability for making any false declaration, not making full disclosure, misrepresenting facts 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 rights 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 Supplier] 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 times the sum of any commission, gratification, bribe, finder's fee or kickback given by [name of Supplier] 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.

Name of Buyer: Name of Seller/Supplier:

Signature: Signature:

[Seal]

[Seal]

STANDARD FORMS

**TENDER BOND / BID SECURITY
PERFORMANCE SECURITY
CONTRACT AGREEMENT
ADVANCE BANK GUARNTEE**

BID SECURITY
(Bank Guarantee)

Security Executed on _____
(Date)

Name of Surety (Bank) with Address: _____
(Scheduled Bank in Pakistan)

Name of Principal (Bidder) with Address _____

Penal Sum of Security Rupees. _____ (Rs. _____)

Bid Reference No. _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bid and at the request of the said Principal (Bidder) we, the Surety above named, are held and firmly bound unto _____

(hereinafter called the 'Employer') in the sum stated above for the payment of which sum well and truly to be made, we find ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Bidder has submitted the accompanying Bid dated _____ for Bid No. _____ for _____ (Particulars of Bid) to the said Employer;

WHEREAS, the Employer has required as a condition for considering said Bid that the Bidder furnishes a Bid Security in the above said sum from a Scheduled Bank in Pakistan or from a foreign bank duly counter-guaranteed by a Scheduled Bank in Pakistan, to the Employer, conditioned as under:

- (1) That the Bid Security shall remain in force up to and including the date 28 days after the deadline for validity of bids as stated in the Instructions to Bidders or as it may be extended by the Employer, notice of which extension(s) to the Surety is hereby waived;
- (2) That the Bid Security of unsuccessful Bidders will be returned by the Employer after expiry of its validity or upon signing of the Contract Agreement;
- (3) That in the event of failure of the successful Bidder to execute the proposed Contract Agreement for such work and furnish the required Performance Security, the entire said sum be paid immediately to the said Employer pursuant to Clause 15.6 of the Instruction to Bidders for the successful Bidder's failure to perform.

NOW THEREFORE, if the successful Bidder shall, within the period specified therefore, on the prescribed form presented to him for signature enter into a formal Contract with the said Employer in accordance with his Bid as accepted and furnish within twenty eight (28) days of his being requested to do so, a Performance Security with good and sufficient surety, as may be required, upon the form prescribed by the said Employer for the faithful performance and proper fulfilment of the said Contract or in the event of non-

withdrawal of the said Bid within the time specified for its validity then this obligation shall be void and of no effect, but otherwise to remain in full force and effect.

PROVIDED THAT the Surety shall forthwith pay the Employer the said sum upon first written demand of the Employer (without cavil or argument) and without requiring the Employer to prove or to show grounds or reasons for such demand, notice of which shall be sent by the Employer by registered post duly addressed to the Surety at its address given above.

PROVIDED ALSO THAT the Employer shall be the sole and final judge for deciding whether the Principal (Bidder) has duly performed his obligations to sign the Contract Agreement and to furnish the requisite

Performance Security within the time stated above, or has defaulted in fulfilling said requirements and the Surety shall pay without objection the said sum upon demand from the Employer forthwith and without any reference to the Principal (Bidder) or any other person.

IN WITNESS WHEREOF, the above bounden Surety has executed the instrument under its seal on the date indicated above, the name and seal of the Surety being hereto affixed and these presents duly signed by its undersigned representative

pursuant to authority of its governing body.

SURETY (Bank)

WITNESS:

1. _____

Corporate Secretary (Seal)

2. _____

Name, Title & Address

Signature _____

Name _____

Title _____

Corporate Guarantor (Seal)

**FORM OF PERFORMANCE SECURITY
(Bank Guarantee)**

Guarantee No. _____
Executed on _____
Expiry date _____

[Letter by the Guarantor to the Employer]

Name of Guarantor (Bank) with address: _____
(Scheduled Bank in Pakistan)

Name of Principal (Contractor) with Address _____

Penal Sum of Security (express in words and figures) _____

Letter of Acceptance No. _____ Dated _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bidding Documents and above said Letter of Acceptance (hereinafter called the Documents) and at the request of the said Principal we, the Guarantor above named, are held and firmly bound unto the _____ (hereinafter called the Employer) in the penal sum of the amount stated above for the payment of which sum well and truly to be made to the said Employer, we find ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH, that whereas the Principal has accepted the Employer's above said Letter of Acceptance _____ for _____ (Name of Contract) for the _____ (Name of Project).

NOW THEREFORE, if the Principal (Contractor) shall well and truly perform and fulfill all the undertakings, covenants, terms and conditions of the said Documents during the original terms of the said Documents and any extensions thereof that may be granted by the Employer, with or without notice to the Guarantor, which notice is, hereby, waived and shall also well and truly perform and fulfill all the undertakings, covenants terms and conditions of the Contract and of any and all modifications of said Documents that may hereafter be made, notice of which modifications to the Guarantor being hereby waived, then, this obligation to be void; otherwise to remain in full force and virtue till all requirements of Clause 49, Defects Liability, of Conditions of Contract are fulfilled.

Our total liability under this Guarantee is limited to the sum stated above and it is a condition of any liability attaching to us under this Guarantee that the claim for payment in writing shall be received by us within the validity period of this Guarantee, failing which we shall be discharged of our liability, if any, under this Guarantee.

We, _____ (the Guarantor), waiving all objections and defenses under the Contract, do hereby irrevocably and independently guarantee to pay to the Employer without delay upon the Employer's first written demand without cavil or arguments and without requiring the Employer to prove or to show grounds or reasons for such demand any sum or sums up to the amount stated above, against the Employer's written declaration that the Principal has refused or failed to perform the obligations under the Contract which payment will be effected by the Guarantor to Employer's designated Bank & Account Number.

PROVIDED ALSO THAT the Employer shall be the sole and final judge for deciding whether the Principal (Contractor) has duly performed his obligations under the Contract or has defaulted in fulfilling said obligations and the Guarantor shall pay without objection any sum or sums up to the amount stated above upon first written demand from the Employer forthwith and without any reference to the Principal or any other person.

IN WITNESS WHEREOF, the above-bounden Guarantor has executed this Instrument under its seal on the date indicated above, the name and corporate seal of the Guarantor being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

	_____ Guarantor (Bank)
Witness:	
1. _____	Signature _____
_____	Name _____
Corporate Secretary (Seal)	Title _____
2. _____	
_____	_____
Name, Title & Address	Corporate Guarantor (Seal)

FORM OF CONTRACT AGREEMENT

THIS CONTRACT is made at Karachi on this _____ day of _____2025, between PORT QASIM AUTHORITY, KARACHI, PAKISTAN established under Port Qasim Authority Act, 1973 (Act XLIII of 1973), hereinafter referred to as the "EMPLOYER" (which expression shall where the context so requires and admits, include its successors-in-interest and assign) of the ONE PART.

AND

M/s. _____ a company incorporated under the law of _____, having registered office at _____ hereinafter referred to as the "CONTRACTOR" (which expression shall wherever the context so requires and admits, include its successors-in-interest and assign) of the OTHER PART

WHEREAS the Employer is desirous that certain Works, viz _____ should be executed by the Contractor and has accepted a Bid by the Contractor for the execution and completion of such Works and the remedying of any defects therein.

NOW this Agreement witnessed as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract hereinafter referred to.
2. The following documents after incorporating addenda, if any, except those parts relating to Instructions to Bidders shall be deemed to form and be read and construed as part of this Agreement, viz:
 - (a) The Contract Agreement;
 - (b) The Letter of Acceptance;
 - (c) The completed Form of Bid;
 - (d) Special Stipulations (Appendix-A to Bid);
 - (e) The General Conditions (GCC)
 - (f) Contract Data
 - (g) The priced Bill of Quantities;
 - (h) The completed Appendices to Bid;
 - (i) The Drawings;
 - (j) The Specifications.
 - (k) Appendix
3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy defects therein in conformity and in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor, in consideration of the execution and completion of the Works as per provisions of the Contract, 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 Agreement to be executed on the day, month and year first before written in accordance with their respective laws.

Signature of the Contactor

Signature of Employer

(Seal)

(Seal)

Signed, Sealed and Delivered in the presence of:

Witness:

Witness:

(Name, Title and Address)

(Name, Title and Address)

FORM OF BANK GUARANTEE FOR ADVANCE PAYMENT

Guarantee No. _____
Executed on _____

(Letter by the Guarantor to the Employer)

WHEREAS the _____

_____ (hereinafter called the Employer) has entered into a Contract for

_____ (Particulars of Contract), with

_____ (hereinafter called the Contractor).

AND WHEREAS the Employer has agreed to advance to the Contractor, at the Contractor's request, an amount of Rs. _____ Rupees _____) which amount shall be advanced to the Contractor as per provisions of the Contract.

AND WHEREAS the Employer has asked the Contractor to furnish Guarantee to secure the advance payment for the performance of his obligations under the said Contract.

AND WHEREAS _____ (Scheduled Bank) (hereinafter called the Guarantor) at the request of the Contractor and in consideration of the Employer agreeing to make the above advance to the Contractor, has agreed to furnish the said Guarantee.

NOW THEREFORE the Guarantor hereby guarantees that the Contractor shall use the advance for the purpose of above mentioned Contract and if he fails, and commits default in fulfillment of any of his obligations for which the advance payment is made, the Guarantor shall be liable to the Employer for payment not exceeding the aforementioned amount.

Notice in writing of any default, of which the Employer shall be the sole and final judge, as aforesaid, on the part of the Contractor, shall be given by the Employer to the Guarantor, and on such first written demand payment shall be made by the Guarantor of all sums then due under this Guarantee without any reference to the Contractor and without any objection.

This Guarantee shall come into force as soon as the advance payment has been credited to the account of the Contractor.

This Guarantee shall expire not later than _____ by which date we must have received any claims by registered letter, telegram, telex or telex.

It is understood that you will return this Guarantee to us on expiry or after settlement of the total amount to be claimed hereunder.

Guarantor (Scheduled Bank)

Witness:

1. _____

Corporate Secretary (Seal)

2. _____

(Name, Title & Address)

1. Signature _____

2. Name _____

3. Title _____

Corporate Guarantor (Seal)

NOT APPLICABLE

GENERAL CONDITIONS OF CONTRACT

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CONDITIONS OF CONTRACT

1. GENERAL PROVISIONS

1.1 Definitions

In the Contract as defined below, the words and expressions defined shall have the following meanings assigned to them, except where the context requires otherwise:

The Contract

- 1.1.1 “Contract” means the Contract Agreement and the other documents listed in the Contract Data.
- 1.1.2 “Specifications” means the document as listed in the Contract Data, including Employer’s requirements in respect of design to be carried out by the Contractor (if any), and any Variation to such document.
- 1.1.3 “Drawings” means the Employer’s drawings of the Works as listed in the Contract Data, and any Variation to such drawings.

Persons

- 1.1.4 “Employer” means the person named in the Contract Data and the legal successors in title to this person, but not (except with the consent of the Contractor) any assignee.
- 1.1.5 “Contractor” means the person named in the Contract Data and the legal successors in title to this person, but not (except with the consent of the Employer) any assignee.
- 1.1.6 “Party” means either the Employer or the Contractor.

Dates, Times and Periods

- 1.1.7 “Commencement Date” means the date fourteen (14) days after the date the Contract comes into effect or any other date named in the Contract Data.
- 1.1.8 “Day” means a calendar day
- 1.1.9 “Time for Completion” means the time for completing the Works as stated in the Contract Data (or as extended under Sub-Clause 7.3), calculated from the Commencement Date.

1.1.10 **Money and Payments**

- 1.1.11 “Cost” means all expenditure properly incurred (or to be incurred) by the Contractor, whether on or off the Site, including overheads and similar charges but does not include any allowance for profit.

Other Definitions

- 1.1.11 “Contractor’s Equipment” means all machinery, apparatus and other things required for the execution of the Works but does not include Materials or Plant intended to form part of the Works.
- 1.1.12 “Country” means the Islamic Republic of Pakistan.
- 1.1.13 “Employer’s Risks” means those matters listed in Sub-Clause 6.1.
- 1.1.14 “Force Majeure” means an event or circumstance which makes performance of a Party’s obligations illegal or impracticable and which is beyond that Party’s reasonable control.
- 1.1.15 “Materials” means things of all kinds (other than Plant) to be supplied and incorporated in the Works by the Contractor.
- 1.1.16 “Plant” means the machinery and apparatus intended to form or forming part of the Works.
- 1.1.17 “Site” means the places provided by the Employer where the Works are to be executed, and any other places specified in the Contract as forming part of the Site.
- 1.1.18 “Variation” means a change which is instructed by the Engineer/Employer under Sub-Clause 10.1.
- 1.1.19 “Works” means any or all the works whether Supply, Installation, Construction etc. and design (if any) to be performed by the Contractor including temporary works and any variation thereof.
- 1.1.20 “Engineer” means the person notified by the Employer to act as Engineer for the purpose of the Contract and named as such in Contract Data.

1.2 Interpretation

Words importing persons or parties shall include firms and organizations. Words importing singular or one gender shall include plural or the other gender where the context requires.

1.3 Priority of Documents

The documents forming the Contract are to be taken as mutually explanatory of one another. If an ambiguity or discrepancy is found in the documents, the priority of the documents shall be in accordance with the order as listed in the Contract Data.

1.4 **Law**

The law of the Contract is the relevant Law of Islamic Republic of Pakistan.

1.5 **Communications**

All Communications related to the Contract shall be in English language.

1.6 **Statutory Obligations**

The Contractor shall comply with the Laws of Islamic Republic of Pakistan and shall give all notices and pay all fees and other charges in respect of the Works.

2. **THE EMPLOYER**

2.1 **Provision of Site**

The Employer shall provide the Site and right of access thereto at the times stated in the Contract Data.

2.2 **Permits etc.**

The Employer shall, if requested by the Contractor, assist him in applying for permits, licenses or approvals which are required for the Works.

2.3 **Engineer's/Employer's Instructions**

The Contractor shall comply with all instructions given by the Employer or the Engineer, if notified by the Employer, in respect of the Works including the suspension of all or part of the Works.

2.4 **Approvals**

No approval or consent or absence of comment by the Engineer/Employer shall affect the Contractor's obligations.

3. **ENGINEER'S/EMPLOYER'S REPRESENTATIVES**

3.1 **Authorized Person**

The Employer shall appoint a duly authorized person to act for him and on his behalf for the purposes of this Contract. Such authorized person shall be duly identified in the Contract Data or otherwise notified in writing to the Contractor as soon as he is so appointed. In either case the Employer shall notify the Contractor, in writing, the precise scope of the authority of such authorized person at the time of his appointment.

3.2 **Engineer's/Employer's Representative**

The name and address of Engineer's/Employer's Representative is given in Contract Data. However the Contractor shall be notified by the Engineer/Employer, the delegated duties and authority before the Commencement of Works.

4. THE CONTRACTOR

4.1 General Obligations

The Contractor shall carry out the Works properly and in accordance with the Contract. The Contractor shall provide all supervision, labour, Materials, Plant and Contractor's Equipment which may be required.

4.2 Contractor's Representative

The Contractor shall appoint a representative at site on full time basis to supervise the execution of work and to receive instructions on behalf of the Contractor but only after obtaining the consent of the Employer for such appointment which consent shall not be unreasonable withheld by the Employer. Such authorized representative may be substituted /replaced by the Contractor at any time during the Contract Period but only after obtaining the consent of the Employer as aforesaid.

4.3 Subcontracting

The Contractor shall not subcontract the whole of the Works. The Contractor shall not subcontract any part of the Works without the consent of the Employer.

4.4 Performance Security

The Contractor shall furnish to the Employer within fourteen (14) days after receipt of Letter of Acceptance a Performance Security at the option of the bidder, in the form of Bank Draft (Pay order) or Bank Guarantee having at least AA rating from PACRA/JCR situated in Karachi for the amount and validity specified in Contract Data.

5. DESIGN BY CONTRACTOR

6.2 Contractor's Design

The Contractor shall carry out design to the extent specified, as referred to in the Contract Data. The Contractor shall promptly submit to the Engineer/Employer all designs prepared by him. Within fourteen (14) days of receipt the Engineer/Employer shall notify any comments or, if the design submitted is not in accordance with the Contract, shall reject it stating the reasons. The Contractor shall not construct any element of the Works designed by him within fourteen (14) days after the design has been submitted to the Engineer/Employer or which has been rejected. Design that has been rejected shall be promptly amended and resubmitted. The Contractor shall resubmit all designs commented on taking these comments into account as necessary.

5.2 Responsibility for Design

The Contractor shall remain responsible for his bided design and the design under this Clause, both of which shall be fit for the intended purposes defined in the Contract and he shall also remain responsible for any infringement of any patent or copyright in respect of the same. The Engineer/Employer shall be responsible for the Specifications and Drawings.

6. EMPLOYER'S RISKS

6.1 The Employer's Risks

The Employer's Risks are:-

- a) war, hostilities (whether war be declared or not), invasion, act of foreign enemies, within the Country;
- b) Rebellion, terrorism, revolution, insurrection, military or usurped power, or civil war, within the Country;
- c) Riot, commotion or disorder by persons other than the Contractor's personnel and other employees including the personnel and employees of Sub-Contractors, affecting the Site and/or the Works;
- d) ionizing radiations, or contamination by radio-activity from any nuclear fuel, or from any nuclear waste from the combustion of nuclear fuel, radio-active toxic explosive, or other hazardous properties of any explosive nuclear assembly or nuclear component of such an assembly, except to the extent to which the Contractor/Sub-Contractors may be responsible for the use of any radio-active material;
- e) Pressure waves caused by aircraft or other aerial devices travelling at sonic or supersonic speeds;
- f) use or occupation by the Employer of any part of the Works, except as may be specified in the Contract;
- g) late handing over of sites, anomalies in drawings, late delivery of designs and drawings of any part of the Works by the Employer's personnel or by others for whom the Employer is responsible;
- h) a suspension under Sub-Clause 2.3 unless it is attributable to the Contractor's failure; and
- i) Physical obstructions or physical conditions other than climatic conditions, encountered on the Site during the performance of the Works, for which the Contractor immediately notified to the Employer and accepted by the Employer.

7. TIME FOR COMPLETION

7.1 Execution of the Works

The Contractor shall commence the Works on the Commencement Date and shall proceed expeditiously and without delay and shall complete the Works, subject to Sub-Clause 7.3 below, within the Time for Completion.

7.2 Programmed

Within the time stated in the Contract Data, the Contractor shall submit to the Engineer/Employer a programmed for the Works in the form stated in the Contract Data.

7.3 Extension of Time

The Contractor shall, within such time as may be reasonable under the circumstances, notify the Employer/Engineer of any event(s) falling within the scope of Sub-Clause 6.1 or 10.3 of these Conditions of Contract and request the Employer/Engineer for a reasonable extension in the time for the completion of Works. Subject to the aforesaid, the Employer/Engineer shall determine such reasonable extension in the time for the completion of Works as may be justified in the light of the details/particulars supplied by the Contractor in connection with the such determination by the Employer/Engineer within such period as may be prescribed by the Employer/Engineer for the same; and the Employer shall extend the Time for Completion as determined.

7.4 Extension of Contract

The validity of contract may be extended for further period of one year on same terms & conditions of the contract at the option of PQA and / or such modification as may be mutually agreed.

7.5 Late Completion

If the Contractor fails to complete the Works within the Time for Completion, the Contractor's only liability to the Employer for such failure shall be to pay the amount stated in the Contract Data for each day for which he fails to complete the Works.

8. TAKING-OVER

8.1 Completion

The Contractor may notify the Engineer/Employer when he considers that the Works are complete.

8.2 Taking-Over Notice

Within fourteen (14) days of the receipt of the said notice of completion from the Contractor the Employer/Engineer shall either takeover the completed Works and issue a Certificate of Completion to that effect or shall notify the Contractor his reasons for not taking-over the Works. While issuing the Certificate of Completion as aforesaid, the Employer/Engineer may identify any outstanding items of work which the Contractor shall undertake during the Maintenances Period.

9. REMEDYING DEFECTS

9.1 Remedying Defects

The Contractor shall for a period stated in the Contract Data from the date of issue of the Certificate of Completion carry out, at no cost to the Employer, repair and rectification work which is necessitated by the earlier execution of poor quality of work or use of below specifications material in the execution of Works and which is so identified by the Employer/Engineer in writing within the said period. Upon expiry of the said period, and subject to the Contractor's faithfully performing his aforesaid obligations, the Employer/Engineer shall issue a Maintenance completion Certificate whereupon all obligations of the Contractor under this Contract shall come to an end.

Failure to remedy any such defects or complete outstanding work within a reasonable time shall entitle the Employer to carry out all necessary works at the Contractor's cost. However, the cost of remedying defects not attributable to the Contractor shall be valued as a Variation.

9.2 Uncovering and Testing

The Engineer/Employer may give instruction as to the uncovering and/or testing of any work. Unless as a result of an uncovering and/or testing it is established that the Contractor's design, Materials, Plant or workmanship are not in accordance with the Contract, the Contractor shall be paid for such uncovering and/or testing as a Variation in accordance with Sub-Clause 10.2.

10. VARIATIONS AND CLAIMS

10.1 Right to Vary

The Employer/Engineer may issue Variation Order(s) in writing. Where for any reason it has not been possible for the Employer/Engineer to issue such Variations Order(s), the Contractor may confirm any verbal orders given by the Employer/Engineer in writing and if the same are not refuted/denied by the Employer/Engineer within seven (7) days of the receipt of such confirmation the same shall be deemed to be a Variation Orders for the purposes of this Sub-Clause.

10.2 Valuation of Variations

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) In the absence of appropriate rates, the rates in the Contract shall be used as the basis for valuation, or failing which
- d) At appropriate new rates, as may be agreed or which the Engineer/Employer considers appropriate, or
- e) In case of non-schedule items, the quotations & rates analysis will be furnished by the contractor & submit for prior approval / agreed by the Engineer / Engineer representative.

- f) if the Engineer/Employer so instructs, at day work rates set out in the Contract Data for which the Contractor shall keep records of hours of labour and Contractor's Equipment, and of Materials, used.

10.3 **Early Warning**

The Contractor shall notify the Engineer/Employer in writing as soon as he is aware of any circumstance which may delay or disrupt the Works, or which may give rise to a claim for additional payment.

To the extent of the Contractor's failure to notify, which results to the Engineer/Employer being unable to keep all relevant records or not taking steps to minimize any delay, disruption, or Cost, or the value of any Variation, the Contractor's entitlement to extension of the Time for Completion or additional payment shall be reduced/rejected.

10.4. **Valuation of Claims**

If the Contractor incurs Cost as a result of any of the Employer's Risks, the Contractor shall be entitled to the amount of such Cost. If as a result of any Employer's Risk, it is necessary to change the Works, this shall be dealt with as a Variation subject to Contractor's notification for intention of claim to the Engineer/Employer within fourteen (14) days of the occurrence of cause.

10.5 **Variation and Claim Procedure**

The Contractor shall submit to the Engineer/Employer an itemized make-up of the value of variations and claims within twenty eight (28) days of the instruction or of the event giving rise to the claim. The Engineer/Employer shall check and if possible agree the value. In the absence of agreement, the Employer shall determine the value.

10.6 **Variations Exceeding 15 percent**

If, on the issue of the Taking-Over Certificate for the whole of the works, it is found as a result of :

- (a) All work valued under Sub-clauses.
- (b) All adjustments upon measurement of the estimated quantities set out in the Bill of Quantities, excluding Provisional Sums, day works and adjustment of price made under Clauses. But not from any other cause, there have been additions to or deductions from the contract price which taken together are in excess of 15 percent of the "Effective Contract price" (which for the purposes of this Sub-Clause shall mean the contract price, excluding Provisional Sums and Allowance for day works, (if any) then and in such event (subject to any action already taken under any other Sub-Clause of this clause), after due consultation by the Engineer with the Employer and the Contractor, there shall be added to or deducted from the Contract Price such further sum as may be agreed between the Contractor and the Engineer or, failing agreement, determined by the Engineer having regard to the Contractor's site and general overhead costs of the Contract. The Engineer shall notify the Contractor of any

determination made this Sub-Clause, with a copy of the Employer. Such sum shall be based only on the amount by which such additions or deductions shall be in excess of 15 percent of the Effective Contract Price (as per terms of FIDIC conditions of Contract)

11. CONTRACT PRICE AND PAYMENT

11.1 (a) Terms of Payment:

Terms of conditions shall be in accordance with the Contract Data

The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other terms of the Contract, shall be paid by the Employer to the Contractor within 30 days after such Interim Payment Certificate has been jointly verified by Employer and Contractor, or, in the case of the Final Certificate referred to in Sub Clause 8.1&8.2, within 60 days after such Final Payment Certificate has been jointly verified by Employer and Contractor;

(b) Valuation of the Works

The Works shall be valued as provided for in the Contract Data, subject to Clause 10.

11.2 Monthly Statements

The Contractor shall be entitled to be paid at monthly intervals:

- a) The value of the Works executed; and
- b) The percentage of the value of Materials and Plant reasonably delivered to the Site, as stated in the Contract Data, subject to any additions or deductions which may be due.

The Contractor shall submit each month to the Engineer/Employer a statement showing the amounts to which he considers himself entitled.

11.3 Interim Payments

Within a period not exceeding seven (7) days from the date of submission of a statement for interim payment by the Contractor, the Engineer shall verify the same and within a period not exceeding thirty (30) days from the said date of submission by the Contractor, the Employer shall pay to the Contractor the sum verified by the Engineer less retention money at the rate stated in the Contract Data.

11.4 Retention

Retention money shall be paid by the Employer to the Contractor within fourteen (14) days after either the expiry of the period stated in the Contract Data, or the remedying of notified defects, or the completion of outstanding work, all as referred to in Sub-Clause 9.1, whichever is the later.

11.5 **Final Payment**

Within twenty one (21) days from the date of issuance of the Maintenance Certificate the Contractor shall submit a final account to the Engineer to verify and the Engineer shall verify the same within fourteen (14) days from the date of submission and forward the same to the Employer together with any documentation reasonably required to enable the Employer to ascertain the final contract value.

Within sixty (60) days from the date of receipt of the verified final account from the Engineer, the Employer shall pay to the Contractor any amount due to the Contractor. While making such payment the Employer may, for reasons to be given to the Contractor in writing, withhold any part or parts of the verified amount.

11.6 **Currency**

Payment shall be in the currency stated in the Contract Data.

12. **DEFAULT**

12.1 **Defaults by Contractor**

If the Contractor abandons the Works, refuses or fails to comply with a valid instruction of the Engineer/Employer or fails to proceed expeditiously and without delay, or is, despite a written complaint, in breach of the Contract, the Employer may give notice referring to this Sub-Clause and stating the default.

If the Contractor has not taken all practicable steps to remedy the default within fourteen (14) days after receipt of the Employer's notice, the Employer may by a second notice given within a further twenty one (21) days, terminate the Contract. The Contractor shall then demobilize from the Site leaving behind any Contractor's Equipment which the Employer instructs, in the second notice, to be used for the completion of the Works at the risk and cost of the Contractor.

12.2 **Insolvency**

If a Party is declared insolvent under any applicable law, the other Party may by notice terminate the Contract immediately. The Contractor shall then demobilize from the Site leaving behind, in the case of the Contractor's insolvency, any Contractor's Equipment which the Employer instructs in the notice is to be used for the completion of the Works.

12.4 **Payment upon Termination**

After termination, the Contractor shall be entitled to payment of the unpaid balance of the value of the Works executed and of the Materials and Plant reasonably delivered to the Site, adjusted by the following:

- a) Any sums to which the Contractor is entitled under Sub-Clause 10.4,
- b) Any sums to which the Employer is entitled,

- c) if the Employer has terminated under Sub-Clause 12.1 or 12.3, the Employer shall be entitled to a sum equivalent to twenty percent (20%) of the value of parts of the Works not executed at the date of the termination, and
- d) If the Contractor has terminated under Sub-Clause 12.2 or 12.3, the Contractor shall be entitled to the cost of his demobilization together with a sum equivalent to ten percent (10%) of the value of parts of the Works not executed at the date of termination. The net balance due shall be paid or repaid within twenty eight (28) days of the notice of termination.

13. RISKS AND RESPONSIBILITIES

13.1 Contractor's Care of the Works

Subject to Sub-Clause 9.1, the Contractor shall take full responsibility for the care of the Works from the Commencement Date until the date of the Employer's/Engineer's issuance of Certificate of Completion under Sub-Clause 8.2. Responsibility shall then pass to the Employer. If any loss or damage happens to the Works during the above period, the Contractor shall rectify such loss or damage so that the Works conform to the Contract.

Unless the loss or damage happens as a result of any of the Employer's Risks, the Contractor shall indemnify the Employer, or his agents against all claims loss, damage and expense arising out of the Works

13.2 Force Majeure

If Force Majeure occurs, the Contractor shall notify the Engineer/Employer immediately. If necessary, the Contractor may suspend the execution of the Works and, to the extent agreed with the Employer demobilize the Contractor's Equipment.

If the event continues for a period of eighty four (84) days, either Party may then give notice of termination which shall take effect twenty eight (28) days after the giving of the notice.

After termination, the Contractor shall be entitled to payment of the unpaid balance of the value of the Works executed and of the Materials and Plant reasonably delivered to the Site, adjusted by the following:

- a) Any sums to which the Contractor is entitled under Sub-Clause 10.4,
- b) The cost of his demobilization
- c) Less any sums to which the Employer is entitled.

The net balance due shall be paid or repaid within thirty five (35) days of the notice of termination.

14. INSURANCE

14.1 Arrangements

The Contractor shall, prior to commencing the Works, effect insurances of the types, in the amounts and naming as insured the persons stipulated in the Contract Data and (i) of the Employer's Risks & workman compensation under Sub-Clause 6.1. The policies shall be issued by insurers and in terms approved by the Employer. The Contractor shall provide the Engineer/Employer with evidence that any required policy is in force and that the premiums have been paid.

14.2 Default

If the Contractor fails to effect or keep in force any of the insurances referred to in the previous Sub-Clause, or fails to provide satisfactory evidence, policies or receipts, the Employer may, without prejudice to any other right or remedy, effect insurance for the cover relevant to such as a default and pay the premiums due and recover the same plus a sum in percentage given in Contractor Data from any other amounts due to the Contractor.

15. Duties and Taxes

The Contractor shall obtain all information as to any and all taxes including sales Tax, Company Tax and other taxes FBR & SRB, import duties. port handling charges etc and be responsible for include same in the prices sated in his tender. No extra claim in this respect will be entertained. The clearance through customs of the material (Rubber Fender with accessories) and other things required for the works is the responsibility of the contractor. The contract price shall include cost of material, installation, insurance, custom duty and taxes/levies payable by the contractor.

16. RESOLUTION OF DISPUTES

16.1 Engineer's Decision

If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with the Works, the matter in dispute shall, in the first place, be referred in writing to the Engineer, with a copy to the other party. Such reference shall state that it is made pursuant to this Clause. No later than the twenty eight (28) days after the day on which he received such reference, the Engineer shall give notice of his decision to the Employer and the Contractor.

Unless the Contract has already been repudiated or terminated, the Contractor shall, in every case, continue to proceed with the Work with all due diligence, and the Contractor and the Employer shall give effect forthwith to every such decision of the Engineer unless and until the same shall be revised, as hereinafter provided in an arbitral award.

16.2 **Notice of Dissatisfaction**

If a Party is dissatisfied with the decision of the Engineer or if no decision is given within the time set out in Sub-Clause 15.1 here above, the Party may give notice of dissatisfaction referring to this Sub-Clause within fourteen (14) days of receipt of the decision or the expiry of the time for the decision. If no notice of dissatisfaction is given within the specified time, the decision shall be final and binding on the Parties. If notice of dissatisfaction is given within the specified time, the decision shall be binding on the Parties who shall give effect to it without delay unless and until the decision of the Engineer is revised by an arbitrator.

16.3 **Arbitration**

A dispute which has been the subject of a notice of dissatisfaction shall be finally settled as per provisions of Arbitration Act 1940 (Act No. X of 1940) and Rules made there under and any statutory modifications thereto. Any hearing shall be held at the place specified in the Contract Data and in the language referred to in Sub-Clause 1.5.

17 **INTEGRITY PACT**

17.1 If the Contractor or any of his Sub-Contractors, agents or servants is found to have violated or involved in violation of the Integrity Pact signed by the Contractor as Schedule-F to his Bid, then the Employer shall be entitled to:

- (a) Recover from the Contractor an amount equivalent to ten times the sum of any commission, gratification, bribe, finder's fee or kickback given by the Contractor or any of his Sub-Contractors, agents or servants;
- (b) Terminate the Contract
- (b) Recover from the Contractor any loss or damage to the Employer as a result of such termination or of any other corrupt business practices of the Contractor or any of his Sub-Contractors, agents or servants.

On termination of the Contract under Sub-Para (b) of this Sub-Clause, the Contractor shall demobilize from the Site leaving behind Contractor's Equipment which the Employer instructs, in the termination notice, to be used for the completion of the Works at the risk and cost of the Contractor. Payment upon such termination shall be made under Sub-Clause 12.4, in accordance with Sub-Para (c) thereof, after having deducted the amounts due to the Employer under Sub-Para (a) and (c) of this Sub-Clause.

CONTRACT DATA

Sub-Clauses of Conditions of Contract

1.1.3	Employer's Drawings, if any (To be listed by the Employer)
1.1.4	The Employer means Port Qasim Authority and represented by Director General (Technical), Karachi.
1.1.5	The Contractor means _____
1.1.7	Commencement Date means the date of issue of Engineer's Notice to Commence the work, which shall be issued within fourteen (14) days of the signing of the Contract Agreement.
1.1.9	Time for Completion As notified at serial # 06 in special stipulation
1.1.20	Engineer/E.R Director (M&E), Port Qasim, Karachi & Manager (Electrical) as Engineer's Representative
1.3	Documents forming the Contract listed in the order of priority: The Contract Agreement Letter of Acceptance The completed Form of Bid Contract Data Conditions of Contract The completed Schedules to Bid including Schedule of Prices/BoQ. The specifications Special stipulation Appendixes
2.1	Provision of Site: On the commencement date
3.1	Authorized person: To be notified
3.2	Name and address of Engineer's/Employer's representative To be notified
4.4	Performance Security: 10% of the Contract Price. The Performance Security shall be valid up to completion of defects liability period of the contract. (Form: As provided under Standard Forms of these Documents)
5.1	Requirements for Contractor's design (if any): Specification Clause No's _____
7.2	Programme: Time for submission: Within fourteen (14) days of the Commencement Date. Form of programme: Bar Chart (Bar Chart /CPM/PERT or other)
7.5	Liquidated Damages Amount payable due to failure to complete the work shall be 0.1 % per day up to a maximum of (10%) of contract sum stated in the Letter of Intent /Acceptance

9.1	<p>Period for remedying defects/ Defects liability period upto completion of maintenance period i.e. 12 Months from issuance of certificate of completion under clause 9.1</p> <p>After expiry of contract period the performance Bond furnished will be released on the request of contractor.</p>
10.2	<p>(e) Variation procedure: Day work rates_____ (details)</p>
11.1(a)	<p><u>Terms of payments:</u></p> <p>Payment of Contract Price shall be made in the following manners: The Engineer after examining each such monthly statement certify the amount of payment of the contractor which he shall consider reasonable and proper in respect thereof subject to retention of percentage of Retention money and deduction of any such sum which may have become due to payable by the contractor to the Authority.</p> <p>For all payments made to the Contractor, a deduction of five percent shall be made from each bill as Retention Money. The Retention Money shall be refunded to the Contactor after issuance of certificate of completion under clause 9.1</p> <p>The amount due to the Contractor under any certificate duly certificate for payment by the Engineer pursuant to this clause or to any terms of the Contract, shall be paid by the Authority to the Contractor after such certification.</p> <p>The amount due to the Contractor under any certificate for payment by the Engineer pursuant to this clause or to any terms of the Contract, shall be paid by the Authority to the Contractor after such certification.</p> <p>All contents in them payment certificate issued by the Engineer and also by the payments that have been made shall be considered partial and provisional and nor final and on account, of any mistake in measurement or computation in the payment certificate shall be corrected and payment be adjusted accordingly.</p> <p>ii). <u>Final Payment</u></p> <p>Not later than one month after the completion of the Contract period, the Contractor shall submit to the Engineer a statement of final account with supporting documents showing the value of the work done in accordance with the Contract together with all further sums which the Contractor to be due to him under the Contract within one month after the receipt of his final account and of all information reasonably required for its verification. The Engineer shall issue a final certificate stating: The amount which in his opinion is finally due under the Contract and after giving credit to the Authority for all amounts previously paid by the Authority and for all sums to which the Authority is entitled under the Contract.</p>

11.1 (b)	Valuation of the Works*: Lump sum price _____ (details), or Lump sum price with schedules of rates _____ (details), or Lump sum price with bill of quantities _____ (details), or i) Re-measurement with estimated/bid quantities in the Schedule of Prices _____ (details), or/and ii) Cost reimbursable _____ (details)
11.2(b)	Percentage of value of Materials and Plant: Materials Eighty (80%)* Plant Twenty (20%)*
11.4	Percentage of retention: five percent (5%)
11.6	Currency of payment: Pak. Rupees
14.1	Insurances: Type of cover: Contractor's All Risk Policy Amount of cover: The sum stated in the Letter of Acceptance plus fifteen percent (15%) Type of cover Contractor's Equipment: Amount of cover Full replacement cost Type of cover Third Party-injury to persons and damage to property. (The minimum limit amount of third party insurance should be Rs.150,000/- to 300,000/- each occurrence). Workers: _____ Other covers _____ (In each case name of insured is Contractor and Employer) Type of cover: Workmen's compensation policy
14.2	Amount to be recovered Premium plus ten percent (10%).
16.3	Arbitration Place of Arbitration: Karachi

SECTION-2

SPECIAL CONDITIONS OF CONTRACT

These Special Conditions of the contract are in additional to the General Conditions of this contract and these shall be applicable to the entire work included in this contract.

The job which affects the continuity of electrical power supply, lighting system & other Services must be attended and prepared immediately on top priority without any delay.

Maintenance of substation 11KV/LT Distribution network, lighting system & electrical/ apparatus mentioned in the contract is the responsibility of the Repair & Maintenance Contract. Any unreasonable delay in carrying out his (Contractor) responsibilities shall be treated as negligence on the part of the contractor. In such event the engineer shall have the power to carry out the work from any other agency at Contractor's risk and cost after issuing due notice to the Contractor.

Details of necessary technical staff according to the schedule of the contract shall be worked out and the staff shall be arranged by the Contractor to carry out the work as per Contract. Details of adequate stand by staff proposed for the jobs shall be submitted with the bid together with full bio-data and particulars of the staff. No change shall be allowed in the staff without prior permission of the Engineer. The staff as per list Annexure-1 of this section shall be posted at site permanently so as to attend the daily complaints immediately. The staff shall be available from 8am to 4 pm daily. It may be noted that the staff listed in Annexure-1 shall act as directed by Engineer. Adequate staff shall further be available at site whenever required depending on the nature of work. The bidder shall include all expenses for the provision of staff, with all direct and indirect/expenses and Contractor over heads and profit within me rated quoted in the bid.

In case of absence of the staff penalty of Rs.10,000/= per shall be imposed. The Contractor shall be required the supply and maintain suitable stock of parts and materials at site and shall have all necessary tools, including any special tools, meter, instruments. etc. a list of stock of spare which contractor propose to permanently store at site shall be submitted with the bid. The contractor must have all testing equipments, fault locating equipments, tools & apparatus necessary for carrying out the work included in the contract. The list of such tools, instrument and equipment should be submitted by the Contractor with the bid. All spare parts, tools and equipment approved by the Engineer shall be available at the site all times, and shall not be removed from site without information and consent of Engineer. The Engineer shall from time to time inspect Contractor's Site office and stores to ensure availability of staff, spare parts, maintenance material, tools and equipment in accordance with the requirement of this Contract.

The Contract shall be required to setup an office and maintain at this own cost at Port Qasim Authority site within 15 days of the award of the Contract. The Contractor has to maintain the office round the clock to meet emergencies and will provide adequate facilities to Engineer/ Engineer's representative and maintenance throughout the Contract period.

Suitable deductions shall be made from his bills in case at the absence of technical staff, closure of office or both as decided by the Engineer.

The contractor shall be required to discuss with the Engineer detailed program/ schedule immediately after the award of the work to carry out the work as directed. The program/ schedule shall be reviewed every month for any adjustment/ modification. Prior to purchase of any components, parts material and equipment the contractor must obtain approval from the Engineer. All necessary information rates time in the equipment diagnosis of the fault, complete justification for replacement, data's of new parts and estimated cost of work shall accompany the request for approval.

Arrangement of transport facility for the movement of the Contractor's maintenance staff at site during maintenance whenever required in the interest of work shall be the deemed to have been included within the rates quoted in BOQ.

This job shall be carried out in strict accordance with the contract specification and as directed by the Engineer and any deviation will be permitted with approval of Engineer only the Engineer is satisfied that the alternate proposal is better than the contract specification or acceptance of alternate is in the interest of work.

The responsibility of the Bidder to visit the entire electric power & lighting system in the port area which is required to maintained under this contract. He must satisfy himself fully before submitting his bid. No consideration shall be given to the contractor on account of non-availability of any information or lack of knowledge at any later stage submission of the bid.

The contractor must calculate the existing quantity of material and equipment already installed and expected addition/ alteration in further during the terms of this contract. The contractor is also required to keep the tools, plants and materials as specified in BOQ to rectify breakdowns immediately which are to kept in his camp working round the clock. He must satisfy himself fully, completely and if needed obtain all alterations, data, drawing from the supplier/ manufacturer and where necessary from the Authority.

This work shall be carried out by skilled technicians strictly as equipment of the manufacturer only. The contractor shall be responsible for any damage to the equipment/ installation due to attendance by his staff. Engineer may disallow any staff, which in his opinion does not possessing necessary qualification, experience and skill for the job.

DELAY OF PAYMENT (To be read conjunction with clause of section-1 of General Conditions of Contract)

The Contractor shall submit his bills at the end of each month in required number of copies in proper format as advised by the Engineer.

No separate payment shall be made to the Contractor for attendance, trouble, shooting, and identification of fault.

The Contractor shall make a complete record of work carried out giving detailed description of work, dates and time. Engineers Instructions/ Notes/ Measures and all such information in support of his bills.

No advance payment of any work shall be made to the Contractor.

The payment of bills submitted by Contractor shall be made by the Authority within forty five (45) days after the date of receipt of Engineer's Certificate of amount approved for payment.

LIST OF OPERATIONAL / MAINTENANCE STAFF

- Trained, Skilled & Qualified Licensed Switch Gear Operators/
Electrical Fitters etc on round the clock basis. 07 Nos.
- Total Skilled Workers **07 Nos.**

SPECIFICATIONS
A - GENERAL
B - TECHNICAL

A-GENERAL

1. SCOPE OF WORK

The works comprise of Annual Repair Operation & Repair/ maintenance of electrical equipments, machinery & installations at PQA.

2. AMBIENT CONDITIONS

All equipment supplied shall with stand without developing defect any defect, the following climate conditions:

Maximum ambient	:	48°C
Minimum ambient	:	8°C
Maximum humidity	:	90%
Atmosphere	:	Tropical, humid and dusty
Altitudes	:	Mean sea level

3. STANDARD

The latest standard and B.B.S Codes VDF and I.F.C and I.E.E recommendations shall be applicable and followed by for the equipments specified herein.

4. SUBSTITUTE MATERIALS

In the specifications, certain type and make of equipment/material have been specified only for the purpose of reference and guidance. For items differing from the type of and make specified herein for items specified as approved equivalent or for any item which requires the approval by the Engineer, the Contractor shall submit in duplicate complete data within 45 days after award of contract. If the Contractor fails to submit the required approved data within the specified 45 days, it shall be interpreted to mean that Contractor will furnish equipment/material as specified. Request for approval of substitute materials after 45 days will be considered by Engineer only if he is satisfied that due to circumstances beyond the control of Contractor the specified material could not be obtained in time to prevent unnecessary delay of construction.

The data to be applied shall include, apart from technical details, all changes which may be required in the system and all portions of project affected by substitution.

5. Marking

The contractor shall provide "**Danger Board**" and "**Shock Chart**" whenever required to comply with the requirements of local Electricity Rules and according to normal practice.

6. GUARANTEE

The contractor shall furnish written guarantee of the manufacturer or supplier against performance of each equipment which shall be for replacement and repair of or part of whole equipment which may be defective in material or workmanship. The guarantee shall cover a minimum period of 12 month, after issuance of Taking Over Certificate. This guarantee shall not relieve the Contractor his obligations. He will be fully responsible for the repair or replacement of any defective material in time, so as not to cause any undue delay in carrying out the repair and replacement.

7. FACTORY TESTS

All types and routine test on the electrical installed equipment / material and all other equipment shall be performed at the manufacturer's works in the presence of engineer or his representative. The test may be waived off in case the certified test certificates are produced, issued by some standard laboratories of international repute, but nearly producing certificate will not be sufficient in case of routine test.

The Contractor shall inform the Engineer and Employer representative about the date and time of tests of each equipment at least two weeks in advance. All test result shall be supplied in triplicate. The witnessing of test by the Engineer or his representative or Employer's representative shall not absolve the Contractor from his responsibility for the proper functioning of the tenders and for the furnishing of the guarantee referred to in Clause 6.0.

8. INSTALLATION INSTRUCTION- GENERAL

The contractor shall furnish all labour and materials, tools and equipment required to install, test and commission of all fenders & accessories specified here. Contractor shall be responsible to repair/replace defective/faulty equipment/material even in event of his following of manufacturer's instructions for installation. The repair shall be to the satisfaction of the Engineer/Employer. For any departure from the working drawing that are deemed necessary by the contractor due to site conditions, he shall submit the details and obtain the Engineer's approval before starting such works.

9. CONTRACTORS CAMPS

The space for establishment for site office / camp area will be provided by PQA till completion of work free of charge. The contractor has to establish the facilities required for completion of job at his own expenses.

10. FACILITIES FOR THE ENGINEER

The contractor shall provide the following:-

- A.** To look after R/M works extended over 64 KM HT/LT electricity distribution network comprises of total 21 Nos. Sub-Station at Port Area including commercial area, Port Operation Zone, Industrial Area, PQA House Complex, Admin Building etc, a brand new Motor Cycle (Honda CD-70cc) latest model shall be provided by the contractor for site office duty after issuance of notice to commence with 40 liters fuel per month upto the maintenance period of contract.

The above said Motor Cycle shall be maintained for the entire duration of contract period as well for the duration of subsequent defect liability period by the contractor. Upon completion of contract above said Motor Cycle shall be the property of the Authority.

- B. Payment of work.**

No separate payment shall be made for above works involved within the scope of this section "Specification". The cost thereof shall be deemed to have been included in the quoted unit rate of other items of the bill of quantity.

B-TECHNICAL SPECIFICATIONS

ELECTRICAL WORKS

1. SCOPE: -

The works covered by this section of the specifications consists of furnishing all labor , equipment, tools and materials and in performing all running repair/maintenance contract work with providing installing, testing completion and commissioning of Electrical installation and equipments complete in strict accordance with this section of specifications and the drawing and subject to the Terms & Conditions of the contract of the following major works of repair / maintenance of HT/LT operational installation / equipment in PQA area.

- HT Distribution system.
- LT. Distribution system
- Earthing system
- Fault locating of HT/LT cable network
- Painting of steel structures
- lighting protection system
- Internal and external Illumination
- Internal power Distribution Network

2. MATERIAL AND EQUIPMENT REQUIREMENT

2.1 HIGH TENSION CABLE

a. GENERAL

The high tension underground cable shall be suitable for normal service voltage of 11 KV. The cable shall be 185-240 sq.mm copper conductor three core, cross linked polythene insulated shielded, armored and sheathed with a PVC jacket, suitable for indoor and outdoor use in transmission and distribution of electrical energy. The cable shall be capable of operating continuously at a conductor temperature of not more than 90c and shall be rated up to and including 15,000 Volts in a 50 cycles, 3 phase ungrounded neutral system.

b. INSULATED CONDUCTOR

The insulated conductor shall be of copper concentric standard. the normal area of conductor shall be 185 to 240 sq. mm.

The conductor shield the conductor shall be shielded with an extruded semi conducting layer before insulating.

c. INSULATION

- » The insulation shall be cross linked polythene confirm to minimum characteristics laid down by either IECR Japanese standard.
- » Physical Properties (Tensile strength, elongation at rupture, aging requirements, cold band and ozone resistance)
- » Electrical properties AC voltage test, Insulation resistance, DC voltage test, Corona level, dielectric constant power factor and the U band test.
- » Accelerate water absorption
- » Relative Items of circuit breaker panels, load brake switch panels or power transformer where the kits are required to be installed.
- » The Termination Kits shall be complete with are martial and compound.

d. STRAIGHT THOROUGH JOINT BOXES.

The straight thorough joint boxes for the above cable shall be manufactures recommended boxes for indoor outdoor and other ground use.

3. LOW TENSION CABLE

a. GENERAL

All cables for power distribution, distribution boards, external distribution, D.C power supply, light, alarm, communication and L.T circuits wiring shall be PVC insulated complying with BS 6746: 1969 of specified voltage grade and having stranded or solid, high conductivity soft annealed copper conductor complying with BS 6360-1969. "Copper conductors in insulated cables and cords". All bales shall be as manufactured by Pakistan Cables Ltd or approved equivalent.

b. POWER AND LIGHTING CABLES

Cables for various buildings from main L.T Switchboard for underground installation shall be 600/1000 volt grade PVC insulated, PVC sheathed, unarmored in protective pipes.

c. MISCELLANEOUS CABLES

All control cables in conduit to D.C distribution shall be single core, 250/440 volt grade PVC insulated Pakistan Cable Ltd, type 04491X.

d. PHASE IDENTIFICATION COLORS

All cables shall have phase identification colours on insulation of each phase. The color code of power circuit shall be red, yellow and blue for phase conductors and black for neutral conductor. Light conductor shall be same configuration.

4. 11 KV SWITCHBOARD

4.1 The 11 KV switchboard to be installed at the sub stations shall be 10 SWG sheet steel fabricated, floor mounting cubicle type.50 c/s a.c, 3 phase earthed neutral system. The 11 KV switchboard shall consist of ring-main units comprising of two circuit breakers and one fuse-switch. The circuit breakers shall be connected to the ring main sides and the fuse-switch shall be to the tee-off side to feed the power transformer, as shown on the drawings. The rupturing capacity of the switchboard at 11 KV shall be 350 MVA symmetrical and suitable for future addition of units on each side. An earth bar shall be provided extending to the entire length of the switchboard. Two earth terminals shall be provided for connecting the body of switchboard to earth as required. All switches, meters,, meter switches, luminous signaling and position indicating lamps, protective relays etc shall be mounted flush on the instrument chamber on the front side. Designation plates of pleasant appearance and of approved design shall be provided. The switch board shall be totally enclosed dust tight and vermin proof.

4.2 Bus Bars

The bus bars shall be made of high conductivity electrolytic copper shall be completely isolated and insulated and mechanically braced for short time momentary ampere rating of the largest circuit breaker. The continuous current of bus bars shall be 400 Amps. The phase identification of bus bars by the colors applied on full length and these shall be red, yellow and blue.

4.3 Circuit Breakers

The circuit breakers shall be triple pole, low oil content or bulk oil content, manually operated and short time current ratings. The circuit breakers shall be drawn out pattern. The circuit breaker shall have automatic, mechanically operated ON and OFF indicators also luminous indicators having colors red and green respectively. Fuses shall be provided.

4.4 11 KV FUSE SWITCH

The 11 KV load break fuse switch shall be 400 Amps, triple pole suitable for application in the system with fault level of 350 MVA at 11 KV. The 11 KV load break fused switch cubicle to be installed in the substation shall be sheet steel fabricated, floor mounting, cubicle type , factory assembled suitable for alignment with the circuit breaker panels on both the sides. The Switch shall be provided with cable termination arrangement for tee off cables. The cable shall be 11 KV, 3 core, copper conductor, cross linked polyethylene insulated, armoured and covered overall cable of size indicated on the drawing.

5. INSTRUMENT TRANSFORMERS

Current Transformers

2. GENERAL INSTRUCTIONS

- a) The entire electrical installation works shall be carried out by licensed workmen, authorized to undertake such work under the provisions of the electricity Act 1910 and Pakistan Electricity rules 193 is adopted and modified up to date by Government of Pakistan.
- b) The contractor shall be fully familiar with the latest edition of the Regulations of the Electrical Equipment of Buildings, 14th edition 1966, issued by institute of Electrical Engineers, London, Standard code of Practices, electricity rules 1937, By- laws that are in force for time to time and all works shall be carried out in accordance with the Regulations mentioned above. Any discrepancy between the specifications in the contract and above regulations all be brought to the notice of Engineer for his instructions.
- c) The contractor shall be responsible for submitting the test certificates and having the installation passed by Government Electrical Inspector for that region. All requirements of the Electric Inspector shall be complied with.

TABLE 2
TECHNICAL DATA OF CIRCUIT BREAKERS

Rated Current	400Amps.
Rated Voltage	11 KV
Frequency	50c/s
Power Frequency withstand Voltage	27 KV
Rated Breaking Capacity	350 MVA
Rated Breaking Current	
a. Symmetrical	18.4 KA
b. Asymmetrical	22.4 KA
Rated making Current	47 KA
Rated short-time current (1 sec.)	18.4 KA
Operating duty	B-3'-MB-3'-1

TABLE 3

TECHNICAL DATA OF FUSE SWITCH

Rated Current	400 Amps
Rated Voltage	11 KV
Rated short time Current (1 Second)	18.4 KA
Rated making Current	47 KA
Power Frequency withstand Voltage	27 KA

3. D. L.T. SWITCH GEAR

(1) Main L.T. Switchboard

(a) General Details

The Main Switchboard shall be free standing, cubicle type factory assembled, wired, rated for 440/415 volts, 3 phases, 4 wire 50Hz. A.C systems. The rupturing capacity of switchboard shall be 25 MVA at 415 volts, and suitable for operation in tropical climate at an ambient temperature of 45C.

The switchboard shall be angle iron frame-work fabricated, welded and ground and clad with 12 SWG sheet steel. The board shall be suitably divided into panels and compartments for accommodating the required number of circuit breakers, switch fuses, bus bars, instruments.

The component shall be mounted so as to facilitate ease of maintenance from front or rear. All metal work shall be cleaned down to bare shining metal work shall be cleaned down to bare shining metal and then spray painted with two base coats of anti-corrosive paint and finished inside in ivory and outside grey hammer tone, stove enameled. Adequate number of lifting eye bolts shall be provided for ease in installation.

The switchboard shall be supplied complete with foundation bolts and other installation materials as recommended by manufacturer. Proper size cable clamping channels with galvanized steel clamps and brass cable glands for armoured and PVC insulated, PVC sheathed cables shall also be provided. All incoming and outgoing connections from the switchboard shall be from the bottom. An earth bar of appropriate cross section shall be provided connected to the bodies of all sections of the switchboard. Two external earth terminals shall be provided for main earth connection to the body of switchboard.

The triple pole and neutral bus bars shall be made of hard drawn electrolytic copper of 99.9% purity. The bus bars shall meet the electrical and mechanical requirement of system; and the temperature rise shall not exceed 45C at rated current. Neutral link shall also provide for making neutral connection. The cabling inside the switchboard to be suitable harnessed by strapping arrangement to the satisfaction of engineer. All indicating, selecting and control equipment shall be of tropical design, clearly labeled with indelible ink. The name plate to be of flame retardant material.

(b) Typical Component Specifications

(i) Circuit Breakers

The circuit breaker wherever required shall be triple pole, 440/415 volts, air break, manually operated with front drive grip handle, and having a rupturing capacity 25MVA at 415 volts. On-off-tripped visual indication shall be provided. The air circuit breakers shall have the following protections:

- Adjustable three poles, resettable thermal overload release of setting range as shown on the drawing.
- Magnetic triple pole short circuit release having operating current range as shown on the drawing.
- Each circuit breaker shall have four auxiliary contacts, two normally open and two normally closed. In addition to the above, the incoming circuit breaker shall have under voltage release with a drop out voltage of 60-70% and pick up voltage of 80-90% along with ON-OFF-TRIPPED indicating lamps.

(ii) Switch- Fuse Units

The switch-fuse unit shall comprise of a triple pole on load isolating switch with H.R.C fuses. The fuse shall be supplied complete with the fuse base and shall conform to B.S.88:1967 Class Q1 with a fusing factor of 1.5 and suitable for 440/415 Volts AC systems.

(iii) Ammeters and Voltmeters

All meters shall be moving iron, spring controlled of measuring range as specified. The front dimensions shall be 144x144 mm for meters and incoming side on 96x96 mm shall have accuracy class 1.5 according to vide 0410/8.64, and suitable for connection to 5 amps secondary of current transformers as specified. The ammeters and voltmeters shall be scaled as indicated on the drawings. A red mark shall be provided at 415 volts on the scale of all voltmeters.

(iv) Current Transformers

Air cooled, ring type current transformers shall be provided having transformation ratio as indicated on the drawings. The CTs shall be of suitable burden having accuracy class 1.0 according to BS 3938-1973. The current transformers shall have 5 amps secondary.

(v) Selector switches

Ammeters and voltmeter selector switches shall be complete with front plate, with R-Y-B and off positions for ammeters and RY-YB-0BR-RN and off positions for voltmeter.

(vi) Air Break Contractors and Accessories

The contractors shall be triple pole, 440/415 volts heavy duty air break magnet type. The main contact shall be silver tipped, but t type with double break per pole. Each contractor shall be provided with a 240/220 volt operating coil, indication lamp and one normally open and one normally closed type auxiliary contact.

(vii) Time Switch

A motorized adjustable time switch shall be provided for automatic switching of street light and flood light circuits. It shall be comprise of self starting miniature synchronous motor, having maintenance free, non-lubricating rotating mechanism with a non-lubricating rotating mechanism with a 24 hours front dial, adjustable setting with the time switch.

(viii) Light Control selector Switch

The selector switch shall be providing on the switchboard for street and flood light control. This arrangement shall consist of selector switch, fuse and terminals block all provide next to magnetic contractor on panel. The switch has three positions OFF, Remote and LOCAL. The position marking shall be provide on the front plate of selector control shall be HRC type.

(ix) Push Button Station

The push button stations for controlling light in transit sheds shall be single unit comprising of two momentary contact push-buttons enclosed in steel housing and suitable knockouts shall be provided for push-buttons stations shall be Siemens type 3SA12 or approved equivalent.

(x) Control Boards

Control boards CB-1 and CB-2 in offices of transit sheds are provided for manual control of working lights for external illumination. The control boards shall comprise of required number of Siemens 3SA12 push button units described in section (ix) above enclosed in sheet steel board suitable for recess in wall installation. The control board shall have a hinged door with cam fastener and push buttons installed inside in a manner similar to miniature circuit breakers in lighting distribution boards. In general the control boards shall conform to the same specification for lighting distribution boards.

(2) LIGHTING DISTRIBUTION BOARDS

(a) General Details

The lighting DBS shall be suitable for recessed or surface amounting on wall, as stated in Bill of quantities and rated for 440/415 volts, 3 phase 4 wire, 50 Hz system. The body shall be 14 SWG sheet steel fabricated, front operation type. All components mounting plate, fixed inside the enclosure, shall be of dust and damp proof design with rubber gas kitting fastener. All sheet steel work shall be properly cleaned and then spray painted with two base coats of anti-corrosive paint and finished in heavy stove enameled grey color unless otherwise instructed by the engineer.

(b) Typical Component Specifications

Wherever applicable the components for lighting Distribution shall confirm to the following Specifications:

(i) Load-break Switches and Switches-Fuse Units.

- The load break switch shall be triple pole, moulded type and suitable for 440/415 volts A.C system. The operating lever shall have a spring controlled toggle mechanism. The switch shall be of AEG type of build in switches.

(ii) Miniature Circuit Breakers (M.C.B)

- Lighting circuits : AEG-E7L
- Power Circuits & 15A Sockets Outlets: AEG-E-7G
- Three phase circuits : AEG-E-9G

(3) WALL MOUNTED LOAD BREAK SWITCH

This shall be provided for local control of equipment. The load break switches shall be triple pole or single pole metal clad, cast iron or sheet steel fabricated, wall mounting type and suitable for operation at 415/440 volts, or 230/240 volts, 50 Hz, a.c supply.

(4) CHANGE OVER SWITCH

One incoming supply can be connected to the load circuit. The switch shall have one normally open and one normally closed auxiliary contacts and shall be similar to SIEMENS type 3 KF.

(5) POWER FACTOR IMPROVEMENT PLANT

The power factor improvement plant shall be used for improving the power factor of the system on 415 volts side. The plant shall be automatic cum manual.

The control panel shall accommodate the following:

- 1 No. Multi stage power factor correction relay for automatic/manual control.
- 1 No. 3 Phase, 4 wire, 415 volts, unbalanced load power factor indicator.
- 3 Nos. Instrument potential fuses.

Following equipment shall be provided for every 50 JVA capacitor bank

- 1 No. 125 amps. triple pole 415 volts air break contactor with auxiliary contacts.
- 1 Set 3 Nos. 1215 amps HRC back-up fuses with base and carrier.
- 1 No. On and OFF manual / Automatic Switch.
- 1 No. red lamp for "ON" indication of the contactor.

(6) SWITCH BOARD FOR POWER CONNECTION TO SHIPS

For supplying power connection to ships at the berth, water tight outdoor type switches shall be provided and installed along the counter side of the wall of the Transit shed facing the apron of the berth as shown on the drawings.

3.E POWER TRANSFORMERS

(1) General

- (a) The power transformers shall be indoor type, oil immersed, naturally cooled, double wound, 3 phase, core type, designed and built to give efficient and reliable service at their full rated capacity

on the climatic conditions given in the general Instructions of these specifications. Transformers built to the following standards will be acceptable:

(i) British standards : B.S 171-1970
C.P. 1010-1969
And other relevant latest British Standards.

(ii) V.D.E : V.D.E. 0532

- (b) The transformers shall be fully tropical zed and for temperature rise, humidity, altitude etc.
- (c) The voltage ratio at no load shall be 11000/415 volts. The system frequency shall be 50 c/s. the transformer shall be Delta-Star connected with neutral brought out on L.V. side. The neutral shall be 41 Dy. 11 for all transformers.
- (d) The temperature rise shall be 40C in oil, as measured by thermometer in oil and 50C in winding, as measured by resistances of the windings on full load over an ambient temperature of 45C.
- (e) The transformer shall be supplied with first filling of transformer oil to B.S.S. 148: 1972.

TABLE -4**TRANSFORMERS TECHNICAL DATA**

KVA rating	750
No Load Ratio	11KV/0.415kv
H.V. Winding:	
Line to line volts.	11000
Connections	Delta
L.V. Windings:	
Line to line volts.	415
Connections	Star
Vector Group	DY 11
Tapping on H.V. Side	$\pm 2\frac{1}{2} \pm 5, -7\frac{1}{2}$
H.V Termination	Cable and Box suitable for XPLE Cable 3 core, copper conductor size 185 Sq.mm.
L.V. Termination	Bushing or flange for bus duct.
Impedance voltage	4.5-6
Iron loses at rated voltage (watts)	1500
Copper Loses at full load (watts)	10,500
Cooling	ON
Temperature rise over 45C Ambient	
Oil	40C
Winding	50C

3 .F BUS TIE DUCT

(1) The Contractor shall supply and install the L.T. Bus-Tie duct as specified under and connect the Bus-Tie duct at transformer L.T. terminals and incoming side of Main L.T. switchboard. The ducts are schematically shown on the drawing.

3 .G CONDUITS, PIPES& ACCESSORIES

(1) PVC CONDUITS &ACCESSORIES

The PVC conduit for lighting and power socket wiring wherever, specified shall be PVC electrical conduits manufactured by Pakistan PVC Limited. The PVC conduits and accessories shall confirm to BS-1607 SHAVYL brand.

Manufactured smooth bends shall be used where conduit changes direction.

The round PVC junction boxes or ceiling light points shall have minimum dimensions of 64mm dia and 64mm deep. The junction boxes for wall light points shall have minimum dimensions of 57mm dia and 40mm deep.

(2) Galvanized Iron Pipes Accessories

The G.I pipes wherever specified shall be galvanized inside and outside by hot dip galvanizing process.

G.I pipes for underground installations shall be given bituminous paint coating and wrapped with suitable paper or cloth before installation.

(3) Steel Conduits and Accessories

(a) All steel conduits supplied by the Contractor at specified locations shall be of heavy gauge 16SWG (1.63mm) black enameled steel, manufactured and tested in accordance with BS-31-1940 as modified to-date.

(4) Rigid PVC and Accessories

For protection of cable to be laid underground, rigid PVC pipe shall be used wherever required.

3 .H WIRIRNG ACCESSORIES

(1) Switches

(a) Switches for controlling light and fans points shall be single pole rated for 5amp 250volts A.C. supply.

(2) Three Phase Switch-Socket & Plug Units

The three phase switch-socket and plug unit shall be four pole 15amp 415 volts 3phase, 50c/s A.C.

(3) Single Phase Switch-Socket Units

Switch-socket units shall be 3pin rated for 15amp, combined 2 & 3 pins 5amp or 2 pin 5amp at 250 volts 50c/s A.C.

The 3 pin 15amp and 2 &3 pins 5amp units shall be moulded type having white plastic fact plate and suitable for mounting on a sheet steel box of appropriate dimensions.

The 2 pin, 5 Amp, 250 volts sockets outlet for mounting on board in the office area shall be of the same shape and be of P.P.I made for approved equivalent. The outlet boxes for installing of switches, fan regulators and socket outlets shall be 16 SWG sheet steel having appropriate dimensions.

(4) Ceiling Rose

The ceiling rose wherever provided at light points shall be suitable for 5amps, 250 volts, single phase A.C.

(5) Connecting Box for Street Lights

(a) Weatherproof connecting boxes are required for street light fixtures. These shall accommodate connector blocks and fuses for looping of street light fixtures.

(6) Control Gear Box for Flood Lights

(a) Weather proof Control Gear Box shall be provided and installed near the base of the flood light lower to accommodate the connector blocks, fuses and chokes of the flood light fixtures.

(7) Choke Box High Bay Light Fixture

The choke box shall be made of 16SWG (1.63mm) sheet steel degusted and degreased and painted with battle grey enamel paint over a base coat of red oxide antirust paint.

(8) Terminal Box for Small Power Connection to Ships

(a) Terminal Boxes shall be provided and installed all along the apron of the berths in the main-holes provided for the purpose of supplying portable small electrical power to the ships along the berths.

(9) Connector or Terminal Blocks

The 3-phase or single-phase connector shall have moulded plastic base phase barriers and copper or brass terminals. The connectors or terminal block shall be suitable for current capacity as required 440/250 volts, 50 c/s A.C.

3-I LIGHTING FIXTURES

(1) Fluorescent Light Fixtures

The fluorescent light lamp shall be tubular 1224/610mm long for 40/20 watts as specified. The ballast shall be polyester filled type totally enclosed and suitable to operate up to 250v 50c/s single phase supply. The lamp holders shall be rotary, lock-in type. The starters shall be glow type with ratio interference by-pass capacitor.

(2) Incandescent Light Fixtures

The ceiling mounting incandescent light fixtures shall have white stove enameled sheet body. The fixing holes shall match the outlet box.

(3) Street Light Fixtures

The street light fixtures shall be mercury vapor type.

(4) Flood Light Fixtures

The flood light fixture shall be suitable for mounting on flood light towers or poles as shown on the drawings.

(5) Ballast and Lamp for Mercury Vapour Fixture

The ballast for mercury vapor lamp shall be polyester resin filled, totally enclosed and shall have leak proof body.

(6) Emergency Lighting

To avoid hazards of sudden darkness in case of power failure emergency lighting system shall be installed by providing emergency lighting unit at strategic points.

3. J Earthing

(1) General

The earthing system shall consist of supply and installation of earth electrodes, earth points earthing leads and earth continuity conductor and running earth conductor all along the cable length.

(2) Earth Continuity Conductor

Earth continuity conductor shall be round, hard drawn bare electrolytic copper wire of sizes indicated on the drawing.

(3) Earth Connecting Point

Earth connecting points shall comprise of limited copper bar, rectangular in shape, having dimensions of 255x50x6mm. Terminals for connection shall be as arranged as required.

(4) Earth Lead

The earthing lead shall also be of round hard drawn bare electrolytic copper of size shown on the drawing. It shall connect the earth connecting point to the earth plate/pipe.

(5) Earth Plate

The earth plate shall be 600x600x3mm thick electrolytic copper plate.

3. K LIGHTING PROTECTION SYSTEM

(a) The installation of lighting protection system shall comprise of the following:

- Air termination
- Down conductors
- Testing terminals
- Earth electrodes

3.1 Pole Tower and Bracket

(1) Poles

The tubular steel pole shall be 9.77 meter high having following three sections:-

Top Section: 2030mm length, 88.25mm dia 3.25mm wall thickness.

Middle Section: 3050mm length, 114.3mm dia 3.66mm wall thickness.

Bottom Section: 4690mm length, 140.0mm dia 4.87mm wall thickness.

The pole shall have an anchor steel base plate of size 400mm x 400mm and 25mm in thickness welded to the bottom of the pole.

(2) Street Light Brackets

The street light bracket shall be made of G.I pipe bent to shape as shown on the drawings and painted with good quality aluminum paint.

(3) Flood Light Towers and Flood Light Brackets

All steel structural details for flood light towers along with the fixing bracket for flood light shall confirm to sections 22830 for structural steel works given in these specifications. The same shall be applicable to flood light fixing brackets on tubular steel poles.

4 INSTALLATION INSTRUCTIONS

The contractor shall furnish all labor and materials, tools and equipment required to install, connect, test and commission all electrical equipment specified here, whether or not such equipment is furnished by him or others.

4. A CABLE INSTALLATION

(1) General

The contractor shall provide all labor and materials required for handling, laying, cutting, jointing, testing and commissioning of the cables as specified herein and as directed at site. All materials such as lugs, sockets, solder, insulation tape, clamps, saddles, bolts, nuts, washers, etc., shall be supplied by the contractor within the quoted rates against each item and so no additional payment will be made for such installation materials.

(2) Underground Cable Installation

The cables to be installed directly underground shall be laid in trenches in single tiers, the depth of cable under bare ground shall be 900mm minimum measured from the top of the largest cable to the ground level. The burial depth may be increased due site condition less than 900mm and more than 1.5meters with the consent of the Engineer in writing. When cable cross road or other services shall be laid in protective pipes as specified in drawing. A minimum clearance of 250mm shall be maintained between cables and other services. The cable trench shall be excavated as per route and location shown on the drawing

(3) Conduit Wiring

The power light and control wiring through conduit shall be started only after the conduit system is installed and outlet boxes, junction boxes etc. The wires shall be pulled in conduit with the laid of steel wire and using recommended lubricant for degreasing friction. The wiring of powers circuits must be continuous between termination and looping in system shall be followed for light circuit. Any joint in wiring is prohibited. The use of connector will be allowed for light wiring at locations where looping-in is rendered difficult. The connector shall be wrapped with PVC insulation after installation. All termination near switch board or control boxes sufficient slack shall be provided.

4. B SWITCHGEAR INSTALLATION

(1) Switchboards

All the switchboards shall be installed at location shown in the drawing.

(2) Distribution Boards

The wall mounting distribution boards shall be installed on wall

(3) Switchboard for Power Connections to Ships

The switches shall be installed above the general payment level, as directed at the site.

4. C POWER TRANSFORMER INSTALLATION

- (1) Transformer shall be installed in transformer stations at locations shown on drawings.

4. D BUS TIE DUCT INSTALLATION

- (1) The bus-tie duct shall be installed between the transformer I.V side and the incoming circuit breaker of the main L.T switchboard.

4. E WIRING ACCESSORIES INSTALLATION

The mounting heights of all fixtures are stated on the drawings. In case the mounting height is not mentioned the instructions of the engineer shall be obtained before fixing.

(1) General

The mounting heights of light fixtures are indicated on the drawings.

4.H EARTHING INSTALLATION EARTHING INSTALLATION

Complete earthing system as shown on the drawing shall be installed by the contractor. The system shall give earth resistance, including the resistance of soil, earth leads and E.C.C equal to or less than one ohm.

(1) Earth Plate

For installation of each plate, a pit of appropriate diameter and upto the depth of 4.5 meters, or as directed at site.

(2) Earthing Continuity Conductor

The earth continuity conductor of sizes shown on the drawing shall install all along the cable runs.

(3) Earth Loop for body earths

The earthing loop wherever required shall be installed for connecting to earth the equipment body etc.

(4) Transformer Neutral Earthing

The transformer neutral shall be earthed by single core copper conductor PVC insulated cable in duplicate of size shown on the drawing.

TESTING

(1) General

Upon completion of the installation, the contractor shall perform field test on all equipment, materials, and systems. All tests shall be conducted in the presence of the Engineer for the purpose of demonstrating equipment or systems compliance with Specifications.

(2) **Insulation Resistance Tests**

Insulation resistance tests shall be made on all electrical equipment by using a megger of 1000 volts.

The insulation resistance values of cables, transformers and switchgear, etc shall be as per B.S.S and Pakistan Electricity Rules.

(3) **Earth Resistance Test**

Earth resistance test shall be made by the Contractor on the earthing system, separating and reconnecting each earth connection as may be required by the Engineer.

(4) **Transformer**

In addition to the insulation resistance on the transformer, a polarity and phase rotation test shall also be made.

Insulation resistance of the transformer oil shall be tested in accordance with B.S.S 148 immediately before use.

(5) **Switchgears**

Each circuit breaker shall be operated electrically and mechanically, ascertaining that handle mechanism are operating. All interlock control circuits shall be checked for proper connections in accordance with the wiring diagrams as given by the manufacturer.

(6) **Protective Relays**

Protective relays shall be set and calibrated and test points recorded. The trip circuits shall be tested for proper operation. C.T secondary circuit shall energize and operation of the relays observed.

(7) **Completed Tests**

After any equipment has been tested, checked for operation etc and is accepted by the Engineer.

BILL OF QUANTITIES

Bill of Quantities

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 as given 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 in so far as it is otherwise provided under the contract include all costs of Labor, supervision, materials, execution, insurance, profit, all type of taxes including federal and provisional, together with all general risks, liabilities and obligations set out or implied in the contract. Furthermore, all duties, taxes and other levies payable by the Contract or under the contract or for any other cause as on the date 14 days prior to deadline for submission of Bids in case of International Competitive Bidding /National Competitive Bidding respectively, shall be included in the rates and prices and the total bid price submitted by the bidder.
4. The bidder has to quote percentage **above / below / at par** on overall items unconditionally. Conditional Bid will not be accepted. Overall sum of Bill of Quantities is given to provide a common basis for bidding and evaluation whereas ceiling of Contract will remain same as mentioned in Notice Inviting Tenders (NIT).
5. 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.
6. 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.

PORT QASIM AUTHORITY

(MECHANICAL & ELECTRICAL DEPARTMENT)

(BILL OF QUANTITIES)

SUBJECT: ANNUAL OPERATION, REPAIR / MAINTENANCE CONTRACT FOR ELECTRICAL EQUIPMENTS, MACHINERY AND INSTALLATIONS AT PQA

S. No	DESCRIPTION	QTY	UNIT	RATE (Rs.)
A.	<u>HT SWITCH BOARD (11 KV)</u>			
	Inspection, Repair, Maintenance, Servicing, Overhauling, Setting of relays, testing, calibration, adjustment, lubrication, tightening of HT Switch board Panels (11KV) including all auxiliaries wiring, indication Lamps, switches, Circuit breakers, insulation, Bus bars, Anti -Corrosive painting at MSS, MDS, PQA Sub-Stations etc. make J&P / Siemens/ FICO. Complete in all respects as per Specifications & as directed by the Engineer:-	1	No	35,000
B.	<u>POWER TRANSFORMER:</u>			
	Inspection, Servicing /Over hauling, Repairing of following Power Transformer including oil leakages rectification form HT/LT Bushing and MIG Gas Welding in the metallic part/ tank where oil leaking found and insulated taping of HV/LV terminals and socket and providing re-insulation for the life parts of the transformers, checking of Tap Changer, Operation and oil level in indicator and providing anti- corrosive painting on main tanks of any metallic part if required, checking of natural, earthing, main lead earthing, testing and commissioning as per directed by the Engineer:-			
1	1500 KVA, 11 KV/415 Volts Step down Distribution Power Transformer (Siemens/ J & P Make)	1	No.	105,000
2	Same as (01) above about 1000 KVA Power Transformer (Siemens Make)	1	No.	80,000
3	Same as (01) above but 750 KVA, (Climax/J & P Make)	1	No.	70,000
4	250 KVA Power Transformer (Unfiled, France Make) at IOCB	1	No.	50,000

C.	<u>CENTRIFUGING OF TRANSFORMER OIL</u>			
	Centrifuging / Dehydration of oil for HT OCB / MOCB panels and power Transformer at the site (Without disturbance in the power supply) along with replacement of silica gel and checking / removing of leakages after dehydration of the following Power Transformer & HT Switch gear trolleys:-			
a.	1500 KVA, 11/0.415 KV Indoor Power Transformer (Siemens / J & P Make)	1	No.	50,000
b.	Same as above but 1000 KVA Power Transformer (Siemens make)	1	No.	45,000
c.	750 KVA 11/0.415 KV, Power Transformer (Siemens / J & P Make).	1	No.	40,000
d.	250 KVA 11/0.415 KV, Power Transformer at IOCB.	1	No.	25,000
e.	H.T. Switch gear Trolleys.	1	No.	10,000
f.	Refurbishing & Topping up of Power Transformer / switchgear oil as per specification and as approved by the Engineer.	1	Lt.	950
D.	<u>L.T Switch board (11 KV/415V)</u>			
	Insulation, Testing, Cleaning, adjustment, repair, overhauling, servicing of L.T Switch Board including Power factor improvement, anti-corrosive painting of existing panels at MSS, MDS, all PQA Sub-Stations. Complete in all respect as per specification and as directed by the Engineer:-	1	No	25,000
E.	<u>BUS TIE DUCTS</u>			
	Servicing / Over hauling of Main tie Duct including fixing of Bus bar connections, removing the discoloring from the Bus bar, providing complete insulation and air wind if required, re-painting with anti-corrosive paint and checking of earthing, etc complete in all respects and as directed by Engineer.			
1	Bus Tie ducts of 1200 Amps rating from 750 KVA Power Transformer to main L.T switch Board, 205 MM thick & Cover plate 2 MM thick	1	Job	50,000

F.	<u>HT/LT POWER CABLES</u>			
1	Providing & Laying of following sizes 15 KV, 3 Core, HT cables grade Copper conductor, "Armoured" cable, Cu/XLPE/SWA/PVC to IEC 60502 as per standard specifications & as directed by the Engineer (Cables shall be Pakistan Cables Ltd. or Approved/equivalent Make).			
	a) 300 Sq,mm	1	RM	89,603
	b) 240 Sq mm	1	RM	73,724
	c) 185 Sq mm	1	RM	59,276
	d) 150 Sq mm	1	RM	48,604
	e) 120 Sq mm	1	RM	40,408
	f) 95 Sq mm	1	RM	33,768
	g) 50 Sq mm	1	RM	21,189
	h) Same as above but 300 Sqmm "Aluminum" Conductor cable	1	RM	22,212
	i) Same as above but 240 Sqmm "Aluminum" Conductor cable	1	RM	21,001
2	Providing & Laying of 600/1000 Volts, 4 core Copper conductor, "Armoured" cable, Cu/PVC/SWA/PVC (BS 6346) of the following sizes (Cable shall be Pakistan Cables Ltd. or equivalent Make)			
	a) 240 Sq mm	1	RM	83,857
	b) 185 Sq mm	1	RM	51,075
	c) 120 Sq mm	1	RM	33,547
	d) 95 Sq mm	1	RM	27,062
	e) 50 Sq mm	1	RM	14,259
	f) 35 Sq mm	1	RM	10,401
	g) 25 Sq mm	1	RM	7,697
	h) 16 Sq mm	1	RM	5,237
	i) 10 Sq mm ,	1	RM	3,508
3	Providing & laying of 600/1000 Volts, 4 core Cu/PVC/PVC (BS 6346) "Unarmored" LT Copper Conductor cable for the following sizes, cable shall be M/s. Pakistan Cables Ltd. equivalent make.			
	a) 185 Sq mm	1	RM	48,007
	b) 150 sq. mm	1	RM	38,324
	c) 120 sq. mm	1	RM	31,067
	d) 95 sq. mm	1	RM	24,851
	e) 50 sq. mm	1	RM	12,509
	f) 35 sq. mm	1	RM	9,334
	g) 25 sq. mm	1	RM	6,696

	h) 16 sq. mm,	1	RM	4,383
	i) 10 sq. mm	1	RM	2,884
4	Supply of LT Aluminum "Armoured" Cable, 4 core Al/PVC/SA/PVC 600/1000V of following sizes, cable shall be M/s. Pakistan Cables Ltd. or equivalent make.			
	a) 185 Sq mm	1	RM	19,799
	b) 150 sq. mm	1	RM	17,151
	c) 120 sq. mm	1	RM	15,014
	d) 95 sq. mm	1	RM	13,506
	e) 50 sq. mm	1	RM	11,161
	f) 35 sq. mm	1	RM	7,101
	g) 25 sq. mm	1	RM	3,220
	h) 16 sq. mm,	1	RM	2,520
	i) 10 sq. mm,	1	RM	1,820
5	Supply of LT Aluminum "Unarmoured" cable, 4 core Al/PVC/PVC 600/1000V of following sizes, cable shall be M/s. Pakistan Cables Ltd. / equivalent make.			
	a) 185 Sq mm	1	RM	6,580
	b) 120 sq. mm	1	RM	4,420
	c) 95 sq. mm	1	RM	3,658
	d) 50 sq. mm	1	RM	2,150
	e) 35 sq. mm	1	RM	1,603
	f) 25 sq. mm	1	RM	1,210
	g) 16 sq. mm,	1	RM	928
	h) 10 sq. mm,	1	RM	700
G.	<u>GROUNDING / LIGHTENING PROTECTION</u> Inspection, testing, rectification, measurement of earthing resistance to achieve desired level of resistance and continuity with replacement of copper rod / copper plate size 1/4" x 2' x 2' up to water level, construction of chamber and fixing clamps for earthing leads, complete in all respects at the following locations / installation.			
1	Sub Station, HT/LT Switchgear, generator room earthing / grounding system	1	Job	60,000
2	Lightening protection at M.W. Berth NO. 1 to 04 including bounding of rails etc	1	Job	40,000
3	Lightening protection of Road Lighting poles	1	Job	35,000
4	Lightening protection of Berth Lighting Towers	1	Job	35,000

5	On roof top of Transit shed Building NO. 1 & 2	1	Job	35,000
6	Lightning protection on top of steel Tower / Antenna Tower	1	Job	35,000
H.	<u>ANTI CORROSIVE PAINTING OF STEEL STRUCTURE</u> Anti-corrosive painting of the following structures including complete de-rusting, cleaning, surface preparation, appliance of one coat epoxy enamel paint and two coats of epoxy primer finish paint, supply of all material, paints, tools, labor and plants, complete as per specification and as directed by the Engineer (Paint shall be Bitumen Paint or equivalent make)			
1	Road light poles having 9.6 meter long including bracket, junction box, foundation plate, nuts bolts and light fixture, completer in all respects	1	Job	30,000
2	Same as above but pole height 6 meter long near TOB.	1	Job	20,000
3	Same as above but Towers lighting having 30-34 meter height at Berth & Service Jetty	1	Job	150,000
4	Same as above but shore connection boxes for Power supply	1	Job	12,000
5	Same as above but Major Power D.B's at M.W	1	Job	20,000
I.	<u>FAULT LOCATING / JOINTING / TERMINATION KITS</u>			
1	Excavation of the HT / LT cable trench of required dimensions along with all kind of soils	1	Cum	950
2	Backfilling of the trench including tamping, consolidating placing of tiles etc as per specification	1	Cum	800
3	Labor charges for laying of different sizes HT/LT distribution Cable Network in the underground cable trench (Cable shall be supplied by PQA)	1	RM	700
4	Providing and Fixing of 15 KV, HT "Cable Joint" for 3 core Copper/Aluminum conductor SWA cable heat shrink resin type including all terminal lugs with ferrule etc. for following sizes cable, Complete in all respects (Cable joints / termination kits shall be 3M or equivalent Make)			
a.	300 Sq mm	1	No	60,000
b.	240 Sq mm	1	No	55,000

c.	185 Sq mm	1	No	45,000
d.	150/195 Sq mm	1	No	45,000
e.	50 Sq mm	1	No	40,000
5	Providing and fixing of 11 KV indoor / outdoor Termination, kits heat shrink type for HT cable of the following Sizes:			
a.	300 sq,mm	1	No.	40,000
b.	240 Sq mm	1	No	40,000
c.	185 Sq mm	1	No	38,000
d.	150 Sq mm	1	No	35,000
e.	120 Sq mm	1	No	30,000
f	50 Sq mm	1	No	25,000
6	Supply and installation of 600/1000 Volts 4 core armored LT cable "Jointing Kit", Heat shrink type of the following sizes, (Cable Joint shall be 3 M type of equivalent make)			
a.	240 Sq mm	1	No	40,000
b.	185 Sq mm	1	No	35,000
c.	120/150 Sq mm	1	No	32,000
d.	95 Sq mm	1	No	30,000
e.	70 Sq mm	1	No	20,000
f.	50 Sq mm	1	No	18,000
g.	35/25 Sq mm	1	No	15,000
	16/10 Sq mm	1	No	13,000
7	Fault locating charges of HT/LT distribution cable network through utilizing fault locating equipments. The equipment shall be utilized in their own vehicle along with skilled persons.	1	Job	60,000
8	Replacement of GI Steel Sheet HT/LT Switch gear trolley as per site requirement along with drilling & installation of nut & bolts etc. complete in all respect. Thickness of sheet shall be 14 SWG.	1	Job	30,000
9	Major Overhauling, servicing, major repair/maintenance of power transformers and replacement of gas kit and other leakage inside the tank of transformer etc. refurbishing and topping up of transformer oil.			
a.	1500/1000 KVA 11/0.415 KV Power Transformer (Siemens/J&P & Climax etc)	1	Job	250,000
b.	750 KVA 11/0.415 KV power Transformer (Siemens/J&P & Climax etc)	1	Job	200,000
c.	250 KVA 11/0.415 KV Power Transformer (Siemens / J&P & Climax etc)	1	Job	130,000

J.	Routine inspection, testing, cleaning, adjustment, servicing including minor repair/maintenance, repair of all equipments i.e. HT switch board, LT switch board, power transformer, bus tie ducts & earthing system at PQA Sub-Stations like MSS, MDS, Industrial Sub-Stations as directed by Engineer	1	Job	25,400
K.	<u>HT OCB Panels</u>			
	<u>LIST OF COMPONENTS / ACCESSORIES OF M/S SIEMENS PAKISTAN COMPANY MAKE or Equivalent</u>			
	Replacement of the following MV/LV components / Accessories			
1	MV fused load Break Switch 630A- 12KV, type 3CJ 1462- OCF02	1	No	950,000
2	MV fuse 10/12/ KV type 3GD 1213—3 B of the following sizes:-			
	a. 100 Amps	1	No	70,000
	b. 63 Amps	1	No	65,000
3	MV Insulators type SIGA – 20 or Equivalent	1	Set	60,000
4	LV: Load break switch of the following sizes			
a.	400 Amps	1	No	65,000
b.	250 Amps	1	No	65,000
c.	160 Amps	1	No	55,000
d.	100 Amps	1	No	50,000
5	LT Ammeter of the following CT ratio's.			
a.	0-500/5 A	1	No	6,000
b.	0-400/5 A	1	No	5,500
c.	0-300/ 5 A	1	No	5,000
d.	0-200/ 5 A	1	No	4,500
6	KWH Meter 3 phase 4 wire tropicalized 3x – 5A, 3x 230/400 V, 50 C/s class -2 (Digital)	1	No	89,500
7	Indicating lamps complete set (Red & Green)	1	Set	3,000
8	LV Molded case Circuit Breaker, 3 Pole, 500/600 Volts having following sizes.			
a.	32 Amps	1	No	20,000
b.	63 Amps	1	No	23,000
c.	100 Amps	1	No	25,000
d.	250 Amps	1	No	45,000
e.	400 Amps	1	No.	90,000
9	LV Miniature Circuit Breaker Single pole for 3 KA pole of the following sizes:			
a.	32 Amps	1	No	2,500
b.	16 Amps	1	No	2,300
c.	10 Amps	1	No	2,200

10	11 KV epoxy resin 15 VA of the following CT ratio			
a.	400/5 Amps	1	Set	300,000
b.	300/5 Amps	1	Set	268,000
c.	200/5 Amps	1	Set	249,500
d.	100/5 Amps	1	Set	257,000
e.	50/5 Amps	1	Set	235,100
11	LV current Transformer type 4 NC having following ratio:			
a.	400/5 Amps	1	Set	142,240
b.	200/5 Amps	1	Set	141,240
c.	100/5 Amps	1	Set	127,000
d.	50/5 Amps	1	Set	101,600
12	Auto/manual Selector Switch	1	No	6,000
13	Overhauling of Load Break Switch 630 A 12KV	1	No	50,000
14	11 KV / 110 volts, 3 phase, five links potential Transformer 100 VA accuracy class B.	1	Set	280,000
15	Replacement, testing and commissioning of the following Electrical Installation /equipments in the existing substation as per specification and as directed by the Engineer.			
i.	11 KV HRC fuse 63 Amps, Siemens make Type 3GA-2216 (Set of three)	1	Set	65,000
ii.	6 Amps selector Switch	1	No	8,000
iii.	On/Off Indication lamp with holder	1	Set	5,000
v.	Copper bus bar 50mm width & 5mm thickness	1	RM	20,000
vi.	Painting, servicing and protection, testing of OCB panels as per existing position	1	Job	40,000
vii.	Supply & installation of 1250 Amps, 3 pole circuit Breaker IR -630, ICU-70 KA/415 Volt with over current release N- Release: 15000 Amps Fixed – Mounted with under voltage release with connecting leads AC 50/60 HZ 380 to 500 volts W/o auxiliary and alarm switch accessories. Type # 3VF7211-2BM60-1JAO (Siemens Make)	1	Job	1,800,000
16	Replacement of ACB (Air Circuit Breaker Siemens make or Equivalent, 1250 Amp having Motorize breaker, Uvt. Shint, On, and Motor trip coil complete in all respect.	1	No.	1,848,000

L.	<u>M/S JOHNSON & PHILIPS LTD or EQUIVALENT</u>			
	<u>Replacement of Following</u>			
	<u>MV/LV components / Accessories</u>			
1	11 KV 3 Phase spout & shutter assembly for cable	1	No	66,000
2	Same as No. 1 above but for bus bar to bus bar	1	No	70,400
3	Moving contact assemblies for 11 KV, 350 MVA. HT OCB (J & P) make or equivalent	1	Set.	61,600
4	Long & Short finger contact for fixed contact assemblies for 11 KV, 350 MVA, H.T. J&P OCB (36x36) or (18 + 18)	1	Set	127,600
5	Copper bus bar HT/LT panels as per sample	1	kg	7,900
6	Indicating lamps 110V	1	Set	4,500
7	2-5 Amps time limit fuses	1	Set	1,900
8	11 KV/110V 3 phase five limb potential transformer complete in all respect with proper commissioning / installation as per existing 100VA class B accuracy.	1	Job	246,400
9	Replacement of CTs of 11 KV, 15 VA, class 05, P-10 epoxy resin having CT ratio of the following sizes (Set of three)			
	A. 400/5A	1	Set	259,600
	B. 300/5A	1	Set	238,480
	C. 150/5A	1	Set	220,000
10	D. 50/5A	1	Set	185,680
	Timer Switch (24 hours) 220-240 Volts, TB-388NE-7 Panasonic Japan Make or equivalent.	1	No	30,800
	Auto / Manual Selector Switch	1	No	5,000
	HT Ammeter size 144 x 144 mm of the following amps:-			
12	a. 0-800/5 Amps	1	No	20,000
	b. 0-400/5 Amps	1	No	17,000
	c. 0-200/5 Amps	1	No	15,000
	d. 0-100/5 Amps	1	No	12,000
	e. 0-50/5 Amps	1	No	10,000
13	HRC Fuses with for 415 Volts LV base complete in all respect for the following sizes.			
	b. 200 Amps	1	No	10,000
	c. 125 Amps	1	No	8,000
	d. 100 Amps	1	No	7,500
	e. 63/80 Amps	1	No	5,500

14	Magnetic contactor, SG-10, 3 Phase (Fauji / National Brand with 220 OR 440 volts Operating coil or equivalent make)			
	a. 250 Amps	1	No	100,800
	b. 100 Amps	1	No	87,000
	c. 60 Amps	1	No	55,000
	d. 35 Amps	1	No	45,000
15	Tripping Aluminum Plate for 11 KV Mechanism of OCB panel J&P Make or Equivalent	1	No.	15,700
16	Tripping coils (Copper & silver) winding	1	Set	57,112
17	Replacement of oil circuit breaker (OCB) 11KV trolley top with (06 Nos. Pin) new along with all protective accessories / component as site requirement.	1	Set	461,120
18	Replacement of 11KV Mechanism OCB's for installation of J&P Make.	1	No.	186,120
M.	<u>M/S FAIZI INDUSTRIES COMPONENTS & ACCESSORIES (FICO)</u>			
1	Current Transformer (C.T) 11 KV, 15 VA, P-10 epoxy, class-1 ratio 50/5A (Set of three)	1	Set	220,200
2	Same as (3) above but CTs Ratio 400/5 Amps	1	Set	228,800
3	Potential Transformer (P.T) Ratio 11000/ 110 Volts, Resin cast (Set of three)	1	Set	246,400
4	Indicating lamps (Red & green) complete set	1	Set	5,000
5	11 KV, 100 A, HRC fuses with grips	1	No	52,800
6	Main Bus bar sets as per specification with 100 Amps, HRC fuse.	1	No	35,200
7	63 Amps, Insulator for Bus bars (40 D)	1	No	48,400
8	LV, 415 Volts 3 Phase Insulators for Bus Bars (30 D)	1	No	44,000
N.	<u>R/M OF STEEL STRUCTURE / DOORS /WINDOWS VENTILATORS</u>			
1	Repair / Maintenance, re-setting hinges of M.S Steel door including louver, windows etc. of existing Sub-Stations also including anti-corrosive painting with one coat of red oxide and two coats of finish paint of ICI make & as per specification and as directed by the Engineer.	1	Sqm	8,000

2	Replacement of existing rubber mat of HT Switch gear inside the Sub Stations like MSS, PDS-V etc.	1	Sqm	6,000
O	<u>Monthly Salaries of Qualified, Trained and Capable Switch Gear Operator / Electrical Fitter for round the clock Operation & Maintenance attached with PQA Shift and General duty staff as directed by Engineer on following schedule:</u>			
	a) General Duty at MDS (0800 to 1600) (Day)	1	No.	95,000
	b) Shift "A" Duty at MDS (1600 to 0800) (Night)	1	No.	105,000
	c) Shift "B" Duty at MDS (1600 to 0800) (Night)	1	No.	105,000
	d) Duty at MSS (0800 to 2000) (Day)	1	No.	95,000
	e) Duty at MSS (2000 to 0800) (Night)	1	No.	95,000
	f) Solar Technician (0800 to 1600) (Day)	1	No.	95,000
	g) Duty at Office (0800 to 1600) (Day)	1	No.	95,000
P	<u>Supply of the following Electrical Materials / Accessories as per Specifications and as directed by the Engineer:-</u>			
1	24 Watts LED Light ceiling mounted open / concealed make Philips or Equivalent	1	No	4,500
2	18 Watts LED Light ceiling mounted open / concealed make Philips or Equivalent	1	No	4,000
3	12 Watts LED Light ceiling mounted open / concealed make Philips or Equivalent	1	No	3,500
4	LED Street light fixture with hanging material make Philips or Equivalent of following wattages:-			
	(a) 50 Watts	1	No	20,000
	(b) 100 Watts	1	No	35,000
	(c) 150 Watts	1	No	55,000
	(d) 200 Watts	1	No	60,000
5	5A 220V AC piano switch (PPI Make or equivalent Make)	1	No	130
6	5 Amps Piano Socket (PPI Make or equivalent)	1	No	130
7	05 Amps 220 volts gang switch sheets (PPI) of the following:			
	(a) 2x2 gang switch as per approved Make.	1	No.	3,000
	(b) 3 way gang switch as per approved Make.	1	No	1,500

	(c) 2 way gang switch as per approved Make	1	No	1,000
	(d) 1 way gang switch as per approved Make	1	No	950
8	10 Amps Light plug (PPI Make)	1	No	800
9	Combine switch socket of the following sizes (China Make Links or Equivalent)			
	(a) 20 Amps	1	No	1,500
	(b) 15 Amps	1	No	1,450
	(c) 10/5 Amps	1	No	1,200
10	220 volts 3 pin plug (Top) of the following Amperes (PPI Make or Equivalent)			
	(a) 20 Amps	1	Pin	500
	(b) 10 Amps	1	Pin	450
	(c) 05 Amps (2 Pin)	1	Pin	400
11	PVC Board open Type of the following sizes:-			
	(a) -3"x3"	1	No	350
	(b) -4"x4"	1	No	450
12	PVC Pipe of Galco / Pak Arab (length 10ft.) of the following diameter:-			
	(a) 3/4"	1	No	800
	(b) 1"	1	No	1200
	(c) 1 ½"	1	No	2,300
	(d) 2"	1	No	3,500
	(e) 4" (20ft.)	1	No.	9,000
13	PVC Socket / Band Galco / Pak Arab of the following diameter:-			
	(a) 3/4"	1	No	100
	(b) 1"	1	No	105
	(c) 1 ½"	1	No	175
	(d) 2"	1	No	300
	(e) 4"	1	No.	800
14	PVC Junction Box			
	(a) 3/4"	1	No	400
	(b) 1"	1	No	400
	(c) 1 ½"	1	No	450
	(d) 2"	1	No	600
15	PVC Channel duct (length 10ft.) of Adam Jee / GM Make of the following sizes:-			
	(a) ¾ X ¾	1	No	2,000
	(b) 1" X 1"	1	No	2,500
	(c) 1 ½" X 1 ½"	1	No	3,500

16	220V AC LED Tube light fixture of the following sizes (Philips Make or Equivalent).			
	(a) 40 Watts	1	No	3,500
	(b) 65 Watts	1	No	5,500
17	40 Volts LED panel light fixture as per approval make			
	(a) 2' X 2' (Panel Light 48 Watts)	1	No	15,000
18	3 watts LED panel light fixture as per approval make	1	No	2,000
19	7 watts LED panel light fixture size 4"x4"as per approval	1	No	2,000
20	LED thread type Lamp 220V AC, E-27, Philips Make			
	(a) 12-15 watts	1	No	600
	(b) 18 watts	1	No	762
	(c) 30 watts	1	No	2,200
	(d) 45 watts	1	No	3,000
	(e) 60 watts	1	No	4,500
21	LED driver for light fixtures			
	(a) 12 watts	1	No	350
	(b) 18 watts	1	No	360
	(c) 24 watts	1	No	550
	(d) 40 watts	1	No	650
	(e) 100 watts	1	No	900
22	LED flood light fixture 220V AC with complete accessories as per approval Make			
	(a) 50 watts	1	No	6,000
	(b) 100 watts	1	No	10,795
	(c) 150 watts	1	No	16,002
	(d) 200 watts	1	No	19,050
	(e) 300 watts	1	No	36,703
	(f) 400 watts	1	No.	46,000
	(g) 800 watts	1	No.	57,000
	(h) 1000 watts	1	No.	65,200
23	220 volts single phase ceiling Fan Pak Delux plus Make (copper winding).			
	(a) 48"	1	No.	15,000
	(b) 56"	1	No.	16,500
24	220 volts single phase wall bracket Fan (Copper Winding) Pak Fan make or Equivalent.			
	(a) 12"	1	No.	12,000

	(b) 18"	1	No.	14,000
	(c) 24" Mega bracket Fan	1	No.	20,000
25	220V AC Exhaust Fan of the following sizes PCV / Metal type (Pak Fan Make or Equivalent)			
	(a) 6" (PVC Type)	1	No	2,000
	(b) 8" (PVC Type)	1	No	3,500
	(c) 10" Metal Type	1	No	7,500
	(d) 12" Metal Type	1	No	12,000
	(e) 14" Metal Type	1	No	13,500
	(f) 18" Metal Type	1	No	16,000
	(g) 24" Metal Type	1	No	22,500
26	220 volts Exhaust Fan shutter type of the following sizes (Pak Fan Make or Equivalent)			
	(a)8"	1	No	6,500
	(b)10"	1	No	7,000
	(c)12"	1	No	8,000
27	220 volts Pedestal Fan (Pak Fan Make or Equivalent)			
	(a) 20"	1	No.	15,000
	(b) 24"	1	No.	22,000
28	Ceiling Mounting concealed type Fan(Pak Fan Make or Equivalent) of following size:			
	(a) 20"	1	No.	16,000
29	Ballast for fluorescent lamp Philips Make			
	(a) 18/20 Watts	1	No.	2,000
	(b) 36/40 Watts	1	No.	2,200
30	220 volts Starter for fluorescent Lamp			
	(a) 18/20 Watts (S-2 type)	1	No.	250
	(b) 36/40 Watts (S-10 type)	1	No.	300
31	Single core PVC copper conductor wire Million supreme Make or equivalent Make			
	(a) 3/0.29	1	Coil	9,000
	(b) 7/0.29	1	Coil	12,500
	(c)7/0.36	1	Coil	15,500
	(d) 7/0.44	1	Coil	25,000
32	Flexible Two (2) core PVC copper conductor cable.			
	(a) 23/0.76 2 core	1	Coil	10,160
	(b) 40/0.76 2 core	1	Coil	25,000
	(c)70/0.76 2 core	1	Coil	35,000
	(d) 110/0.76 2 core	1	Coil	50,000

33	Electrical Extension Board 05 Nos outlets socket with 05 Meter lead control wire 40/0.76 per site required	1	No.	5,000
34	Fan Dimmer (Piano type ZK / PPI Make)	1	No.	800
35	Fan Capacitor of the following capacity			
	(a) 2.2 μ F	1	No.	450
	(b) 3.5 μ F	1	No.	550
36	220V AC 40/36 watts florescent lamp Philips Make	1	No.	2,500
37	220V AC 20/18 watts florescent lamp Philips Make	1	No.	1,200
38	<u>Solar Light & Accessories</u>			
	Solar panel to be installed with dry batteries (200/300Amp) at required solar plates angle frames etc. and alongwith distribution cable network / control wiring complete in all respect and as per directed by the Engineers.			
	(a) 03 KW	1	Job	558,800
	(b) 05 KW (backup) for 24 hours	1	Job	1,117,600
39	Dry Batteries AGS/Exide /Daewoo & Solar Plates.			
	(a) 200 Amps Dry battery	1	No.	57,200
	(b) 265 Amps Dry battery	1	No.	70,400
	(c) 300 watts Solar Plate	1	No.	40,010
	(d) 200 watts Solar Plate	1	No.	22,352
40	Public Address system with following accessories/component etc for PQA existing Masjid Imam Bargah			
	a) 200 -280 watts unit Amplifier TOA Make for 04 Nos. speakers	1	No.	176,000
	b) Speaker units TOA Make Model No. T4-651M HM Made in Indonesia / Taiwan Make	1	No.	15,000
41	Collar Mic TOA make or Equivalent (5 meter cable length)	1	No.	12,000
42	Stand Mic TOA Make or Equivalent as required	1	No.	10,000
43	Long Horn Make Prince or Equivalent	1	No.	7,000
44	LED type Flood Light Fixture of the following sizes:			
	a. 400 Watt	1	No	32,900
	b. 600 Watt	1	No	44,800
	c. 1000 Watt	1	No	70,000
Q	<u>ELECTRICAL WORKS BUILDING</u>			

1	Wiring of light circuits from distribution board to point/ switch with 2.5 sq. mm PVC cable including concealed PVC conduit, E.C.C. and all accessories.	1	RM	5,000
2	Wiring from point to switch including any switch to switch wiring with 1.5 sq. mm PVC cable including concealed PVC conduit, E.C.C. and all accessories.	1	RM	4,000
3	Wiring from light point to point with 1.5 sq. mm PVC cable including concealed PVC conduit, E.C.C. and all accessories	1	RM	3,000
4	Concealed Wiring of 5 amps. Sockets outlets from nearest available circuit with 1.5 sq. mm PVC cable including concealed PVC conduit, E.C.C. and all accessories.	1	RM	3,000
5	Wiring of 3 pin 15 amps sockets outlet with 6 sq. mm PVC cable from distribution board to point including concealed PVC conduit, E.C.C. and all accessories.	1	RM	5,000
6	Supply and installation of PVC pipe underground at electric/ communication service entrance to buildings including excavation, backfilling, road cutting etc.			
	a) 50 mm dia	1	RM.	9,500
	b) 32 mm dia	1	RM	7,820
	c) 25 mm dia	1	RM	6,310
7	Supply and installation of plastic moulded gang-switches with sheet steel box including wall cuttings etc, complete			
	a) 1-gang switch	1	No	2,000
	b) 2-gang switch	1	No	2,500
	c) 3-gang switch	1	No	3,000
8	Installation of one pole, 5 amps. 250 volt, piano type single switch. PPI Make	1	No	550
9	Supply and installation of 5 amps, 250 volt, 3 pin switch-socket unit with sheet steel box.	1	No	1,560
10	Supply and installation of fancy light Energy Saver fixture with 1x23 Watt lamp or approval equipment.			
	a) Wall mounting	1	No	6,500
	b) Ceiling mounting	1	No	10,000
11	Supply & Installation of 220 Volts ceiling fans along with fan hook and fan regular, complete with accessories of the following sizes.			
	a) 56" inch	1	No	17,200
	b) 48" inch	1	No	16,900

12	Supply and Installation of 6/8/10 inch 220V AC Exhaust fan. The fan shall be M/s. Pak fan/ Royal fan or equivalent Make.	1	No	7,500
13	Supply & installation of 440 Volts 3 phase panel type MCCB Terasaki Japan Make or Equivalent of the following sizes.			
	a) 300 amps/400 amps.	1	No	76,200
	b) 200 amps	1	No	38,100
	c) 100 amps	1	No	19,050
14	d) 60 amps	1	No	18,850
	Supply & installation of single phase 220 Volts MCB Terasaki Japan / Hager France Make of the following sizes.			
	a) 63 amps	1	No	3,500
	b) 32 amps	1	No	3,000
15	c) 20 amps	1	No	2,900
	d) 10 amps-16 amps	1	No	2,800
	Supply of Cu/PVC/PVC 450/750V Single core copper conductor cable of the following sizes: (Cable shall be M/s. Pakistan Cables Ltd or equivalent make)			
	a) 1.5 sq. mm	1	Coil	9,000
	b) 2.5 sq. mm	1	Coil	12,500
	c) 04 sq. mm	1	Coil	15,500
16	d) 06 sq. mm	1	Coil	25,000
	e) 10 sq. mm	1	Coil	45,000
	f) 16 sq. mm	1	Coil	60,500
	Supply of Cu/PVC/PVC 300/500V, Two (2) core Copper Conductor cable for the following sizes: (Cable shall be M/s. Pakistan Cables Ltd. Or equivalent make)			
	a) 1.0 sq. mm	1	Coil	24,000
	b) 1.5 sq. mm	1	Coil	25,300
17	c) 2.5 sq. mm	1	Coil	30,000
	d) 04 sq. mm	1	Coil	42,500
	e) 06 sq. mm	1	Coil	50,500
	f) 10 sq. mm	1	Coil	75,800
	Replacement of 3 pin, 15 amps combine switch socket (PPI Make)	1	No	1,500
	Replacement of regulator/ dimmer of ceiling fans	1	No	1,100
19	Rewinding of ceiling fans of the sizes 48"/56"	1	No	6,350
20	Painting of 48"/56" ceiling fan	1	No	3,000

21	Replacement & installation of Garden Light fixtures with lamp, ballast, capacitor etc. of the following wattages of M/s. Phillips Ltd or equivalent make			
	a) 25 Watts	1	No	15,000
	b) 45 Watts	1	No	16,000
22	Rewinding, installation & fixing of 3 phase or 01 phase electrical motors with copper winding installed at existing locations. Siemens or equivalent make			
	a) 01 HP	1	Job	12,700
	b) 02 HP	1	Job	19,050
	c) 05 HP	1	Job	31,750
	d) 15 – 20 HP	1	Job	83,600
	e) 40 HP	1	Job	167,640
	f) 100 HP	1	Job	264,000
23	PVC/MS Bolts for installation of electrical motors the following sizes			
	a) 3"x3"	1	No	650
	b) 3"x8"	1	No	700
24	Replacement of existing distribution board with new modern MS Steel Board with locking arrangement for safety of DB and painting with erg a paint of 02 coats of primer alongwith approved Make (ICI) erg ass etc to internal surface including base and proper locking arrangement etc rubber seal etc of the following sizes with thickness			
	a) 24*36*8" thickness 14 SWG	1	Job	38,000
	b) 24"x18"x8" thickness 14 SWG	1	Job	25,000
	c) 24"x18"x6" thickness 14SWG	1	Job	20,000
	d) 18"x15x6" thickness 14 SWG	1	Job	15,000
	e) 36"x24"x6" thickness 14 SWG	1	Job	40,000
25	Anti-corrosive marine painting of the following flood lighting tower/ structure including complete de-rusting, cleaning surface preparation, appliance of one coat epoxy enamel painting & two coats of epoxy primer finish paint along with supply of all material, paints, tools labour and plants etc, complete in all respects. Paint shall be marine standard suitable for flood lighting towers and as directed by the Engineer:			
	a) 20 meters high	1	No	44,000
	b) 30 meter high	1	No	70,400

26	Repair/ Maintenance and replacement charges of 1000 Watts Flood Lighting fixtures/ components without replacement parts/ components to be checked and rectified the faults and replacement of control wiring PVC connectors on the top of the Towers and other major components & accessories supplied by PQA.			
	a) 20 meters high	1	Job	15,000
	b) 30 meter high	1	Job	17,600
27	Repair & renovation of existing civil structure of sub-station building including repair of wall, gate, duct, ventilator & painting of HT/LT Switch Board, Servicing of Power Transformer, Internal Earthing continuity with proper wiring etc, control wiring of lighting systems inside & outside as per requirement & minor R/M of steel doors & complete in all respect.	1	Job	616,000
28	Replacement of 1000 watts HPIT/ SON-T, 220 volts, Ballast, Igniter & Capacitors etc. complete fixtures (Phillips or any equivalent make)	1	No	19,360
29	Replacement of 11 KV, 3 core PVC heat shrink tube to be installed on existing Bus bar etc.	1	RM	39,116
30	11 KV, Procelain VCB bottles for incoming & outgoing HT Switch board / panel.	1	Set	176,000
31	Hot Plate Oven 2000 Watts	1	No.	16,240
32	Wings of ceiling fans 56".	1	No.	1,500
33	GI Pipe dia 2" and 10 ft length	1	No.	19,500
34	Preparation of Thrust boring of existing Sub Road b/w Switch Room's Officer Mess & laying of UPVC Pipe Class – D to be laid inside the trench in the proposed paved area.			
	a) 4"	1	RM	7,620
	b) 6"	1	RM	8,890
	c) 8"	1	RM	11,430
35	Overload Switch for motor (40HP)	1	No.	17,400
36	Remote Control Bell	1	No.	2,500
37	Bus bar 11 KV Copper main connecting	1	Set	111,760
38	1500 KVA 11 KV Brass Thumb.	1	Job	159,104
39	11 KV 8" Fiber Insulator for HT Switch boards (03 Nos).	1	Set	38,100
40	11 KV 6" 11 KV 8" Fiber Insulator for HT switch boards.	1	Set	31,750
41	11 KV Mechanical Trolley Head.	1	No.	132,000

42	Providing, Fixing & Programming of Digital Electronic tripping relay with control wiring and all protective accessories / components required for site P-115 MICOM Schneider Make.	1	No.	440,000
43	Providing Fixing & Programming of Electronic tripping relay with control wiring and all protective accessories / components required for site P-116 MICOM Schneider Make or Equivalent.	1	No.	484,000
44	Energy Meter (ToU), 3 Phase, 4 Wire, tropicalized 415/5 Volts of the following rating Elster / Iskra make or equivalent.			
	a) 400/5 Amps.	1	No.	147,523
	b) 300/5 Amps.	1	No.	122,936
	c) 200/5 Amps.	1	No.	100,808
45	d) 100/5 Amps.	1	No.	48,895
	Same above (52) but single phase Energy Meter.			
	a) 60 Amps.	1	No.	25,400
46	b) 80 Amps.	1	No.	25,400
	Hiring charges of Excavator with driver for excavation of cable trenches for repairing of existing cable / laying of new HT/LT cables at site requirement for (8-12) hours.	1	Job	60,000
47	Hiring charges of Hydraulic crane for R/M of existing lighting fixtures etc. at site for (8-12) hours.	1	Job	38,100
48	440 Volts 3 phase Industrial Socket Male & Female of the following sizes Australia & Taiwan Make:-			
	a) 63 Amp	1	No.	19,050
	b) 125 Amp	1	No.	25,400
49	Batteries of Nickel cadmium Block Battery Made in Sweden type. L 302-10.	1	No.	89,408
50	Am- meter of the following ranges panel type with their CT ratio			
	a) 1200 Amps.	1	No.	25,400
	b) 400 Amps.	1	No.	19,050
	c) 300 Amps	1	No.	19,050
51	d) 200 Amps	1	No.	19,050
	Volt meter of the following ranges suitable for panel mounting of the approved size & make.			
	a) 415 volts (Phase to phase & single phase)	1	No.	6,000
52	b) 250 Volts (single phase)	1	No.	6,000
	RYB Switch panel type volt meter selector.	1	No.	12,700

53	RYB Switch panel type Ammeter selector	1	No.	12,700
54	Sodium lamps (SON) of 220 volts of the following sizes wattages: Philips Make.			
	a) 250 Watts	1	No.	6,500
	b) 400 Watts	1	No.	7,620
	c) 1000 Watts	1	No.	15,000
55	220 Volts Ballast for sodium / Mercury lamps for the following wattages of Philips make.			
	a) 250 Watts	1	No.	8,000
	b) 400 Watts	1	No.	10,160
	c) 1000 Watts	1	No.	18,000
56	a) (100-400) Watts, 415 Volts, Ignitor for SON Lamps (SN-58) SON (PHILIPS MAKE or Equivalent)	1	No	2,200
	b) 1000 Watts Ignitor for SON/HPIT Lamp imported Japan / France or Equivalent	1	No	4,000
57	100 Amps, 600 Volts, Porcelain lamps holder (Special type) E-40	1	No.	500
58	Providing, fabrication, installing & erecting flood light/ street light pole, steel tubular pole No. 9770 mm height, external dia meter varying from 140 to 86.25 mm and wall thickness varying from 4.87 to 3.25 and 25mm thick base plate, nuts, washers etc. all welding. Complete in all respects as per drawing & specifications.	1	Job	110,000
59	Single steel light mounting bracket of 37mm dia GI Pipe of require length as shown on drawing, but to shape and as directed at site, including providing & fixing cost iron. Pole cap, clamps & Supporting flat steel installation material, complete in all respects.	1	Job	20,000
60	Control box for street light control gear which include providing and fixing incoming & outgoing cable gland, terminal block, HRC fuses of specified capacity and internal wiring etc. Along with installation of ballast, igniter already supplied with road light fixture.	1	Job	25,000
61	Sodium lamps street light fixture with 250 Watts, SON lamps, Ignitor and Ballast built in compartment for Ballast, water proof porcelain lamp holder etc. the fixture shall be Phillips type HRC-501 or 511.	1	No.	60,000
62	Installation of above street light fixture installed pole bracket	1	No.	15,000

63	Wiring of street light point from connected Box at the base of the pole to light fixture at the top with 2.5 sq.mm. Three cores, 250/440 Volts grade copper conductor circular, PVC insulated, PVC sheathed cable through hallow of the pole.	1	No.	7,620
64	Constructing RCC Manholes of under mentioned types, including excavation backfilling disposal of surplus earth, providing & laying class E and C concrete using sulphat resistance cement in foundation and vibrating, curing and fixing heavy duty cost iron cover with angles frame etc. complete in all respect as per drawing and specification.	1	No.	40,000
65	Supply of following sizes of concealed class "B" UPVC pipes			
	a) 50 mm dia (10 ft.)	1	No.	10,000
	b) 100mm dia (20 ft)	1	No.	15,000
	c) 150 mm dia (20 ft.)	1	No.	20,000
66	Copper Lugs / Ferrule for the following sizes of copper conductor cable:-			
	a) 6 sq.mm	1	No.	125
	b) 10 sq.mm	1	No.	150
	c) 16 sq.mm	1	No.	160
	d) 25 sq.mm	1	No.	175
	e) 35 sq.mm	1	No.	175
	f) 50 sqmm	1	No.	180
	g) 70 sq.mm	1	No.	220
	h) 95 sq.mm	1	No.	635
	i) 120 sq.mm	1	No.	673
	j) 150 sq.mm	1	No.	762
	k) 185 sq.mm	1	No.	1,016
	l) 240 sq.mm	1	No.	1,270
m) 300 sq,mm	1	No.	1,400	
67	Cleaning jungle by cutting removing all shrubs, trees up to (152 mm) girth etc. and taking out their roots and filling the hollows with soil, including stacking the serviceable materials and disposal of useless materials as directed upto 300 RM	1	RM	2,000
68	Cleaning of manholes as wheat, slit and dewatering, rubbish, purring etc. including disposal of excess, designated place. Complete in all respects.	1	No	7,620
69	PVC Tape	1	No	100
70	PT Box size 2x2"	1	No	50,000

71	Auxiliary Switch	1	No	10,000
72	Stabilizer	1	No	25,000
73	HT Insulation Tape	1	No	1,000
74	Powder Coating of MS Steel Board for small light towers	1	No.	15,000
R	<u>INSTALLATION AND REPLACEMENT HT SWITCH GEAR PANEL.</u>			
1	Installation of 11 KV/415 Volts, 3 phases, 400 Amp, HT Switch Board Panel for 11KV incoming and 415 Volts outgoing of approved make and specifications including termination kits and all other necessary protective relays, metering, CT and PTs as per specifications and as directed by Engineer.	1	Job	3,960,000
2	Making of earthing system with high conductivity copper plate size 2'x2' x ¼ or copper earthing electrode 01 inch dia, 10 ft long braiding in the earth upto water level with 02 No flexible copper conductor 70 sqmm, Single core, standard conductor drawn in 43mm dia GI pipe for wiring in HT/LT Switch gears and Power Transformers etc. complete in all respects.	1	Job	300,000
3	1250 Amps, 415 Volts 3 phase, 4 wires, LT Bus tie duct suitable for connection between the LT side of Power Transformer and Main LT Switch Board with OMZ Mechanism.	1	Job	1,341,120
4	Supply and installation of new Medium Voltage, 11KV, 630 Amps, 3-Phase VCB INDOOR PANEL for transformer protection along with all protective relays, CTs, PTs and all other required accessories as per technical specifications and K-Electric Standard. Make shall be Schneider Electric Ltd / Siemens Pakistan Ltd, PEL or Equivalent. Complete in all respects and as directed by Engineer.	1	Job	5,500,000
S	<u>SUPPLY OF ELECTRICAL TOOLS:</u>			
1	11 KV HT Tester & Megger set of following specifications:			
	a. Megger Set of 05KW (KEW Model 3125-A, Brand KYORITSU Japan Make or Equivalent)	1	No.	257,048
	b. HT Tester of 11 KV (SEW Model 276 Taiwan or Equivalent Make)	1	No.	111,760
2	Digital Clamp Meter	1	No.	20,000
3	Angle Grinder	1	No.	13,000

4	Drill Machine LT 1500 Watt	1	No.	25,000
5	Socket Wrench set tool kit 52 pcs (Goti Pana Set)	1	No.	13,000
6	Spanner Set	1	No.	6,000
7	Digital Multi Meter	1	No.	11,000
8	Hydraulic Punch Machine	1	No.	25,000
9	Plass 8" inch	1	No.	3,000
10	Nose Plass 8" inch	1	No.	2,500
11	Cutter Plier 8" inch	1	No.	3,500
12	Screw Driver Set 01 pcs	1	No.	3,900
13	Screw Driver 12" Inch	1	No.	2,000
14	Hammer 02 pound	1	No.	3,000
15	Hammer 01 pound	1	No.	2,000
16	Electrical Tools bag	1	No.	3,000
T	<u>SUPPLY OF SAFETY EQUIPMENTS</u>			
1	Electrical overall suit	1	No.	8,000
2	Electrical Safety Shoes (long)	1	No.	7,500
3	Safety Helmet	1	No.	4,500
4	Electrical leather hand gloves	1	No.	3,000
5	Safety Glasses	1	No.	2,500
U	<u>SUPPLY & INSTALLATION OF SOLAR PANELS, INVERTERS, SOLAR LIGHTS AND OTHER ACCESSORIES.</u>			
1	500W LED Solar Sensor Upgraded street light, Plastic/ ABS Body, Econo series complete with built-in solar panel & battery & remote control circuit, discharging time 10-12 hours, CE and RoHS Certified.	1	No.	40,000
2	120W Solar LED Solar Street Light Aluminum body With Remote Controller, luminous efficiency 160 lm/Watt, discharging time 10-12 hours, CE and RoHS Certified	1	No.	25,000
3	180W Solar LED Solar Street Light Aluminum body With Remote Controller, luminous efficiency 180 lm/Watt, discharging time 10-12 hours, CE and RoHS Certified	1	No.	30,000
4	Communication Box for Data Logger as per inverter configuration	1	No.	95,000
5	DC Distribution Box, (IP65 GI) for each inverter for placing DC strings Expected size but not limited to W*H*D = 3*1*0.75 wall mount, single door with lock and with complete fitting scheme/ railing for DC breakers.	1	No	59,000

6	Lightning Arrester (Copper rod) height 2 m to be fixed on Roof Top for Solar System.	1	No	85,000
7	PV module 540W Tier 1 Manufacturer according to Bloomberg latest issued rankings with IEC 61215 Compliance, Mono PERC Half Cut PV module.	1	No	29,500

Total Per Unit Amount of BOQ Value = Rs. 35,659,159/-

I / We hereby quote _____% (in words _____Percentage)
above / below / at par on each unit rate of mentioned above inclusive of all taxes
applicable in Pakistan.