



PUNJAB INDUSTRIAL ESTATES DEVELOPMENT AND MANAGEMENT COMPANY



**SUPPLY, INSTALLATION, TESTING AND
COMMISSIONING OF LED STREET LIGHTS
ALONG WITH POLES AND ALLIED WORK
ON APPROACH ROAD AT BAHAWALPUR
INDUSTRIAL ESTATE**

January 2023



**PUNJAB INDUSTRIAL ESTATES
DEVELOPMENT AND MANAGEMENT COMPANY**

TABLE OF CONTENTS

Description	Page No.
INVITATION FOR BIDS	4
INSTRUCTIONS TO BIDDERS	6
A. General	7
IB.1 Scope of Bid	7
IB.2 Source of Funds	7
IB.3 Eligible Bidders	7
IB.4 One Bid Per Bidder	7
IB.5 Cost of Bidding	7
IB.6 Site Visit	7
B. Bidding Documents	8
IB.7 Contents of Bidding Documents	8
IB.8 Clarification of Bidding Documents	8
IB.9 Amendment of Bidding Documents	8
C. Preparation of Bids	9
IB.10. Language of Bid	9
IB.11 Documents Comprising the Bid	9
IB.12 Bid Prices	10
IB.13 Currencies of Bid and Payment	11
IB.14 Bid Validity	11
IB.15 Bid Security	11
IB.16 Alternate Proposals by Bidder	12
IB.17 Pre-Bid Meeting	12
IB.18 Format and Signing of Bid	13
D. Submission of Bids for Single Stage Two Envelope Bidding Procedure	13
IB.19 Sealing and Marking of Bids	13
IB.20 Deadline for Submission of Bids	14
IB.21 Late Bids	14
IB.22 Modification, Substitution and Withdrawal of Bids	15
E. Bid Opening and Evaluation for Single Stage Two Envelope Bidding Procedure	15

	IB.23 Bid Opening	15
	IB.24 Process to be Confidential	17
	IB.25 Clarification of Bids	17
	IB.26 Examination of Bids and Determination of Responsiveness	18
	IB.27 Correction of Errors	18
	IB.28 Evaluation and Comparison of Bids	19
F.	Award of Contract	19
	IB.29 Award	19
	IB.30 Employer's Right to Accept any Bid and to Reject any or all Bids	20
	IB.31 Notification of Award	20
	IB.32 Performance Security	20
	IB.33 Signing of Contract Agreement	20
	IB.34 General Performance of the bidders	21
	IB.35 Integrity Pact	21
	IB.36 Instructions not Part of Contract	21
	BIDDING DATA SHEET	22
	LETTERS OF TECHNICAL BID/PRICE BID AND APPENDICES TO BID	24
	Letter of Technical Bid	25
	Letter of Price Bid	27
	Appendix-A to Bid : Special Stipulations	29
	Appendix-B to Bid : Foreign Currency Requirements	30
	Appendix-C to Bid : Price Adjustment Under Clause 70 of Conditions of Contract	31
	Appendix-D to Bid : Bill of Quantities	32
	Appendix-E to Bid : Proposed Construction Schedule	37
	Appendix-F to Bid : Method of Performing the Work	38
	Appendix-H to Bid : Construction Camp and Housing Facilities	39
	Appendix-I to Bid : List of Subcontractors	40
	Appendix-J to Bid : Estimated Progress Payments	41
	Appendix-L to Bid : Integrity Pact	42
	Appendix-M to Bid : Eligibility Criteria	43

Part-I:	GENERAL CONDITIONS OF CONTRACT	59
Part-II:	PARTICULAR CONDITIONS OF CONTRACT	130
FORMS		
	Bid Security	
	Form of Performance Security	
	Form of Contract Agreement	
	Mobilization Advance Guarantee/Bond	

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INVITATION FOR BIDS

Date: _____
Bid Reference No.: _____

1. The Punjab Industrial Estates Development and Management Company intends to hire suitable constructors on the basis of **Single Stage Two Envelopes procedure** vide PPRA-2014 (Punjab) Rules for **“Supply, Installation, Testing and Commissioning of LED Street Lights along with Poles and Allied Work on Approach Road at Bahawalpur Industrial Estate”**.
2. Bidding Documents one (1 No.) original and One (1 No.) copy must be received in sealed envelopes to be delivered not later than date and time stated in the advertisement to:-

Chief Engineer (Planning & Contracts)

Punjab Industrial Estates

Development and Management Company

Commercial Area North, Sundar Industrial Estate

Sundar-Raiwind Road, Lahore.

3. Interested firms may obtain Bidding documents on payment of non-refundable fee of Rs. 2,000/- (Rupees Two Thousand Only), through pay order/bank draft in favour of PIEDMC, from the office of undersigned between 9:00 AM to 4:30 PM from. Bidding documents will not be issued on last submission date.
4. Pre-Bid meeting will be held in Board Room of PIEDMC Head Office at the address given bellow on date and time stated in the advertisement.
5. Last date for the submission of Technical and Financial proposal is as stated in the advertisement and will be opened at 03:30 PM same day in the presence of Evaluation Committee.
6. Bid security of Rs. 430,000/- in favour of PIEDMC, in the form of Bank Guarantee / CDR from a Scheduled Bank in Pakistan, shall be required to be furnished at the time of submission of bids valid for at least for 120 days.
7. The lowest evaluated responsive bidder shall be awarded the contract.

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INSTRUCTIONS TO BIDDERS

(Note: These Instructions to Bidders along with Bidding Data Sheet will not be part of the Contract and will cease to have effect once the contract is signed.)

A. GENERAL

IB.1 Scope of Bid

- 1.1 The Employer as defined in the Bidding Data Sheet hereinafter called “the Employer” wishes to receive bids for the construction and completion of works as described in these Bidding Documents, and summarized in the Bidding Data Sheet 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 applied for/received a loan/credit from the source (s) indicated in the Bidding Data Sheet in various currencies towards the cost of the project specified in the Bidding Data Sheet and it is intended that part of the proceeds of this loan/credit will be applied to eligible payments under the Contract for which these Bidding Documents are issued.

IB.3 Eligible Bidders

- 3.1 This Invitation for Bids is open to all bidders meeting the following requirements:
 - a. Duly licensed by the Pakistan Engineering Council (PEC) in the category relevant to the value of the Works.
 - b. Technically Qualified as per criteria given in the Appendix-M.

IB.4 One Bid per Bidder

- 4.1 Each bidder shall submit only one bid either by himself, or as a partner in a joint venture. A bidder who participates in more than one bid (other than alternatives pursuant to Clause IB.16) will be disqualified.

IB.5 Cost of Bidding

- 5.1 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 lands 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. Instructions to Bidders.
2. Bidding Data Sheet.
3. General Conditions of Contract, Part-I(GCC).
4. Particular Conditions of Contract, Part-II(PCC).
5. Specifications – Special Provisions.
6. Specifications – Technical Provisions.
7. Form of Bid & Appendices to Bid.
8. Bill of Quantities (Appendix-D to Bid).
9. Form of Bid Security.
10. Form of Contract Agreement.
11. Forms of Performance Security and Mobilization Advance Guarantee/Bond and Form of Indemnity Bond for Secured Advance
12. Drawings.

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 Employer's address indicated in the Invitation for Bids. The Employer will respond to any request for clarification which he receives earlier than 28 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.20

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 Sheet 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 Comprising the Bid

- 11.1 The Bid shall comprise two envelopes submitted simultaneously, one called the Technical Bid and the other the Price Bid, containing the documents listed in Bidding Data Sheet under the heading of IB 11.1 A & B respectively. Both envelopes to be enclosed together in an outer single envelope called the Bid. Each bidder shall furnish all the documents as specified in Bidding Data Sheet 11.1 A & B.
- 11.2 Bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all partners. Alternatively, a Letter of Intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all partners and submitted with the bid, together with a copy of the proposed agreement. The role to be played by each partner to be specified therein. Bids submitted by a joint venture of two (2) or more firms shall comply with the following requirements:
- (a) In case of a successful bid, the Form of JV Agreement shall be signed so as to be legally binding on all partners within 7 days of the receipt of letter of acceptance failing which the contract and the letter of acceptance shall stand void and redundant.
 - (b) One of the joint venture partners shall be nominated as being in charge; and this authorization shall be evidenced by submitting a power of attorney signed by legally authorized signatories of all the joint venture partners;
 - (c) The partner-in-charge shall always be duly authorized to deal with the Employer regarding all matters related with and/or incidental to the execution of Works as per the terms and Conditions of JV Agreement and in this regard to incur any and all liabilities, receive instructions, give binding undertakings and receive payments on behalf of the joint venture;
 - (d) All partners of the joint venture shall at all times and under all circumstances be liable jointly and severally for the execution of the Contract in accordance with the Contract terms and a statement to this effect shall be included in the authorization mentioned under Sub-Para (b) above as well as in the Form of Bid and in the Form of JV Agreement (in case of a successful bid); and
 - (e) A copy of JV agreement shall be submitted before signing of the Contract, stating the conditions under which JV will function, its period of duration, the

persons authorized to represent and obligate it and which persons will be directly responsible for due performance of the Contract and can give valid receipts on behalf of the joint venture, the proportionate participation of the several firms forming the joint venture, and any other information necessary to permit a full appraisal of its functioning. The JV Agreement shall be made part of the contract. No amendments / modifications whatsoever in the joint venture agreement shall be agreed to between the joint venture partners without prior written consent of the Employer.

- 11.3 The Bidder shall furnish, as part of the Technical Bid, a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated Bidding Forms, in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time referred to in Sub-Clause 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 duties, taxes and other levies payable by the Contractor under the Contract, or for any other cause, as on the date 28 days prior to the deadline for submission of bids shall be included in the rates and prices and the total Bid Price submitted by a bidder. Additional / reduced duties, taxes and levies due to subsequent additions or changes in legislation shall be reimbursed / deducted as per Sub-Clause 70.2 of the General Conditions of Contract Part-I.
- 12.4 The rates and prices quoted by the bidders are subject to adjustment during the performance of the Contract in accordance with the provisions of Clause 70 of the Conditions of Contract. The bidders shall furnish the prescribed information for the price adjustment formulae in Appendix C to Bid and shall submit with the bids such other supporting information as required under the said clause.

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. A bidder expecting to incur expenditures in other currencies for inputs to the Works supplied from outside the Employer's country (referred to as the "Foreign Currency Requirements") shall indicate the same in Appendix-B to Bid. The proportion of the Bid Price (excluding Provisional Sums) needed by him for the payment of such Foreign Currency Requirements either (i) entirely in the currency of the Bidder's home country or, (ii) at the bidder's option, entirely in Pak rupees provided always that a bidder expecting to incur expenditures in a currency or currencies other than those stated in (i) and (ii) above for a portion of the foreign currency requirements, and wishing to be paid accordingly, shall indicate the respective portions in his bid.
- 13.2 The rates of exchange to be used by the bidder for currency conversion shall be the TT & OD Selling Rates published or authorized by the State Bank of Pakistan prevailing on the date 28 days prior to the deadline for submission of bids. For the

IB.14 Bid Validity

14.1 Bids shall remain valid for the period stipulated in the Bidding Data Sheet after the Date of Bid Opening specified in Clause IB.23.

IB.15 Bid Security

15.2 The Bid Security shall be, at the option of the bidder, in the form of a Bank Guarantee issued by a Scheduled Bank in Pakistan or from a foreign bank duly counter guaranteed by a Scheduled Bank in Pakistan or Deposit at Call in favor of the Employer valid for a period 28 days beyond the Bid Validity date.

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.

15.6 The Bid Security may be forfeited:

- ## IB.16 Alternate Proposals by Bidder

16.2 Alternate Proposal(s), if any, of the lowest evaluated responsive bidder only may be considered by the Employer as the basis for the award of Contract to such bidder.

- 17.1 The Employer may, on his own motion or at the request of any prospective bidder(s), hold a pre-bid meeting to clarify issues and to answer any questions on matters related to the Bidding Documents. The date, time and venue of pre-bid meeting, if convened, is as stipulated in the Bidding Data Sheet. All prospective bidders or their authorized representatives shall be invited to attend such a pre-bid meeting.
- 17.2 The bidders are requested to submit questions, if any, in writing so as to reach the Employer not later than seven (7) days before the proposed pre-bid meeting.
- 17.3 Minutes of the pre-bid meeting, including the text of the questions raised and the replies given, will be transmitted without delay to all purchasers of the Bidding Documents. Any modification of the Bidding Documents listed in IB 7.1 hereof, which may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an Addendum pursuant to Clause IB.9 and not through the minutes of the pre-bid meeting.
- 17.4 Absence at the pre-bid meeting will not be a cause for disqualification of a bidder.

- 18.1 Bidders are particularly directed that the amount entered on the Letter of Price Bid shall be for performing the Contract strictly in accordance with the Bidding Documents.
- 18.2 All appendices to Bid are to be properly completed and signed.
- 18.3 No alteration is to be made in the Letters of Price and Technical Bids 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.
- 18.4 The Bidder shall prepare one original of the Technical Bid and one original of the Price Bid comprising the Bid as described in Bidding Data Sheet against IB 11 and clearly mark it "ORIGINAL - TECHNICAL BID" and "ORIGINAL - PRICE BID". In addition, the Bidder shall submit two (2) copies of the Bid and clearly mark each of them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.
- 18.5 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified in the Bidding Data Sheet and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Bid, except for unamended printed literature, shall be signed or initialed by the person signing the bid.
- 18.6 Any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.
- 18.7 Bidders shall indicate in the space provided in the Letter of Technical and Price Bids, 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.
- 18.8 Bidders should retain a copy of the Bidding Documents as their file copy.

D. SUBMISSION OF BIDS FOR SINGLE STAGE TWO ENVELOPE BIDDING PROCEDURE

IB.19 Sealing and Marking of Bids

19.1 Each bidder shall submit his bid as under:

- (a) ORIGINAL and each copy of the Bid shall be separately sealed and put in separate envelopes and marked as such.
- (b) The envelopes containing the ORIGINAL and copies will be put in one sealed envelope and addressed / identified as given in IB 19.2 hereof.
- (c) The technical bid should comprise of documents listed in IB11.1 (A) & the price bid should comprise of documents listed in IB 11.1 (B) which shall be placed in separate envelopes in accordance with IB 11.1.

19.2 The inner and outer envelopes shall:

- (a) Be addressed to the Employer at the address provided in the Bidding Data Sheet;
- (b) Bear the name and identification number of the contract as defined in the Bidding Data Sheet; and
- (c) Provide a warning not to open before the time and date for bid opening, as specified in the Bidding Data Sheet.

19.3 In addition to the identification required in IB 19.2 hereof, the inner envelope shall indicate the name and address of the bidder to enable the bid to be returned unopened in case it is declared “late” pursuant to Clause IB.21

19.4 If the outer envelope is not sealed and marked as above, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.

IB.20 Deadline for Submission of Bids

20.1 (a) Bids must be received by the Employer at the address specified no later than the time and date stipulated in the Bidding Data Sheet.

- (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.

20.2 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.21 Late Bids

- ## IB.22 Modification, Substitution and Withdrawal of Bids

- ## **E BID OPENING AND EVALUATION FOR SINGLE STAGE TWO ENVELOPE BIDDING PROCEDUR**

- 23.1 The Employer will open the Technical Bids in public at the address, date and time specified in the Bidding Data Sheet in the presence of Bidders' designated representatives and anyone who choose to attend. The Price Bids will remain unopened and will be held in custody of the Employer until the specified time of their opening.
- 23.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding Withdrawal Notice contains a valid authorization to request the withdrawal and is read out at bid opening.
- 23.3 Second, outer envelopes marked "SUBSTITUTION" shall be opened. The inner envelopes containing the Substitution Technical Bid and/or Substitution Price Bid shall be exchanged for the corresponding envelopes being substituted, which are to be returned to the Bidder unopened. Only the Substitution Technical Bid, if any, shall be opened, read out, and recorded. Substitution Price Bid will remain unopened in accordance with IB 23.1. No envelope shall be substituted unless the corresponding Substitution Notice contains a valid authorization to request the substitution and is read out and recorded at bid opening.
- 23.4 Next, outer envelopes marked "MODIFICATION" shall be opened. No Technical Bid and/or Price Bid shall be modified unless the corresponding Modification Notice contains a valid authorization to request the modification and is read out and recorded at the opening of Technical Bids. Only the Technical Bids, both Original as well as Modification, are to be opened, read out, and recorded at the opening. Price Bids, both Original and Modification, will remain unopened in accordance with IB 23.1. The Bidders' representatives who are present shall be requested to sign the record. The

omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

23.5 Other envelopes holding the Technical Bids shall be opened one at a time, and the following read out and recorded:

- (a) the name of the Bidder;
- (b) whether there is a modification or substitution;
- (c) the presence of a Bid Security, if required; and
- (d) Any other details as the Employer may consider appropriate.

No Bid shall be rejected at the opening of Technical Bids except for late bids, in accordance with IB 21.1. Only Technical Bids read out and recorded at bid opening, shall be considered for evaluation.

Preliminary Examination of Technical Bids

- 23.6 a) The Employer shall first examine qualification and experience Data as per appendix M and N submitted by the Bidder. The technical proposal examination of those bidders only shall be taken in hand who meet the minimum requirement as mentioned in appendix M and N. Only substantially responsive qualification shall be considered for further evaluation.
- b) The Employer shall examine the Technical Bid to confirm that all the documents have been provided, and to determine the completeness of each document submitted.

23.7 The Employer shall confirm that all the documents and information have been provided for evaluation of Technical bid as required under these bidding documents.

23.8 At the end of the evaluation of the Technical Bids, the Employer will invite only those bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified for award to attend the opening of the Price Bids. The date, time, and location of the opening of Price Bids will be advised in writing by the Employer. Bidders shall be given reasonable notice for the opening of Price Bids.

23.9 The Employer will notify Bidders in writing who have been rejected on the grounds of their Technical Bids being substantially non-responsive to the requirements of the Bidding Document and return their Price Bids unopened before inviting others, who are determined as being qualified, to attend the opening of Price Bids.

23.10 The Employer shall conduct the opening of Price Bids of all Bidders who submitted substantially responsive Technical Bids, publically in the presence of Bidders' representatives who choose to attend at the address, date and time specified by the Employer. The Bidder's representatives who are present shall be requested to sign a register evidencing their attendance.

23.11 All envelopes containing Price Bids shall be opened one at a time and the following read out and recorded:

- (a) The name of the Bidder;
- (b) Whether there is a modification or substitution;
- (c) The Bid Prices, including any discounts and alternative offers; and
- (d) Any other details as the Employer may consider appropriate.

Only Price Bids and discounts, read out and recorded during the opening of Price Bids shall be considered for evaluation. No Bid shall be rejected at the opening of Price Bids.

23.12 If this Bidding Document allows Bidders to quote separate prices for different contracts, and the award to a single Bidder of multiple contracts, the methodology to determine the lowest evaluated price of the contract combinations is that which is most economical to the Employer.

IB.24 Process to be Confidential

24.1 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. 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.

IB.25 Clarification of Bids

25.1 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.28.

25.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Employer's request for clarification, its bid may be rejected.

IB.26 Examination of Bids and Determination of Responsiveness

26.1 Prior to the detailed evaluation of bids, the Employer will determine whether each bid is substantially responsive to the requirements of the Bidding Documents.

26.2 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; (iv) Includes signed Integrity Pact where required as per clause IB.35 and (v) 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; (iii) adoption/rectification whereof would affect unfairly the competitive position of other bidders presenting substantially responsive bids. Only substantially responsive bid shall be considered for further evaluation.

26.3 If a bid is not substantially responsive, it may not subsequently be made responsive by correction or withdrawal of the non-conforming material deviation or reservation. The Employer may, however, seek confirmation/ clarification in writing which shall be responded in writing.

IB.27 Correction of Errors

- 27.1 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.
- 27.2 The amount stated in the Letter of Price 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.28 Evaluation and Comparison of Bids

- 28.1 The Employer will evaluate and compare only the Bids determined to be substantially responsive in accordance with Clause IB.26.
- 28.2 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.27;
 - (b) Excluding Provisional Sums and the provision, if any, for contingencies in the Summary Bill of Quantities, but including competitively priced Day work; and
 - (c) Making an appropriate adjustment for any other acceptable variation or deviation.
- 28.3 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.
- 28.4 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.32 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.29 Award

- 29.1 Subject to Clauses IB.30 and IB.34, 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

29.2 The Employer, at any stage of the bid evaluation, having credible reasons for or prima facie evidence of any defect in bidder's capacities, may require the bidders to provide information concerning their professional, technical, financial, legal or managerial competence whether already pre-qualified or not:
Provided that such qualification shall only be laid down after recording reasons in writing. They shall form part of the records of that bid evaluation report.

30.1 Notwithstanding Clause IB.29, 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.

- 31.1 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”).
- 31.2 No Negotiation with the bidder having evaluated as lowest responsive or any other bidder shall be permitted.
- 31.3 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.
- 31.4 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.

32.1 The successful bidder shall furnish to the Employer a Performance Security in the form and the amount stipulated in the Bidding Data Sheet and the Conditions of Contract within a period of 28 days after the receipt of Letter of Acceptance.

32.2 Failure of the successful bidder to comply with the requirements of IB.32.1 or IB.33 or IB.35 shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security.

V / Y / Z / AA / AB / AC / AD / AE / AF / AG / AH / AI / AJ / AK / AL / AM / AN / AO / AP / AQ / AR / AS / AT / AU / AV / AW / AX / AY / AZ / BA / BB / BC / BD / BE / BF / BG / BH / BI / BJ / BK / BL / BM / BN / BO / BP / BQ / BR / BS / BT / BU / BV / BW / BX / BY / BZ / CA / CB / CC / CD / CE / CF / CG / CH / CI / CJ / CK / CL / CM / CN / CO / CP / CQ / CR / CS / CT / CU / CV / CW / CX / CY / CZ / DA / DB / DC / DD / DE / DF / DG / DH / DI / DJ / DK / DL / DM / DN / DO / DP / DQ / DR / DS / DT / DU / DV / DW / DX / DY / DZ / EA / EB / EC / ED / EE / EF / EG / EH / EI / EJ / EK / EL / EM / EN / EO / EP / EQ / ER / ES / ET / EU / EV / EW / EX / EY / EZ / FA / FB / FC / FD / FE / FF / FG / FH / FI / FJ / FK / FL / FM / FN / FO / FP / FQ / FR / FS / FT / FU / FV / FW / FX / FY / FZ / GA / GB / GC / GD / GE / GF / GG / GH / GI / GJ / GK / GL / GM / GN / GO / GP / GQ / GR / GS / GT / GU / GV / GW / GX / GY / GZ / HA / HB / HC / HD / HE / HF / HG / HH / HI / HJ / HK / HL / HM / HN / HO / HP / HQ / HR / HS / HT / HU / HV / HW / HX / HY / HZ / IA / IB / IC / ID / IE / IF / IG / IH / II / IJ / IK / IL / IM / IN / IO / IP / IQ / IR / IS / IT / IU / IV / IW / IX / IY / IZ / JA / JB / JC / JD / JE / JF / JG / JH / JI / JJ / JK / JL / JM / JN / JO / JP / JQ / JR / JS / JT / JU / JV / JW / JX / JY / JZ / KA / KB / KC / KD / KE / KF / KG / KH / KI / KJ / KK / KL / KM / KN / KO / KP / KQ / KR / KS / KT / KU / KV / KW / KX / KY / KZ / LA / LB / LC / LD / LE / LF / LG / LH / LI / LJ / LK / LL / LM / LN / LO / LP / LQ / LR / LS / LT / LU / LV / LW / LX / LY / LZ / MA / MB / MC / MD / ME / MF / MG / MH / MI / MJ / MK / ML / MM / MN / MO / MP / MQ / MR / MS / MT / MU / MV / MW / MX / MY / MZ / NA / NB / NC / ND / NE / NF / NG / NH / NI / NJ / NK / NL / NM / NO / NP / NQ / NR / NS / NT / NU / NV / NW / NX / NY / NZ / OA / OB / OC / OD / OE / OF / OG / OH / OI / OJ / OK / OL / OM / ON / OO / OP / OQ / OR / OS / OT / OU / OV / OW / OX / OY / OZ / PA / PB / PC / PD / PE / PF / PG / PH / PI / PJ / PK / PL / PM / PN / PO / PP / PQ / PR / PS / PT / PU / PV / PW / PX / PY / PZ / QA / QB / QC / QD / QE / QF / QG / QH / QI / QJ / QK / QL / QM / QN / QO /QP / QQ / QR / QS / QT / QU / QV / QW / QX / QY / QZ / RA / RB / RC / RD / RE / RF / RG / RH / RI / RJ / RK / RL / RM / RN / RO / RP / RQ / RR / RS / RT / RU / RV / RW / RX / RY / RZ / SA / SB / SC / SD / SE / SF / SG / SH / SI / SJ / SK / SL / SM / SN / SO / SP / SQ / SR / SS / ST / SU / SV / SW / SX / SY / SZ / TA / TB / TC / TD / TE / TF / TG / TH / TI / TJ / TK / TL / TM / TN / TO / TP / TQ / TR / TS / TT / TU / TV / TW / TX / TY / TZ / UA / UB / UC / UD / UE / UF / UG / UH / UI / UJ / UK / UL / UM / UN / UO / UP / UQ / UR / US / UT / UU / UV / UW / UX / UY / UZ / VA / VB / VC / VD / VE / VF / VG / VH / VI / VJ / VK / VL / VM / VN / VO / VP / VQ / VR / VS / VT / VU / VW / VX / VY / VZ / WA / WB / WC / WD / WE / WF / WG / WH / WI / WJ / WK / WL / WM / WN / WO / WP / WQ / WR / WS / WT / WU / WV / WW / WX / WY / WZ / XA / XB / XC / XD / XE / XF / XG /XH / XI / XJ / XK / XL / XM / XN / XO / XP / XQ / XR / XS / XT / XU / XV / XW / XX / XY / XZ / YA / YB / YC / YD / YE / YF / YG / YH / YI / YJ / YK / YL / YM / YN / YO / YP / YQ / YR / YS / YT / YU / YV / YW / YX / YY / YZ / ZA / ZB / ZC / ZD / ZE / ZF / ZG / ZH / ZI / ZJ / ZK / ZL / ZM / ZN / ZO / ZP / ZQ / ZR / ZS / ZT / ZU / ZV / ZW / ZX / ZY / ZZ

33.2 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.

IB. 34 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, inter alia, 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.35 Integrity Pact

The Bidder shall sign and stamp the Integrity Pact provided at Appendix-L 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.

IB.36 Instructions not Part of Contract

Bids shall be prepared and submitted in accordance with these Instructions which are provided to assist bidders in preparing their bids, and do not constitute part of the Bid or the Contract Documents

BIDDING DATA

1.1 Name and address of the Employer:
CEO, Punjab Industrial Estate Development and Management Company,
Commercial Area North
Sundar Industrial Estate
Sundar-Raiwind Road,
Lahore
Tel:- 042-35297203-6
Fax:- 042-35297207
Website:- www.pie.com.pk
e-mail:- info@pie.com.pk

1.1 Name of the Project & Summary of the Works:

“Supply, Installation, Testing and Commissioning of LED Street Lights along with Poles and Allied Work on Approach Road at Bahawalpur Industrial Estate”.

2.1 Name of the Funding Agency:

PIEDMC

8.1 Time limit for clarification:

7 Days prior to submission date

10.1 Bid language:

English

11.1 (A) The Bidder shall submit with its Technical Bid the following documents:

- | | | |
|-----|---|---------------|
| (a) | Letter of Technical Bid | |
| (b) | Bid Security | (IB.15) |
| (c) | Written confirmation authorizing the signatory
of the Bid to commit the Bidder | (IB.18.5) |
| (d) | Pending litigation information | |
| (e) | Special Stipulations (as filled by the Employer) | (appendix –A) |
| (f) | Proposed Construction Schedule | (appendix –E) |
| (g) | Method of Performing the Work | (appendix –F) |
| (h) | Availability of Critical Equipment | (appendix –G) |
| (i) | Construction Camp and Housing Facilities | (appendix –H) |
| (j) | List of Sub-contractors (as required) | (appendix –I) |
| (k) | Organization Chart for Supervisory Staff | (appendix –K) |
| (l) | Integrity Pact | (appendix –L) |

(appendix –M)

(a) Letter of Price Bid

(b) Foreign Currency Requirements (appendix –B)
(If required and only in case of International Bidding)

(c) Price Adjustment under Clause 70 (appendix –C)

(d) Bill of Quantities (appendix –D)

(e) Estimated Progress Payments (appendix –J)

14.1 Period of Bid Validity:

15.1 Amount of Bid Security:

17.1 Venue, time, and date of the pre-Bid meeting:

Head Office
Punjab Industrial Estates Development and Management Company,
Commercial Area North
Sundar Industrial Estate
Sundar-Raiwind Road,
Lahore
Time:- as stated in advertisement
Date:- as stated in advertisement

18.4 Number of copies of the Bid to be completed and returned:
One Original and One Copy

19.2(a) Employer's address for the purpose of Bid submission:

**Board Room
Head Office
Punjab Industrial Estates Development and Management Company,
Commercial Area North
Sundar Industrial Estate
Sundar-Raiwind Road,
Lahore**

19.2(b) Name and Number of the Contract:

“Supply, Installation, Testing and Commissioning of LED Street Lights along with Poles and Allied Work on Approach Road at Bahawalpur Industrial Estate”.

20.1(a)Deadline for submission of Proposals:

Date:- as stated in advertisement

Time:- as stated in advertisement

23.1 Venue, time, and date of Bid opening:

Board Room

Head Office

Punjab Industrial Estates Development and Management Company,

Commercial Area North

Sundar Industrial Estate

Sundar Raiwind Road,

Lahore

Date:- :- as stated in advertisement

Time:- :- as stated in advertisement

32.1 Standard form and amount of Performance Security acceptable to the Employer:

The Contractor shall provide Performance Security to the Employer in the prescribed form. The said Security shall be furnished or caused to be furnished by the Contractor within 14 days after the receipt of the Letter of Acceptance. The Performance Security shall be of an amount equal to 10% of the Contract Price stated in the Letter of Acceptance and valid 28 days beyond maintenance / defect liability period. Such Security shall, at the option of the bidder, be in the form of either (a) bank guarantee from any Scheduled Bank in Pakistan or (b) bank guarantee from a bank located outside Pakistan duly counter-guaranteed by a Scheduled Bank in Pakistan.

The cost of complying with requirements of this Sub-Clause shall be borne by the Contractor.

[illegible]

Letter of Technical Bid

Date:

Bid Reference No:
(Name of Contract/Works)

To:

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (IB) 9;
- (b) We offer to execute and complete in conformity with the Bidding Documents the following Works:
- (c) Our Bid consisting of the Technical Bid and the Price Bid shall be valid for a period of days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (d) As security for due performance of the under takings and obligations of our bid, we submit here with a Bid security, in the amount specified in Bidding Data Sheet, which is valid (at least) 28 days beyond validity of Bid itself.
- (e) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process, other than alternative offers submitted in accordance with IB16 (as applicable).

LTB-2

- (f) We agree to permit Employer or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors. This permission is extended for verification of any information provided in our Technical Bid which comprises all documents enclosed herewith in accordance with IB.11.1 of the Bidding Data Sheet.

Name

In the capacity of

Signed

.....

Duly authorized to sign the Bid for and on behalf of

Date

Address.....

Letter of Price Bid

Date:

Bid Reference No:
(Name of Contract/Works)

To:

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (IB)9;
- (b) The total price of our Bid, excluding any discounts offered in item (c) below is:
- (c) The discounts offered and the methodology for their application are:
- (d) Our Bid shall be valid for a period of days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (e) If our Bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;

LPB-2

- (f) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed and we do hereby declare that the Bid is made without any collusion, comparison of figures or arrangement with any other bidder for the Works.
- (g) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (h) We agree to permit Employer or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors. This permission is extended for verification of any information provided in our Technical Bid which comprises all documents enclosed herewith in accordance with IB.11.1 of the Bidding Data Sheet.
- (i) If awarded the contract, the person named below shall act as Contractor's Representative.

Name

In the capacity of

Signed
.....

Duly authorized to sign the Bid for and on behalf of

Date

Address.....

FOREIGN CURRENCY REQUIREMENTS

N/A

**PRICE ADJUSTMENT UNDER CLAUSE 70
OF CONDITIONS OF CONTRACT**

N/A

BILL OF QUANTITIES

**SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF LED STREET LIGHTS
ALONG WITH POLES AND ALLIED WORK ON APPROACH ROAD AT BAHAWALPUR
INDUSTRIAL ESTATE**

Main Summary

Sr. No.	Description	Amount (Rs.)
A	Schedule items	
(i)	CIVIL WORKS	10,132,420
	Sub Total (A)	10,132,420
B	Non Schedule Items	
(ii)	ELECTRICAL WORKS	
	Sub Total (B)	
	TENDER AMOUNT	
C	Schedule Items Rs. 10,132,420x_____ %Above/Below	
D	TOTAL (A+B+C)	
E	Provisional Sum	2,000,000
F	TOTAL (D+E)	
G	5% PRA on "F"	
Grand Total Amount (F+G) Inclusive all applicable Taxes		
Amounts in Words: _____		

Signature & Stamp of PIEDMC _____ Signature & Stamp of Contractor _____

SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF LED STREET LIGHTS ALONG WITH POLES AND ALLIED WORK ON APPROACH ROAD AT BAHAWALPUR INDUSTRIAL ESTATE

BILL OF QUANTITIES

Item No.	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
A(i)-ELECTRICAL WORKS					
Non-Schedule items					
1	STREET LIGHT OCTAGONAL CONICAL POLES				
	Supply , Installation, testing and commissioning of Octagonal Conical Shaped Hot Dip Galvanized street Light poles including pole base plate / terminal boxes ,Earth point and as per Technical specifications, drawings and to the approval of the consultant/The Engineer of PIE.				
	12 M Long, Single Arm	Each	110		
2	FLOOD LIGHT OCTAGONAL POLES				
	Supply , Installation, testing and commissioning of Octagonal Shaped Hot Dip Galvanized flood Light poles including pole base plate / terminal boxes ,Earth point and as per Technical specifications, drawings and to the approval of the consultant/The Engineer of PIE.				
	15 M Long Suitable for 6 No's flood light, Round Arm	Each	2		
3	LED STREET LIGHT FIXTURES				
	Supply, Installation, testing and commissioning of LED street light fixtures alongwith Pole Base connection Box including Breaker complete in all respect and as per PEECA specifications, Light fixture shall be tested from Govt. approved lab before approval of the Consultant/ The Engineer of PIE.				
	i) LED Street light 120W	Each	110		
4	FLOOD LIGHT FIXTURES				
	Supply, Installation, testing and commissioning of Flood light fixtures alongwith Pole Base connection Box including Breaker complete in all respect and as per PEECA specifications, Light fixture shall be tested from Govt. approved lab before approval of the Consultant/ The Engineer of PIE.				
	ii) Flood Light Fixture 200W	Each	12		

5	STREET LIGHT CONTROL PANEL				
	Supply, Installation, testing & commissioning of Road lighting control panel with angle iron frame clad 14 SWG, sheet steel enclosure having high quality powder coated paint, color RAL 7032. The LCP shall be complete with incoming and outgoing MCCBs, Cu busbars, magnetic contactors, photo-electric switches, meters, indication lights, construction with IP 54 protection class, door, locking arrangement etc. and all other accessories as required for quality work	Each	1		
	MATERIAL				
	1 No. incoming 80 Amp.(adj.) TP, MCCB, 25 kA, Ics=100%Icu				
	4 No. outgoing 40 Amp. (adj.) TP MCCBs, 6 kA, Ics=100%Icu				
	Spare 2 Nos. outgoing 40 Amp. (adj.) TP MCCBs, 6 kA, Ics=100%Icu				
	4 Nos. 32 Amp. magnetic contactor (AC-3)				
	Spare 2 Nos. 32 Amp. magnetic contactor (AC-3)				
	3 No. photo-electric switches with timers and relays				
	a) 1 No. ammeters 0-100 Amp, with selector switch (04 position) and CT of 100/5 Amp				
	b) 3 No. indication lights				
	c) 1 No. voltmeter with fuse and 7 position selector switch.				
	d) 3 Ph, N & Earth copper busbars Internal wiring & line-up terminals etc. Brass cable glands/accessories				
	e) 06 Nos. Auto-Manual-OFF (3 position switches for operation in auto (with photocell) and normal (manual mode-photocell override)				
	f) 06 Nos.ON & 06 Nos. OFF push button switches with indication lights				
	g) 01 No. Panel Light with limit Switch				
	i) 3- Phase Energy Meter For Street Light Billing				
6	LT CABLES FOR STREET LIGHTS				
	Supply , Laying, testing and commissioning of LT Street Light XLPE/PVC/SWA/PVC Aluminium conductor 600/1000V Cable laid directly in the already excavated trench including 3" UPVC pipe at road crossing with provision of warning tape as per drawings, specifications and approval of The consultant/The Engineer of PIE.				
	a) 50 mm ² 4-Core Cable Al/XLPE/PVC/SWA/PVC Transformer to SLCP	Meter	1,005		

	b) 16 mm ² 4-Core Cable Al/XLPE/PVC/SWA/PVC Pole to Pole	Meter	4,020		
	CABLE FOR LIGHT FIXTURE CONNECTION IN POLES				
7	Supply , Installation, testing and commissioning of 3-Core 2.5mm ² PVC/PVC Copper Conductor Cable between pole base connection box to light fixture , as per design, specifications,complete in all respects and to the approval of the Consultant/The Engineer of PIE.	Meter	2,225		
	EARTHING				
8	Supply, installation, testing & commissioning of Earthing System for Street Light Poles, Control Panels including ground conductor (10 mm stranded GI wire), clamp, M.S galvanized earth rod 5/8" x 13' and earth rod clamp etc; to achieve the specified earthing results less than 5 Ohms as per requirements, specifications, drawings, Complete in all respect. and to the approval of the Consultant/The Engineer of PIE.	Each	113		
TOTAL- A(i)					

A(ii)- CIVIL WORKS
Schedule items

Item No.	Ref 2nd Bi-Ann 2022	Description	Unit	Quantity	Unit Rate (Rs)	Amount (Rs)
A(ii)-CIVIL WORKS						
		STREET LIGHT POLE FOUNDATIONS				
1	Composite Rate of MRS	Supply and erection of RCC (3000PSI) Concrete foundation for Street Light Poles including J-Bolts, PVC Pipe 100mm Dia complete in all respect as per drawing specifications or as directed by The Engineer.	Each	110	66,504	7,315,440
		FLOOD LIGHT POLE FOUNDATIONS				
2	Composite Rate of MRS	Supply and erection of RCC (3000PSI) Concrete foundation for Flood Light Poles including J-Bolts, PVC Pipe 100mm Dia complete in all respect as per drawing specifications or as directed by The Engineer.	Each	2	66,504	133,008
3	3/44	EXCAVATION OF TRENCHES	Cum	1,869		

		Excavation of every type of trench in any type of soil within the project area for laying of LT cables, as per dimensions given on the drawings, complete in all respects as per drawing specifications or as directed by The Engineer.			270.10	504,817
4		BACK FILLING OF TRENCHES				
		Back filling of any type of trenches with already excavated earth, after laying various cables (LT) including sand cushion for (LT cables 9") ,with protective bricks B-Class wall to wall and excavated earth compacted 90% in 6" layers and dispose of surplus earth from site , Complete in all respects as per drawings, specifications or as directed by The Engineer.				
	7/30	a) Sand (Bed and Cover)	Cum	467	998	466,066
	7/23	b) Bricks (Protection Cover) B-Class	Sqm	2,045	564	1,153,380
	3/15(i)	c) Excavated earth back filling and compaction	Cum	1,246	180.00	224,280
5	Composite Rate of MRS	STREET LIGHT CONTROL PANEL FOUNDATION				
		Construction of foundation for Street light control panel complete in all respects as per drawing specifications or as directed by The Engineer.	Each	1	10,000	10,000
7	23/27(b)	UPVC PIPE				
		Laying and jointing of UPVC pipe Class-B, BS-3505 of following diameters for ducts and poles with clamps as shown in drawings complete in all respect and to the approval of the Consultant/The Engineer of PIE.				
		a) 4" dia for L.T Cables	Mtr	225.0	1,446.35	325,429
TOTAL-A(ii)						10,132,420

SAMPLE SUBMISSION

All vendors / supplier / Manufacturer must submit sample of 120 Watt LED street light and 200 Watt Flood Light with its bid (Technical proposal) for the testing from PCSIR / CERAD / Govt. approved Lab for confirming the specifications offered under the witness of PIEDMC Engineer at contractor's cost. The sample of light submitted not meeting the PEECA requirement will result into disqualification of bidder.

Appendix-E to Bid

PROPOSED CONSTRUCTION SCHEDULE

Pursuant to Sub-Clause 43.1 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 as Appendix-E to Bid, the Construction Schedule in the bar chart (CPM, PERT or any other to be specified herein) 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 in days noted below and counted from the date of receipt of Engineer’s Notice to Commence (Attach sheets as required for the specified form of Construction Schedule):

<u>Description</u>	<u>Time for Completion</u>
a) Whole Works	_____ days
b) Part-A	_____ days
c) Part-B	_____ days
d) _____	_____ days
e) _____	_____ days

Appendix-F to Bid

METHOD 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. Mobilization in Pakistan, the type of facilities including personnel accommodation, office accommodation, provision for maintenance and for storage, communications, security and other services to be used.
3. The method of executing the Works, the procedures for installation of equipment and machinery and transportation of equipment and materials to the site.

Appendix-H to Bid

CONSTRUCTION CAMP AND HOUSING FACILITIES

The Contractor in accordance with Clause 34 of the Conditions of Contract shall provide description of his construction camp's facilities and staff housing requirements.

The Contractor shall be responsible for pumps, electrical power, water and electrical distribution systems, and sewerage system including all fittings, pipes and other items necessary for servicing the Contractor's construction camp.

The Bidder shall list or explain his plans for providing these facilities for the service of the Contract as follows:

1. Site Preparation (clearing, land preparation, etc.).
2. Provision of Services.
 - a) Power (expected power load, etc.).
 - b) Water (required amount and system proposed).
 - c) Sanitation (sewage disposal system, etc.).
3. Construction of Facilities
 - a) Contractor's Office. Workshop and Work Areas (areas required and proposed layout, type of construction of buildings, etc.).
 - b) Warehouses and Storage Areas (area required, type of construction and layout).
 - c) Housing and Staff Facilities (Plans for housing for proposed staff, layout, type of construction, etc.).
4. Construction Equipment Assembly and Preparation (detailed plans for carrying out this activity).
5. Other Items Proposed (Security services, etc.).

Appendix-I to Bid

LIST OF SUBCONTRACTORS

I/We intend to subcontract the following parts of the Work to subcontractors. In my/our opinion, the subcontractors named hereunder are reliable and competent to perform that part of the work for which each is listed.

Enclosed are documentation outlining experience of subcontractors, the curriculum vitae and experience of their key personnel who will be assigned to the Contract, equipment to be supplied by them, size, location and type of contracts carried out in the past.

Part of Works (Give Details)	Subcontractor (With Complete Address)
1	2

Appendix-J to Bid

ESTIMATED PROGRESS PAYMENTS

Bidder's estimate of the value of work which would be executed by him during each of the periods stated below, based on his Programme of the Works and the Rates in the Bill of Quantities, expressed in thousands of Pakistani Rupees:

Quarter/ Year/ Period	Amounts (1,000 Rs.)
1	2
Ist Month	
2 nd Month	
3 rd Month	
4 th Month	
Bid Price	

(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. _____ Dated _____

Contract Value: _____

Contract Title: _____

..... [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:

Signature:

[Seal]

Name of Seller/Supplier:

Signature:

[Seal]

ELIGIBILITY / QUALIFICATION CRITERIA

The bidder must meet the following requirements. Any bidder not meeting any of the following requirements will stand disqualified

- i) Must have valid registration in C6 or above category with specialization codes of EE-06 of Pakistan Engineering Council.
- ii) Must have completed, minimum three (03) projects of similar nature during last five years. The detail must include location, cost and details about the employers along with completion / TOC certificates.
- iii) Certificate to the effect that the firm / company is not involved in litigation with any department nor has ever been black listed by any department. Failure to provide the non-blacklisting certificate will lead to rejection of documents.
- iv) Technical data, drawings and Lab Test Reports for the LED light offered from the manufacturer.
- v) ***All vendors/supplier/manufacture must submit sample of 120 Watt LED street light and 200 Watt Flood Light with its bid (Technical proposal) for the testing from PCSIR / CERAD / Govt. approved Lab for confirming the specifications offered under the witness of PIEDMC Engineer at contractor's cost. The sample of light submitted not meeting the PEECA requirement will result into disqualification of bidder.***

The financial proposals of the technically qualified bidders will be opened on the date and time to be communicated later on. The Financial Proposals of technically disqualified bidders will be returned unopened as per PPRA Punjab Rules 2014.

**PREAMBLE
TO
CONDITIONS OF CONTRACT**

PREAMBLE TO CONDITIONS OF CONTRACT

Commencement Date	Sub-Clause 1.1.1.(i) The date for commencement of the Works is the date given in the Work Order
Defect Liability Period	Sub-Clause 1.1.11 The Defect Liability Period is Two (02) Years.
The Employer	Sub-Clause 1.1.12. The Employer is CEO Punjab Industrial Estates Development and Management Company (PIEDMC), Commercial Area North Sundar Industrial Esatae Sundar Raiwind Road Lahore
The Engineer	Sub-Clause 1.1.15. The Engineer is Chief Engineer Electrical PIEDMC
Time for Completion	Sub-Clause 1.1.35. The Time for Completion is 45 days from the Commencement Date.
Warranty Period	Sub-Clause 1.1.40. The Warranty Period is Three years for (goods/equipment)
Engineer's Duties & Authorities	Sub-Clause 2.1 Amount of Variation Order in emergency is 25%
Confirmation in Writing	Sub-Clause 2.6 (i) If the Contractor shall require the confirmation it shall be notified to the Engineer within 07 days. (ii) Engineer shall confirm the decision/instruction within 07 days.
Ruling Language	Sub-Clause 5.1. The version in English language (ruling language) shall prevail.
Day to Day Communications	Sub-Clause 5.2. The language for day to day communications is English.
As-Built Drawings	Sub-Clause 6.10 As-Built drawings shall be provided to the Engineer within 10 days from the date of issue of Taking Over Certificate.
General Obligations	Sub-Clause 8.1 Detail of Erection and Testing Equipment and Maintenance Tools is given herein below:
Programme to be Furnished	Sub-Clause 12.1. The Programme must be submitted in the form of Primavera
Electricity Water, Gas and Other Services	Sub-Clause 14.3. Supplies on the Site are: a. Electricity: _____ _____ b. Water _____ c. Gas _____ _____ d. Other Services _____

Employer's Equipment	Sub-Clause 14.4. The following Employer's equipment is available for use by the Contractor under the Employer's operation: Nil
Time for Completion Earlier Completion	Sub-Clause 25.1 (i) 45 days from the order to commence by the Engineer
Delay in Completion	Sub-Clause 26.3 (i) Amount of Bonus per day Nil (ii) Max. Amount of Bonus Nil Sub-Clause 27.1. Failure to meet the Time for Completion entitles the Employer to reduction in Contract Price as follows: Percentage per day 0.1 % Maximum 10 %
Prolonged Delay	Sub-Clause 27.2. Maximum amount recoverable from the Contractor by the Employer
Terms of Payment	Sub-Clause 33.1. In addition to the provisions under Clause 33, the terms of payment shall be as stated in Particular Conditions of Contract.
Payment	Sub-Clause 33.5 (i) Period of Payment by Employer to Contractor Within 14 days from the date of submission of the verified Bill by the Engineer (ii) Period of Final Certificate of Payment
Payment in Foreign Currencies	Sub-Clause 35.1. Payment in foreign currencies shall be arranged as follows: Not Applicable
Insurance of Works	Sub-Clause 43.1. The deductible limits in the insurance cover of the Works shall not exceed ____ Sub-Clause 43.1.(a) The additional risks to be insured are:
Third Party Liability	Sub-Clause 43.3. The amount of insurance against third party liability taken out by the Contractor shall not be less than:
Payment on Termination for Employer's Default	Sub-Clause 46.3. The additional amount payable by the Employer on termination shall not exceed: N/A
Labour, Materials and Transport	Sub-Clause 47.1. The method of calculating adjustments for changes in costs shall be: N/A
Notices to Employer and Engineer	Sub-Clause 49.2. The address of the Employer for notices is: CEO Punjab Industrial Estates Development and Management Company (PIEDMC), Commercial Area North Sundar Industrial Esatae Sundar Raiwind Road Lahore The address of the Engineer for notices is: CE Electrical Punjab Industrial Estates Development and Management Company (PIEDMC), Commercial Area North Sundar Industrial Esatae Sundar Raiwind Road Lahore

Disputes & Arbitration	Sub-Clause 50.4
Applicable Law	Venue of Arbitration Lahore Pakistan.
Procedural Law for Arbitration	Sub-Clause 51.1. The applicable law is Laws of Islamic Republic of Pakistan
Language and Place of Arbitration	Sub-Clause 51.2. The procedural law for arbitration is Arbitration Act of 1942
	Sub-Clause 51.3. The language of arbitration is English language. The place of arbitration is Lahore Pakistan

GENERAL CONDITIONS OF CONTRACT

[Notes on the Conditions of Contract]

The Conditions of Contract comprise two parts:

- (a) General Conditions of Contract**
- (b) Particular Conditions of Contract**

Over the years, a number of “model” General Conditions of Contract have evolved. The one used in these Standard Bidding Documents was prepared by the International Federation of Consulting Engineers (Federation Internationale des Ingenieurs-Conseils, or FIDIC), and is commonly known as the FIDIC Conditions of Contract. (The used version is the 1987 edition, reprinted in 1988 with editorial amendments.)

The FIDIC Conditions of Contract have been prepared for an ad measurement (unit price or unit rate) type of contract, and cannot be used without major modifications for other types of contract, such as lump sum, turnkey, or target cost contracts.

The standard text of the General Conditions of Contract chosen must be retained intact to facilitate its reading and interpretation by bidders and its review by the Employer. Any amendments and additions to the General Conditions, specific to the contract in hand, should be introduced in the Particular Conditions of Contract.

The use of standard conditions of contract for all electrical/mechanical Works will ensure comprehensiveness of coverage, better balance of rights or obligations between Employer and Contractor, general acceptability of its provisions, and savings in time and cost for bid preparation and review, leading to more economic prices.

The FIDIC Conditions of Contract are copyrighted and may not be copied, faxed, or reproduced. Without taking any responsibility of its being accurate, Pakistan Engineering Council with prior consent of FIDIC Secretariat, has reproduced herein the FIDIC General Conditions of Contract for reference purpose only which cannot be used by the users for preparing their bidding documents. The bidding document may include a purchased copy, the cost of which can be retrieved as part of the selling price of the bidding document. Alternatively, the FIDIC Conditions of Contract can be referred to in the bidding documents, and the bidders are advised to obtain copies directly from FIDIC.*

“Copies of the FIDIC Conditions of Contract can be obtained from:

FIDIC Secretariat

P.O. Box 86

1000 Lausanne 12

Switzerland

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The “**CONDITIONS OF CONTRACT FOR ELECTRICAL AND MECHANICAL WORKS**” section from page 71-141 has been removed as FIDIC doesn’t allow it to be copied. Download the PDF version of this document from PICC website to view it completely OR Copies of the FIDIC Conditions of Contract can be obtained from:

FIDIC Secretariat

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1000 Lausanne 12

Switzerland

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PART-II: PARTICULAR CONDITIONS OF CONTRACT

PART-II: PARTICULAR CONDITIONS OF CONTRACT

<u>Contents</u>	<u>Page No.</u>
1.1 Definitions	147
1.6 Cost, Overhead Charges and Profit	148
2.1 Engineer's Duties	148
2.6 Confirmation in Writing	149
2.7 Disputing Engineer's Decisions and Instructions	149
2.8 Replacement of Engineer	149
2.9 Engineer Not Liable	149
4.2 No Contractual Relation between Sub contractor and the Employer	149
5.3 Priority of Contract Documents	150
5.4 Documents Mutually Explanatory	150
6.2 Consequences of Dis-approval of Contractor's Drawings	150
6.6 Operation and Maintenance Manuals	150
6.9 Manufacturing Drawings	151
6.10 "As Built" Drawings	151
8.1 General Obligations	151
10.1 Performance Security	152
10.3 Claims under Performance Security	152
10.4 Performance Security Binding on Variations and Changes	152
12.1 Programme to be Furnished	152
12.4 Monthly Progress Report	153
12.5 Daily Job Record	153
13.1 Contractor's Representative	153
13.3 Language Ability of Superintending Staff of Contractor	154
13.4 Employment of Local Personnel	154
14.1 Contractor's Equipment	154
14.2 Safety Precautions	154
14.3 Electricity, Water and Gas	154
14.4 Employer's Equipment	155
14.8 Information for Import Permits and Licences	155
15.2 Compliance with Laws	155
16.4 Photographs of Works and Advertisement Prohibited	155
16.5 Training of Employer's Staff	155
17.4 Consents and Way Leaves	156
17.5 Import Permits and Licences	156
18.1 Engagement of Labour	156
18.5 Employment of Persons in the Service of Others	156

18.6	Alcoholic Liquor or Drugs	156
18.7	Arms and Ammunition	157
18.8	Festivals and Religious Customs	157
18.9	Disorderly Conduct	157
18.10	Records of Safety and Health	157
18.11	Reporting of Accidents	157
18.12	Compliance by Sub-Contractors	157
19.1	Manner of Execution	157
19.3	Uncovering Work	157
19.4	Use of Pakistani Materials	158
24.1	Cost of Suspension	158
24.4	Resumption of Work	158
25.1	Time for Completion	158
26.1	Extension of Time for Completion	158
26.3	Earlier Completion	158
26.4	Rate of Progress	159
27.1	Delay in Completion	159
28.7	Consequences of Failure to pass the Tests on Completion	160
30.4	Extension of Defects Liability Period	160
30.5	Failure to Remedy Defects	160
30.13	Unfulfilled Obligations	160
31.1	Engineer's Right to Vary	160
31.5	Record of Costs	160
31.6	Daywork under Variation Order	160
31.7	Value Engineering	161
33.1	Terms of Payment	161
33.1.1	Retention of Payment	161
33.1.2	Payment Where Taking Over Certificate Issued for Section or Portion of Works	161
33.3	Method of Application	161
33.5	Payment	161
33.6	Delayed Payment	162
33.8	Payment by Measurement	162
33.12	Withholding of Payment	162
35.1	Payment in Foreign Currencies	163
35.2	Currency Restrictions	163
35.3	Rates of Exchange	163
36.4	Payment Against Provisional Sums	163
37.2	Employer's Risks	163
39.2	Loss or Damage Before Risk Transfer Date	164
39.4	Duty to Minimize Delay	164

40.2	Employer's Liability	164
42.2	Maximum Liability	165
42.6	Foreseen Damage	165
43.1	The Works (Insurance)	165
43.2	Contractor's Equipment	165
43.3	Third Party Liability (Insurance)	165
43.7	Remedies on the Contractor's Failure to Insure	165
43.9	Currency of Insurance	165
43.10	Contractor to Notify	165
43.11	Procurement of Insurance Policies	165
44.6	Damage Caused by Force Majeure	166
44.8	Payment on Termination for Force Majeure	166
44.10	Force Majeure Affecting Engineer's Duties	166
45.2	Contractor's Default	166
45.6	Integrity Pact	166
46.1	Employer's Default	166
46.3	Payment on Termination for Employer's Default	167
47.1	Labour, Materials and Transport	167
48.1	Customs and Import Duties	167
48.3	Port Charges and Port Congestion	167
49.1	Notice to Contractor	167
50.	Disputes & Arbitration	167

PART-II: PARTICULAR CONDITIONS OF CONTRACT

1.1 Definitions

The text of Sub-Clause 1.1.1 is deleted and substituted by the following:

“Commencement Date” means the date specified in the Preamble to Conditions of Contract.

The text of Sub-Clause 1.1.2 is deleted and substituted by the following:

“Conditions” means the Preamble to Conditions of Contract, General Conditions of Contract and Particular Conditions of Contract.

Sub-Clause 1.1.3

At the end of Sub-Clause the following is added:

“Any subsequent document mutually agreed and signed by the Employer and the Contractor, shall be the part of the Contract.”

The text of Sub-Clause 1.1.5 is deleted and substituted by the following:

“Contract Price” means the sum stated in the Letter of Acceptance as payable to the Contractor for the execution and completion of the Works subject to such additions thereto or deductions therefrom as may be made under the provisions hereinafter contained and remedying of any defects therein in accordance with the provisions of the Contract.”

Sub-Clause 1.1.11

The Defects Liability Period is the period mentioned in the Preamble to Conditions of Contract and special stipulations

Sub-Clause 1.1.15

The following is added at the end of Sub-Clause:

“or any other competent person appointed by the Employer as his replacement.”

Sub-Clause 1.1.23

The following paragraph is added:

The word “Goods” is synonymous with “Plant.”

The text of Sub-Clause 1.1.27 is deleted and substituted by the following:

“Schedule of Prices” means the completed and priced Schedule of Prices, or any part or individual schedule thereof, submitted by the Contractor with his Bid or revised and mutually agreed and forming a part of the Contract documents.

Sub-Clause 1.1.33

The word “Tender” is synonymous with the word “Bid” and the word “Tender Documents” with the word “Bidding Documents”.

The following Sub-Clauses are added:

“1.1.38 “Month” means calendar month according to Gregorian calendar.

1.1.39 “Operation and Maintenance Manuals” has the meaning described in Sub-Clause 6.6.

1.1.40 “Warranty Certificate” means the certificate against specified goods/equipment, for the period mentioned in the Preamble to Conditions of Contract, to be issued by the Contractor that the goods/equipment supplied under the Contract are new, unused and incorporate all recent improvements in design and materials unless provided otherwise in the Contract and that the Contractor will be responsible for making good or replacing any defective goods/equipment during the Warranty Period specified in the Preamble to Conditions of Contract which should commence after expiry of Defect Liability Period.

Sub-Clause 1.1.41

The word “Part II” stated in FIDIC Conditions of Contract is synonymous with the word “Particular Conditions of Contract”.

Sub-Clause 1.6 Cost, Overhead Charges and Profit

The last sentence “Any profit _____ stated in the Preamble” is deleted and substituted by the following:

“Any profit entitlement shall be added to cost at the percentage stated in the Bid and agreed in the Contract Agreement.”

Sub-Clause 2.1 Engineer’s Duties

The text of Sub-Clause 2.1 is deleted and substituted by the following:

“The Engineer shall carry out the duties specified in the Contract.

The Engineer may exercise the authority attributable to the Engineer as specified in or necessarily to be implied from the Contract. The Engineer is required to obtain the specific approval of the Employer before carrying out his duties in accordance with the following Clauses of General Conditions of Contract:

- (a) approval of Subcontractor under Sub-Clause 4.1,
- (b) certifying additional sums under Sub-Clause 5.4,
- (c) certifying additional costs under Sub-Clauses 11.3 & 12.3,
- (d) certifying any cost under Sub-Clause 14.6,
- (e) approval of extension of time under Clause 26,
- (f) issuing a Taking-Over Certificate under Sub-Clause 29,
- (g) issuing a Defects Liability Certificate under Sub-Clause 30.11,
- (h) issuing a Variation Order under Clause 31,
- (i) fixing rates or prices under Clauses 31 and 34,
- (j) certifying additional costs under Sub-Clause 44.5 and
- (k) certifying additional costs under Sub-Clause 47.2;

Except for such variations pursuant to Sub-Clause 31.1 of the GCC which may be necessary in an emergency affecting safety of life, the works or of adjoining property.”

Except as expressly stated in the Contract the Engineer shall have no authority to relieve the Contractor of any of his obligations under this Contract.”

Sub-Clause 2.6 Confirmation in Writing

- (i) In line 3 after the words “undue delay” the following is added:
“but not after the number of days mentioned in the Preamble to Conditions of Contract from the instruction or decision.”
- (ii) At the end of Sub-Clause 2.6, the following is added:
"The Engineer shall confirm or otherwise within the period mentioned in the Preamble to Conditions of Contract from the receipt of requirement(s) from the Contractor.”

Sub-Clause 2.7 Disputing Engineer’s Decisions and Instructions

The following text is deleted:

“If either party in accordance with the Contract.”

Sub-Clause 2.8 Replacement of Engineer

The text of Sub-Clause 2.8 is deleted and substituted by the following:

“If the Employer intends to replace the Engineer, the Employer shall, not less than 14 days before the intended date of replacement, give notice to the Contractor, of the name, address and relevant experience of the intended replacement Engineer. The Employer shall not replace the Engineer with a person against whom the Contractor raises reasonable objection by notice to the Employer, with supporting particulars.”

Sub-Clause 2.9 Engineer Not Liable

Sub-Clause 2.9 is added as follows:

“Approval, reviews and inspection by the Engineer of any part of the Works does not relieve the Contractor from his sole responsibility and liability for the supply of remaining materials and equipment for the Works and parts thereof and complete the remaining erection works and testing and commissioning in accordance with the Contract and neither the Engineer's authority to act nor any decision made by him in good faith as provided for under this Contract whether to exercise or not to exercise such authority shall give rise to any duty or responsibility of the Engineer to the Contractor, any Subcontractor, any of their representatives or employees or any other person performing any of the works. However the Contractor shall be compensated if any loss/damage is occurred due to the decision of the Engineer.”

Sub-Clause 4.2 No Contractual Relation between Subcontractor and the Employer

Sub-Clause 4.2 is added as follows:

Nothing contained in the Contract Documents shall create any contractual relation between any Subcontractor and the Employer.

Sub-Clause 5.3 Priority of Contract Documents

Sub-Clause 5.3 is deleted and substituted by the following:

“Unless otherwise provided in the Contract the priority of the Contract Documents shall be as follows:

1. The Contract Agreement (if completed)
2. The Letter of Acceptance
3. The completed Form of Bid
4. Preamble to Conditions of Contract
5. The Particular Conditions of Contract
6. The General Conditions of Contract
7. The priced Schedule of Prices
8. The completed Schedules to Bid
9. The Specifications
10. The Drawings
11.(Any other document)

In case of discrepancies between drawings, those of larger scale shall govern unless they are superseded by drawing(s) of a later date regardless of scale. All drawings and specifications shall be interpreted in conformity with the Contract Agreement and these conditions.”

Sub-Clause 5.4 Documents Mutually Explanatory

The text appearing in the last line after the words “the Contract Price” is deleted.

Sub-Clause 6.2 Consequences of Disapproval of Contractor's Drawings

Full stop is deleted and the following words are added at the end of Sub-Clause:

“for the approval of the Engineer. However, the Contractor shall not be entitled for time extension on this account.”

Sub-Clause 6.6. Operation and Maintenance Manuals

Paras 2&3 are deleted and the following text is added at the end of Para 1 of Sub-Clause:

“The Operation and Maintenance Manuals shall include full instructions for the operation, servicing and maintenance of the Plant, not only during the period of the Contractor's liability but more particularly during its operating life.

The directions shall be set out simply, clearly and systematically. This may be divided into two volumes if desirable, one for operation and the second for servicing and maintenance (in sub-volumes for major items of Plant).

The operational data shall include a complete physical and functional description of the Plant (in sub-volumes for major items of Plant) and step-by-step procedures for inspection, checking and adjustments for proper operation of the Plant.

The maintenance data shall include complete instructions for routine checks, servicing, maintenance and repair of all parts and for dismantling, handling and re-assembly of all equipment, sub-assemblies and all separate components. The

maintenance data shall also include where possible parts catalogues. The lists shall provide all necessary information for identifying the parts and for re-ordering the parts including name of part, part number and catalogue references where applicable, name of manufacturer, size, capacity and other characteristics.

General arrangements, single line diagrams and detailed drawings shall be provided for ready reference in the operation and maintenance instructions.

The manuals shall be printed on ISO paper size A4 (210x297 mm) with offset or equivalent printing strongly bound in a durable stiff cover bearing the title in approved legend. Drawings shall be folded or reduced to 297 mm height. All volumes shall bear on the spine an approved shortened version of the title.

The Contractor shall submit three draft copies for approval of the Engineer prior to producing finished volumes.

The Contractor shall provide ten (10) copies of the approved Operation and Maintenance Manuals prior to Taking Over by the Employer. Supplementary Operation and Maintenance Manual shall be provided by the Contractor, if required, to incorporate changes resulting from experience during the operation and maintenance period. The work shall not be considered to be completed for the purpose of taking over until such manual and drawings have been supplied to the Employer.”

Sub-Clause 6.9 Manufacturing Drawings

The words “Unless otherwise specified in Part-II” are deleted and the following is added at the end of Sub-Clause:

“However, the Contractor is required to disclose to the Engineer or the Employer any confidential information necessary to justify the reliability, the efficiency and the operation and maintenance of the Plant supplied by him.”

Sub-Clause 6.10 “As-Built” Drawings

The following new Sub-Clause is added:

The Contractor shall furnish to the Engineer six (6) copies and one (1) reproducible of approved quality of all “As-Built” drawings within the period mentioned in the Preamble to Conditions of Contract.

Sub-Clause 8.1 General Obligations

The text of Sub-Clause 8.1 is deleted and substituted by the following:

- “(a) The Contractor shall commence the work on the date specified in the Preamble to Conditions of Contract and shall proceed with the same with due expedition and without delay.
- (b) The Contractor shall, in accordance with the Contract, with due care and diligence, complete the Works and test and commission the Plant and carry out the Works within the Time for Completion. The Contractor shall also provide all necessary Contractor's Equipment, superintendence, labour and except as stated hereinbelow, all necessary facilities therefor.

The Employer will permit use of the Erection, Testing Equipment and Maintenance Tools as stated in the Preamble to Conditions of Contract.

The above facilities shall be provided at no cost to the Contractor but he shall procure at his cost all required consumable materials and any other items necessary for the proper execution of the Works. These shall be properly used and maintained by the Contractor and returned to the Employer upon handing over of the Works in good condition, fair wear and tear excepted. In case of any damage, loss or theft, the items shall be replaced by the Contractor at his own cost.”

Sub-Clause 10.1 Performance Security

Sub-Clause 10.1 is deleted and substituted by the following:

“The Contractor shall provide a Performance Security in the prescribed Form annexed to these Documents. The said Security shall be furnished by the Contractor within 14 days after the receipt of Letter of Acceptance. The Performance Security shall be of an amount equal to 10 percent of the Contract Price in the currency (ies) of the Contract at the option of the bidder, in the form of Bank Guarantee from any Scheduled Bank in Pakistan or from a bank located outside Pakistan duly counter-guaranteed by a Scheduled Bank in Pakistan.”

The cost of complying with the requirements of this Sub-Clause shall be borne by the Contractor.”

Sub-Clause 10.3 Claims under Performance Security

Sub-Clause 10.3 is deleted in its entirety.

The following Sub Clause is added:

Sub-Clause 10.4 Performance Security Binding on Variations and Changes

“The Performance Security shall be binding irrespective of variations and changes in the quantities of the Works or extensions in completion time of the Works, which are granted or agreed upon under the provisions of the Contract.”

Sub-Clause 12.1 Programme to be Furnished

Sub-Clause 12.1(a) is deleted and substituted by the following:

“(a) the order in which the Contractor proposes to carry out the Works (including preliminaries, required material ordering, delivery to Site, erection and rectifications work, testing, commissioning and taking-over by the Employer). The programme shall also include the following:

- (i) Employment of local and expatriate labour of various categories,
- (ii) Local material procurement,
- (iii) Material imports, if any.”

In Sub-Clause 12.1(c)(iv) the words “any import licenses” are deleted.

Sub-Clause 12.4 Monthly Progress Report

The following Sub-Clause 12.4 is added:

“During the period of the Contract, the Contractor shall submit six sets of report to the Engineer not later than the 8th day of each month, including:

- (i) a construction schedule indicating the progress achieved during the preceding month;
- (ii) description of all work carried out since the last report;
- (iii) description of the work planned for the next forty two days sufficiently detailed to enable the Engineer to determine his programme of inspection and testing;
- (iv) summary of daily job record for the preceding month; and
- (v) colour photographs to illustrate progress.

Sub-Clause 12.5 Daily Job Record

The following Sub Clause 12.5 is added:

“During the period of the Contract, the Contractor shall keep a daily record of the work progress, which shall be made available to the Engineer as and when requested.

The daily record shall include particulars of weather conditions, number of men working, in different categories, deliveries of materials, quantity, location and assignment of equipment.”

Sub-Clause 13.1 Contractor's Representative

At the end of the Sub-Clause the following is added:

“The Contractor's Representative shall be a competent and skilled person approved by the Engineer (which approval may at any time be withdrawn) and who shall be present on the Site during all working hours. He shall be fluent in the English language. He shall not be transferred from the Site without the consent of the Engineer. The Contractor's Representative shall be a Registered/Professional engineer as defined in the Pakistan Engineering Council Act 1975 (V of 1976).”

Sub-Clause 13.3 Language Ability of Superintending Staff of Contractor

The following Sub-Clause 13.3 is added:

“A reasonable proportion of the Contractor's superintending staff shall have a working knowledge of the English language.”

Sub-Clause 13.4 Employment of Local Personnel

The following Sub-Clause 13.4 is added:

“The Contractor shall, to the extent practicable and reasonable, employ staff and labour from sources within Pakistan.”

Sub-Clause 14.1 Contractor's Equipment

Replace the word “or” at the end of Sub-paragraph (a) by the word “and” and insert the following at the end of Sub-paragraph(b):
“which shall not be unreasonably withheld.”

Sub-Clause 14.2 Safety Precautions

At the end of the Sub-Clause the following is added:

“In order to provide for the safety, health and welfare of persons, and for prevention of damage of any kind, all operations for the purposes of or in connection with the Contract shall be carried out in compliance with the safety requirements of the Government of Pakistan with such modifications thereto as the Engineer may authorise or direct and the Contractor shall take or cause to be taken such further measures and comply with such further requirements as the Engineer may determine to be reasonably necessary for such purpose.

The Contractor shall make, maintain, and submit reports to the Engineer concerning safety, health and welfare of persons and damage to property as the Engineer may from time to time prescribe.”

Sub-Clause 14.3 Electricity Water and Gas

The text of Sub-Clause 14.3 is deleted and substituted by the following:

“The Contractor shall be responsible for making his own arrangements for the adequate supply of electricity, water and gas required for the effective performance of his obligations under the Contract. Subject to the aforesaid, the Contractor shall be entitled to use for the purposes of the Works such supplies and services as may be available on the Site. The Contractor shall, before the commencement of the work at Site, seek the approval of the Engineer as to his detailed requirements of electricity, water and gas for the entire Contract period. The Contractor shall pay the Employer at the rates/cost incurred by the Employer. The Contractor shall at his own cost provide any apparatus necessary for such use.”

Sub-Clause 14.4 Employer's Equipment

The text of Sub-Clause 14.4 is deleted and substituted by the following:

“The Employer shall, if the Contractor so requests for the execution of the works,

operate any available equipment of which details are given in the Preamble to Conditions of Contract. The Contractor shall pay the Employer a mutually agreed price for such use.

The Employer shall during such operation retain control of and be responsible for the safe working of the equipment.

Sub-Clause 14.8 Information for Import Permits & Licences

The text of Sub-Clause 14.8 is deleted and substituted by the following:

“The Contractor shall submit to the Employer in good time such details of all Plant and Contractor's Equipment as is to be imported into Pakistan and identify as to what assistance of the Employer is required for obtaining by the Contractor of all necessary import permits or licences.”

Sub-Clause 15.2 Compliance with Laws

The Sub-Clause 15.2 is deleted and substituted by the following:

“The Contractor shall comply with the Laws of country of manufacture and the Laws of Pakistan where the Plant is to be erected.”

Sub-Clause 16.4 Photographs of Works and Advertisement Prohibited

Sub-Clause 16.4 is added:

“Except with the prior written authorisation of the Employer the Contractor shall not exhibit or permit to be exhibited any photographs or advertisement on the Works. Any authorized exhibition shall be immediately removed if the Employer so requires.”

Sub-Clause 16.5 Training of Employer's Staff

Sub-Clause 16.5 is added:

“The Contractor shall provide such facilities for the training of such numbers of Pakistani engineers, engineering students, apprentices and trade apprentices on such sections of the Works at the Site or on the Contractor's premises or Contractor selected plant manufacturer's premises and factories, or wherever else work is in hand, as specified or directed by the Engineer. The Employer shall direct what sums by way of wages and allowances are to be paid by the Contractor to such persons and shall reimburse the Contractor for such sums as are so directed to be paid and are paid. The Contractor shall also provide medical expenses or medical insurance and travelling expenses for trainees if required by the Employer which shall be reimbursed by the Employer.

The language of training at the above stated premises shall be English and Urdu.”

Sub-Clause 17.4 Consents and Way Leaves

The Sub-Clause 17.4 is deleted and substituted by the following:

The Employer shall issue permissions, letters, certificates and provide such other assistance to the Contractor for his obtaining permits-to-work, way leaves and approvals from any other department/authority and right of way from private owners, if required. The Contractor will bear the cost of logistics, fees, etc. for such activities. The Employer, will reimburse the Contractor only the payments made by him in respect of any land compensation for obtaining such way leaves, required for the Works.

Sub-Clause 17.5 – Import Permits and Licences

The word “Employer” is deleted and substituted by the word “Contractor” and the following is added at the end of Sub-Clause 17.5:
“the Employer will provide assistance for this purpose.”

Sub-Clause 18.1 – Engagement of Labour

At the end of the Clause the following is added:
“in accordance with the regulations, orders and requirements of the Govt. of Pakistan.”

Sub-Clauses 18.5 to 18.12 are added:

“Sub-Clause 18.5 Employment of Persons in the Service of Others

The Contractor shall not recruit or attempt to recruit staff and labour from amongst the persons in the service of the Employer or the Engineer and vice-versa, unless mutually agreed between the Employer/Engineer and the Contractor

Sub-Clause 18.6 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Statutes, Ordinances and Government Regulations or Orders for the time being in force, import, sell, give, barter or otherwise dispose of any alcoholic liquor or drugs, or permit or suffer any such importation, sale, gift, barter or disposal by his Subcontractors, agents, employees or labour.

Sub-Clause 18.7 Arms and Ammunition

The Contractor shall not give, barter or otherwise dispose of to any person or persons, any arms or ammunition of any kind or permit or suffer the same as aforesaid.

Sub-Clause 18.8 Festivals and Religious Customs

The Contractor shall in all dealings with his staff and labour have due regard to all recognised festivals, days of rest and religious or other customs.

Sub-Clause 18.9 Disorderly Conduct

The Contractor shall at all times take all reasonable precautions to prevent any unlawful riotous or disorderly conduct by or amongst his staff and labour and for the preservation of peace and protection of persons and property in the neighbourhood of the Works.

Sub-Clause 18.10 Records of Safety and Health

The Contractor shall maintain such records and make such reports concerning safety, health and welfare of persons and damage to property as the Engineer may from time to time prescribe.

Sub-Clause 18.11 Reporting of Accidents

The Contractor shall report to the Engineer details of any accident as soon as possible after its occurrence. In the case of any fatality or serious accident, the Contractor shall, in addition to appropriate action required under the law, notify the Engineer immediately by the quickest available means.

Sub-Clause 18.12 Compliance by Subcontractors

The Contractor shall be responsible for compliance by his Subcontractors of the foregoing provisions.”

Sub-Clause 19.1 Manner of Execution

The following is added at the end of Sub-Clause:

“The Contractor shall submit for approval of the Engineer, his detailed method statement(s) for the execution of such items of work as may be desired by the Engineer. Approval of such method statement(s) shall neither relieve the Contractor of his responsibilities under the Contract nor form any basis for claiming additional costs.”

Sub-Clause 19.3 Uncovering Work

The following is added at the end of second paragraph of Sub-Clause 19.3:

“In any other case, all costs shall be borne by the Contractor.”

Sub-Clause 19.4 Use of Pakistani Materials

The following Sub-Clause 19.4 is added:

“The Contractor shall so far as may be consistent with the Contract make the maximum use of materials, supplies and equipment indigenous to or produced in Pakistan and services available in Pakistan or operated in Pakistan provided such materials, supplies, equipment and services shall be of required standard.”

Sub-Clause 24.1 Cost of Suspension

At the end of the second paragraph after the word “Contractor” the following is added:

“or for the proper execution or for the safety of the Works or Plant unless such necessity results from any act or default of the Engineer or the Employer or in consequence of any of the Employer's Risks under Sub-Clause 37.2.”

Sub-Clause 24.4 Resumption of Work

First paragraph of Sub-Clause 24.4 is deleted and substituted by the following:

“If the Contractor chooses not to treat prolonged suspension as an omission or termination under Sub-Clause 24.3, the Employer shall, upon the request of the Contractor, take over the responsibility for protection, storage, security and insurance of the suspended Works and of the Plant which has been delivered to the Site and which is affected by suspension and the risk of loss or damage thereto shall thereupon pass to the Employer.”

Sub-Clause 25.1 Time for Completion

The text of Sub-Clause 25.1 is deleted and substituted by the following:

“The Works at the place of the project mentioned in the Preamble to Conditions of Contract shall be completed tested and commissioned within the period mentioned in the Preamble to Conditions of Contract.”

Sub-Clause 26.1 Extension of Time for Completion

Sub-Clause 26.1(h) is deleted.

Sub-Clause 26.3 Earlier Completion

- (i) At the end of Sub-Clause 26.3(a) the following text is added and Clause is re-designated as 26.3.

“The extra sum to be paid to the Contractor for Completion of Works prior to the date of Completion established under Sub-Clause 25.1 shall be computed

on the basis of the sums mentioned in the Preamble to Conditions of Contract.”

- (ii) Sub-Clause 26.3 (b) is deleted.

“Sub-Clause 26.4 Rate of Progress

Sub-Clause 26.4 is added:

“If for any reason, which does not entitle the Contractor to an extension of time, the rate of progress of the Works or any Section is at any time, in the opinion of the Engineer, too slow to comply with the Time for Completion, the Engineer shall so notify the Contractor who shall thereupon take such steps as are necessary, subject to the consent of the Engineer, to expedite progress so as to comply with the Time for Completion. The Contractor shall not be entitled to any additional payment for taking such steps. If, as a result of any notice given by the Engineer under this Clause, the Contractor considers that it is necessary to do any work at night or on locally recognised days of rest, he shall be entitled to seek the consent of the Engineer so to do. Provided that if any steps, taken by the Contractor in meeting his obligations under this Sub-Clause, involve the Employer in additional supervision costs, such costs shall, after due consultation with the Employer and the Contractor, be determined by the Engineer and shall be recoverable from the Contractor by the Employer, and may be deducted by the Employer from any moneys due or to become due to the Contractor and the Engineer shall notify the Contractor accordingly, with a copy to the Employer.”

Sub-Clause 27.1 Delay in Completion

Sub-Clause 27.1 is deleted and substituted by the following:

“If the Contractor fails to deliver the Works, or any part thereof, within the time stated in Sub-Clause 25.1, or fails to complete the whole of the Work, or, if applicable, any Section within the relevant time prescribed by Sub-Clause 25.1, then the Contractor shall pay to the Employer the relevant sum stated hereinbelow as liquidated damages for such default (which sum shall be the only moneys due from the Contractor for such default) for every day or part of a day which shall elapse between the relevant time for Delivery or Time for Completion and the actual date of delivery at site or the date stated in a Taking-Over Certificate of the whole of the Works or the relevant Section, as the case may be, subject to the applicable limit stated hereinbelow.

The Employer may deduct the amount of such damages from any monies due or to become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations & liabilities under the Contract.”

The liquidated damages for each day of delay and the maximum amount of liquidated damages shall be the amounts mentioned in the Preamble to Conditions of Contract.

Sub-Clause 28.7 Consequences of Failure to Pass Tests on Completion

The words “by arbitration” appearing at the end of the Sub-Clause 28.7(c) are deleted and substituted by the words “by the Engineer”.

Sub-Clause 30.4 Extension of Defects Liability Period

At the end of 4th paragraph of Sub-Clause the following is added:
“or a mutually agreed period.”

Sub-Clause 30.5 Failure to Remedy Defects

In first line after the words “reasonable time” the following is added:
“fixed by the Engineer”.

Sub-Clause 30.13 Unfulfilled Obligations

New Sub-Clause 30.13 is added as herein below:

“After the Defects Liability Certificate has been issued, the Contractor and the Employer shall remain liable for the fulfillment of any obligation which remains unperformed at that time. For the purposes of determining the nature and extent of any such obligation, the Contract shall be deemed to remain in force.”

Sub-Clause 31.1 Engineer's Right to Vary

The following is added at the end of second paragraph:

“No such variation shall in any way vitiate or invalidate the Contract, but the effect, if any, of all such variations shall be valued in accordance with Clause 31. Provided that where the issue of an instruction to vary the Works is necessitated by some default of or breach of Contract by the Contractor or for which he is responsible, any additional cost attributable to such default shall be borne by the Contractor.”

Sub-Clause 31.5 Record of Costs

The word “Engineer” in 4th line of Sub-Clause is deleted and substituted by “Engineer/Employer”.

Sub-Clause 31.6 Daywork under Variation Order

New Sub-Clause 31.6 is added as given below:

“A Variation Order may provide that work done pursuant thereto shall be executed as Daywork. In such case the Contractor shall be paid for such work under the conditions and the rates and prices set out in the Day Work Schedule.”

Sub-Clause 31.7 Value Engineering

New Sub-Clause 31.7 is added as given below:

The Contractor may, at any time, submit to the Engineer a written proposal which in the Contractor's opinion will reduce the cost of constructing, maintaining or operating the works, or improve the efficiency or value to the Employer of the completed Works or otherwise be of benefit to the Employer. Any such proposal shall be prepared at the cost of the Contractor. However Employer is not bound to accept such proposal.

Sub-Clause 33.1 Terms of Payment

- a) 10% advance against Bank Guarantee issued by Schedule Bank of Pakistan.
- b) 70% on full delivery at site after acceptance note, Payment invoice will be submitted with documents i.e. Warranty Certificate, Inspection certificate, Certificate of origin, Acceptance note.
- c) 10% on Installation.
- d) 05% on commissioning
- e) 05% after completion of warranty period/minimum three years.

The following Sub-Clauses are added:

Sub-Clause 33.1.1 Retention of Payment

If at any time any payment would fall due for Works or part of Works and, if there shall be any defect in part of such Works in respect of which such payment is proposed, the Employer may retain the whole or any part of such payment. Any sum retained by the Employer pursuant to the provisions of this Clause shall be paid to the Contractor after the said defect is removed.

Sub-Clause 33.1.2 Payment Where Taking-Over Certificate Issued for Section or part of Works

If any section or part of the Works shall be taken-over separately under Clause 29 (Taking-Over) hereof, the payments herein provided for on or after Taking-Over shall be made in respect of the section or part taken-over and reference to the price shall mean such part of the price as shall, in the absence of agreement, be apportioned thereto by the Engineer.

Sub-Clause 33.5 Payment

Sub-Clause 33.5 is deleted and substituted by the following:

The amount due to the Contractor under any Interim Payment Certificate issued by the Engineer pursuant to this Clause, or to any other term of the Contract, shall, subject to Clause 27, be paid by the Employer to the Contractor within 14 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 33.10 within 60 days after such Final Payment Certificate has been jointly verified by Employer and Contractor; Provided that the Interim Payment shall be caused in 42 days and Final Payment in 60 days in case of foreign funded project.

Deduction shall be made from the net amounts payable to the Contractor of any sum(s) in accordance with the prevalent Federal and/or Provincial laws, provided that no such deduction shall be made from those payments in respect of which the Contractor has obtained exemption under the Law.”

Sub-Clause 33.6 Delayed Payment

The text of Sub-Clause 33.6 is deleted in entirety

Sub-Clause 33.8 Payment by Measurement

The work shall be measured for the units mentioned in the Schedule of Prices according to the Contract as determined by the Engineer from approved drawings, Specifications and Contract Documents.

Sub-Clause 33.12 Withholding of Payment

New Sub-Clause 33.12 is added as given below:

If the Works or any part thereof are not being carried out to the Engineer's satisfaction and in order to protect the Employer from loss on account of:

- (a) defective work not rectified
- (b) guarantees not met
- (c) claims filed against the Contractor
- (d) failure of the Contractor to make payments due for Plant procured or labour employed by him.
- (e) damage to any other contractor employed by the Employer.
- (f) Contractor's non-compliance with the Contract
- (g) any Government dues recoverable from the Contractor if notified by the Government

The Engineer may notify withholding of such payments or part thereof as may, in his opinion, be related to the aforesaid reasons/grounds. When the reasons/grounds for withholding the payment are removed by the Contractor, the Engineer shall upon being satisfied to that effect issue Certificate of Payment in respect of withheld amounts.

Sub-Clause 35.1 Payment in Foreign Currencies

Not Applicable

Sub-Clause 35.2 Currency Restrictions

The text of Sub-Clause 35.2 is deleted and substituted by the following:

“Any required foreign currency transactions shall be met by the Employer/Contractor at his cost from his own resources.”

Sub-Clause 35.3 Rates of Exchange

Not applicable

Sub-Clause 36.4 Payment against Provisional Sums

Sub-Clause 36.4 is deleted and substituted by the following:

“Provisional Sum if any will be expended on the direction of the Engineer through Variation Orders which would be valued in accordance with the provisions of Clause 31 Conditions of Contract.”

Sub-Clause 37.2 Employer's Risks

The text of Sub-Clause 37.2 is deleted and substituted by the following:

“The Employer's Risks are:

- (a) (Insofar as they relate to Pakistan) war and hostilities (whether war be declared or not), invasion, act of foreign enemies
- (b) (Insofar as they relate to Pakistan) rebellion, revolution, insurrection, military or usurped power or civil war
- (c) ionizing radiation or contamination by radioactivity from any nuclear fuel, radio-active toxic explosives or other hazardous properties of any explosive nuclear assembly or nuclear components thereof
- (d) pressure waves caused by aircraft travelling at sonic or supersonic speed
- (e) (Insofar as they relate to Pakistan) riot, commotion or disorder, unless solely restricted to the employees of the Contractor or of his Subcontractors
- (f) use or occupation of the Work or any part thereof by the Employer
- (g) fault, error, defect or omission in the design of any part of the Works by the Engineer, Employer or those for whom the Employer is responsible for which the Contractor has disclaimed responsibility in writing within a reasonable time after the receipt of such design
- (h) the use or occupation of the Site by the Works or any part thereof, or for the purposes of the Contract: or interference, whether temporary or permanent with any right of way, light, air or water or with any easement, way leaves or right of a similar nature which is the inevitable result of the construction of the Works in accordance with the Contract

- (i) the right of the Employer to construct the Works or any part thereof on, over, under, in or through any land
- (j) damage (other than that resulting from the Contractor's method of construction) which is the inevitable result of the construction of the Works in accordance with the Contract
- (k) the act, neglect or omission or breach of contract or of statutory duty of the Engineer, the Employer or other contractors engaged by the Employer or of their respective employees or agents.”

Sub-Clause 39.2 Loss or Damage Before Risk Transfer Date

The words “by arbitration under Clause 50” are deleted and substituted by the words “by the Engineer”.

Sub-Clause 39.4 Duty to Minimize Delay

New Sub-Clause 39.4 is added as given below:

Each Party shall at all times use all reasonable endeavours to minimize any delay in the Performance of the Contract as a result of Risks.

The Contractor shall give notice to the Employer and vice versa the Employer shall give notice to the Contractor in case of foreseeable delay by the Risks.

Sub-Clause 40.2 Employer's Liability

The text of Sub-Clause 40.2 from the words “or of death or personal injury” to the end of the Sub-Clause, is deleted and substituted by the following:

“..... (other than the Works) or of death or personal injury to the extent caused by any of the Employer's Risks listed in paragraphs (f), (g), (h), (i), (j), and (k) of Sub-Clause 37.2 but not otherwise.”

Sub-Clause 42.2 Maximum Liability

the words “the sum stated in the Preamble to Conditions of Contract or if no such sum is stated” appearing in 2nd line of Sub-Clause are deleted.

Sub-Clause 42.6 Foreseen Damage

Sub-Clause 42.6 is deleted in its entirety.

Sub-Clause 43.1 The Works (Insurance)

Sub-Clause 43.2 Contractor's Equipment

Sub-Clause 43.2 is deleted and substituted by the following:

“The Contractor shall insure the Contractor's Equipment for its full replacement value while on the Site against all loss or damage caused by any of the Contractor's Risks.”

Sub-Clause 43.3 Third Party Liability (Insurance)

Sub-Clause 43.7 Remedies on the Contractor's Failure to Insure

In 3rd line after the word, “purpose”, the expressions- “and reasonable costs including the man-hours costs of Employer's Personnel” are added.

Sub-Clause 43.9 Currency of Insurance

New Sub-Clause 43.9 is added as given below:

“All policies of Insurance of the Plant shall provide for payment of indemnity to be made in such amounts as will allow making good of loss of or damage to the whole or any part of the Works.”

Sub-Clause 43.10 Contractor to Notify

New Sub-Clause 43.10 is added as given below:

“It shall be the responsibility of the Contractor to notify the insurance company of any changes in nature and extent of the Works and to ensure the adequacy of the insurance coverage at all times in accordance with the provisions of the Contract.”

Sub-Clause 43.11 Procurement of Insurance Policies

New Sub-Clause 43.11 is added as given below:

“The Contractor shall procure and submit the insurance cover under this Clause within a period of 14 days from the date of receipt of Letter of Acceptance from the Employer.”

Sub-Clause 44.6 Damage Caused by Force Majeure

At the end of the Sub-Clause 44.6 the following is added:

“However the Contractor shall put up his claim to the Employer / Engineer with full details and justification.”

Sub-Clause 44.8 Payment on Termination for Force Majeure

Text in sub-para (c) is deleted and para (d) and (e) are re-numbered as (c) and (d).

Sub-Clause 44.10 Force Majeure Affecting Engineer's Duties

Sub-Clause 44.10 is deleted in its entirety.

Sub-Clause 45.2 Contractor's Default

The following paragraph is added at the end of Sub-Clause 45.2.

“The Employer or such other contractor may use for such completion any Contractor's Equipment which is upon the Site as he or they may think proper, and the Employer shall pay the Contractor a reasonable compensation for such use”.

Sub-Clause 45.6 is added as follows:

Sub-Clause 45.6 Integrity Pact

If the Contractor, or any of his Subcontractors, agents or servants is found to have violated or involved in violation of the Integrity Pact signed by the Contractor as Schedule-H 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 Subcontractors, agents or servants;
- (b) terminate the Contract; and
- (c) 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 Subcontractors, agents or servants.

The termination under Sub-Para (b) of this Sub-Clause shall proceed in the manner prescribed under Sub-Clauses 45.2 to 45.5 and the payment under Sub-Clause 45.4 shall be made after having deducted the amounts due to the Employer under Sub-Para (a) and (c) of this Sub-Clause.

Sub-Clause 46.1 Employer's Default

The comma and the word “or” at the end of paragraph (d) of Sub-Clause 46.1 are deleted and substituted by period (.). Paragraph (e) of Sub-Clause 46.1 is deleted.

Sub-Clause 46.3 Payment on Termination for Employer's Default

The words “including loss of profit” in the second paragraph of Sub-Clause 46.3 are deleted.

Sub-Clause 47.1 Labour, Materials and Transport

(Employer to modify this Sub-Clause as provided under Clause 70.1 of PCC of PEC Civil Documents and following PEC Procedure and Formula for Price Adjustment)

Sub-Clause 48.1 Customs and Import Duties

(Employer may vary this Sub-Clause)

The Sub-Clause 48.3 is added:

Sub-Clause 48.3 Port Charges and Port Congestion

The Contractor shall be deemed to have obtained all the information regarding facilities and charges, in respect of port clearance, loading and unloading, storage, transportation, congestion and confirmed the requirements thereof at his own responsibility and all such costs and charges are deemed to be included in the rates and prices of the Schedule of Prices.

Sub-Clause 49.1 Notice to Contractor

The following is added at the end of Sub-Clause 49.1:

“For the purposes of Sub-Clause 49.1 the Contractor shall, immediately after receipt of Letter of Acceptance, intimate in writing to the Employer and the Engineer by registered post, the address of his principal place of business or any change in such address during the period of the Contract.”

Sub-Clause 50 Disputes & Arbitration

Clause 50 is deleted and in its place the following Sub-Clauses 50.1 to 50.5 are inserted:

“50.1 If a dispute of any kind whatsoever arises between the Employer and the Contractor in connection with, or arising out of, the Contract or the execution of the Works, whether during the execution of the Works or after their completion and whether before or after repudiation or other termination of the Contract, including any dispute as to any opinion, instruction, determination, certificate or valuation of the Engineer, 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 fifty sixth (56) day after the day on which he received such reference, the Engineer shall give notice of his decision to the Employer and the Contractor. Such decision shall state that it is made pursuant to this Clause.

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 amicable settlement or in an arbitral award.

In any case where the Conditions of Contract provide that the decision of the Engineer is to be final and conclusive, such decision shall not be referable to arbitration under this Clause nor shall the same be questioned in any other form of proceedings whatsoever.

50.2 If either the Employer or the Contractor be dissatisfied with a decision of the Engineer or if the Engineer fails to give notice of his decision on or before the fifty sixth (56) day after the day on which he received the reference, then either the Employer or the Contractor may, on or before the twenty eighth (28) day after the day on which the said period of fifty six (56) days expired, as the

case may be, give notice to the other party to commence arbitration, as hereinafter provided, as to the matter in dispute. Such notice shall establish the entitlement of the party giving the same to commence arbitration, as hereinafter provided, as to such dispute and, subject to Sub-Clause 50.5, no arbitration in respect thereof may be commenced unless such notice is given.

If the Engineer has given notice of his decision as to a matter in dispute to the Employer and the Contractor and no notification of intention to commence arbitration as to such dispute has been given by either the Employer or the Contractor on or before the twenty eighth (28) day after the day on which the parties received notice as to such decision from the Engineer the said decision shall become final and binding upon the Employer and the Contractor.

50.3 Where notice of intention to commence arbitration as to a dispute has been given in accordance with Sub-Clause 50.2, arbitration of such dispute shall not be commenced unless an attempt has first been made by the parties to settle such dispute amicably through mutual negotiation within ninety (90) days from the date of notification of Engineer's decision.

50.4 Any dispute in respect of which:

- (a) the decision, if any, of the Engineer has not become final and binding pursuant to Sub-Clause 50.1 and
- (b) amicable settlement has not been started/reached within the period stated in Sub-Clause 50.3

shall be finally settled, unless otherwise specified in the Contract, under the Pakistan Arbitration Act, 1940 (Act No. X of 1940) and Rules made thereunder as amended, by one or more arbitrators appointed under such Rules.

The said arbitrator(s) shall have full power to open up, review and revise any decision, opinion, instruction, determination, certificate or valuation of the Engineer for the purpose of obtaining said decision pursuant to Sub-Clause 50.1. No such decision shall disqualify the Engineer from being called as a witness and giving evidence before the arbitrator(s) on any matter whatsoever relevant to the dispute.

The venue of arbitration proceedings shall be the place in Pakistan as mentioned in the Preamble to Conditions of Contract.

50.5 Where neither the Employer nor the Contractor has given notice of intention to commence arbitration of a dispute within the period stated in Sub-Clause 50.1 or 50.2 and the related decision has become final and binding, either party may, if the other party fails to comply with such decision, and without prejudice to any other rights it may have, refer the failure to arbitration in accordance with Sub-Clause 50.4. The provisions of Sub-Clauses 50.1 to 50.2 shall not apply to any such reference."

STANDARD FORMS

STANDARD FORMS

	Page No.
Standard Forms include the following:	
• Form of Bid Security (Bank Guarantee)	174
• Form of Contract Agreement	176
• Form of Performance Security (Bank Guarantee)	178
• Form of Bank Guarantee/Bond for Advance Payment	180

(Note: Standard Forms provided in this document for securities are to be issued by a bank. In case the bidder chooses to issue a bond for accompanying his bid or performance of contract or receipt of advance, the relevant format shall be tailored accordingly without changing the spirit of the Forms of securities).

FORM OF BID SECURITY
(Bank Guarantee)

Guarantee No. _____
Executed on _____
Expiry date _____

[Letter by the Guarantor to the Employer]

Name of Guarantor (Bank) with address: _____

Name of Principal (Bidder) with address: _____

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

Bid Reference No. _____ Date of Bid _____

KNOW ALL MEN BY THESE PRESENTS, that in pursuance of the terms of the Bid 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 sum stated above, for the payment of which sum well and truly to be made, we bind 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 submitted the accompanying Bid numbered and dated as above for _____ (Particulars of Bid) to the said Employer; and

WHEREAS, the Employer has required as a condition for considering the said Bid that the Principal furnishes a Bid Security in the above said sum to the Employer, conditioned as under:

- (1) that the Bid Security shall remain valid for a period 28 days beyond the period of validity of the Bid;
- (2) that in the event of;
 - (a) the Principal withdraws his Bid during the period of validity of Bid, or
 - (b) the Principal does not accept the correction of his Bid Price, pursuant to Sub-Clause 24.2 of Instructions to Bidders, or
 - (c) failure of the successful bidder to
 - (i) furnish the required Performance Security, in accordance with Clause 34 of Instructions to Bidders, or
 - (ii) sign the proposed Contract Agreement, in accordance with Clause 35 of Instructions to Bidders,

then the entire sum be paid immediately to the said Employer as liquidated damages

and not as penalty for the successful bidder's failure to perform.

NOW THEREFORE, if the successful bidder shall, within the period specified therefor, 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 Guarantor shall forthwith pay to the Employer the said sum stated above 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 Guarantor at its address given above.

PROVIDED ALSO THAT the Employer shall be the sole and final judge for deciding whether the Principal 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 Guarantor shall pay without objection the sum 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 the instrument under its seal on the date indicated above, the name and 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:

Signature _____

1. _____

Name _____

Corporate Secretary (Seal)

Title _____

2. _____

(Name, Title & Address)

Corporate Guarantor (Seal)

FORM OF CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT (hereinafter called the “Agreement”) made on the ____ day of _____(month) 20____ between _____ (hereafter called the “Employer”) of the one part and _____ (hereafter called the “Contractor”) 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 witnesseth 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) The Preamble to Conditions of Contract
 - (e) The Particular Conditions of Contract
 - (f) The General Conditions of Contract
 - (g) The priced Schedule of Prices
 - (h) The completed Schedules to Bid
 - (i) The Specifications
 - (j) The Drawings
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 Contract Agreement to be executed on the day, month and year first before written in accordance with their respective laws.

Signature of the Contactor

(Seal)

Signature of the Employer

(Seal)

Signed, Sealed and Delivered in the presence of:

Witness:

(Name, Title and Address)

Witness:

(Name, Title and Address)

**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: _____

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 bind 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 30, Defects after Taking Over, 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 defences 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.

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

FORM OF BANK GUARANTEE/BOND FOR ADVANCE PAYMENT

Guarantee No. _____
Executed on _____
Expiry date _____

[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 Rupees _____ (Rs. _____) 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 advance payment for performance of his obligations under the said Contract.

AND WHEREAS _____ (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 telefax.

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

SPECIFICATIONS
SPECIAL PROVISIONS

SPECIFICATIONS OF LED SECURITY LIGHTS ISSUED BY PEECA

LED light shall meet the all specifications described in PEECA document attached

SAMPLE SUBMISSION

All vendors / supplier / Manufacturer are bound to give must submit sample of 120 Watt LED street light and 200 Watt Flood Light with its bid (Technical proposal) for the testing from PCSIR / CERAD / Govt. approved Lab for confirming the specifications offered under the witness of PIEDMC Engineer at contractor's cost. The sample of light submitted not meeting the PEECA requirement will result into disqualification of bidder.

Standard Specifications for Evaluation of LED Street Light to achieve maximum energy conservation and designed lifespan

Description	Requirement
1- Housing	I. The fixture shall have a die cast/ Extruded aluminum housing providing adequate rigidity, strength and heat dissipation. II. The housing shall have integrated driver and LED compartments for better heat dissipation and both LED module & driver compartment must separate for convenience in maintenance at the site and to avoid Driver and LED Compartments thermal effect to each other. III. The optical LED component shall have thermally hardened glass cover and high quality silicon gaskets. The glass shall be extra white for maximum light transmission. The glass cover shall be lightly secured with the housing. IV. The housing shall feature highly reflective components and films to increase light output. Below mentioned test reports shall be submitted by the manufacturer. I. Corrosion tests in artificial atmospheres (Salt Spray tests)
2-Optics	I. The light output ratio(LOR) shall not be less than 85% II. The luminaries shall offer a composite system efficacy of minimum 110 lumen/watt III. Ensure maximum spread of light by using any efficient technique, shall carry defined inner and outer profile for high efficiency LED to ensure maximum spacing between the road lighting poles and coverage of wider roads (according to center/ pole distance in meter and pole height) IV. The multilayer optics design will be preferred for adequate luminance and luminance uniformity in the unlikely event of an individual LED failure. V. The optical (lens/ glass) system shall feature long life with no discoloration, highest possible light transmission and white painted circuit board for high reflectivity for maximum light output. VI. Plastic/Acrylic should not pale with in warranty time. Below mentioned test reports shall be submitted by the

	manufacturer. I. LM-79 for the luminaire being offered.
3- Surge Protection	The lighting fixture shall have external surge protection to protect the electronic driver ; minimum surge protection shall be 10KV.
4-IP Protection/Impact resistance	The led compartment of luminaire shall have ingress protection class IP66 for long reliable performance and minimal maintenance requirements and impact resistance of IK08 or above. No chemical glue shall to be used as that may cause breakdown of water proof, dust proof and corrosion proof. Below mentioned test reports shall be submitted by the manufacturer. II. IEC 60529 or EN 60529(IP) and EN 50102(IK) Degree of protection provided by Enclosures (IP Code for Ingress protection and IK Code for Mechanical Strength) or equaling(with supporting documentary evidence) III. IEC 60068-2-68 ed 1.0 Environmental Testing Part 2; Tests –Test L: Dust And Sand or equaling(with supporting documentary evidence)
5-Maintenance	LED and drivers must be in separate compartments, with easy access to drivers for maintenance & services. Access to drivers must not compromise the IP 66 ratings. Easy to open with tool less or simple locking mechanism Gaskets are to be properly secured in special grooves made for the same and must not be fixed to the body by any adhesive material. The components like LED drivers, terminal blocks etc. must be easily detached by using plug and play connectors/terminals also to ensure ease of replacement at site and to be secured the body of fixture making special mounting arrangements so that the same or not dislodged from their designated position.
6-Mounting	Supporting mounting suitable as per application & design, Nuts and bolts should be rust proof, Gripers should be robust and rust proof

7-Future Compatibility	The fixture shall be fully compatible with future LED upgrades and/or drivers at site conveniently with minimum effort. All electronic components/ drivers shall be mounted on a separate tray (either tool less or simple tool). LED component shall have an easy access for opening the glass cover and shall be separate from the control gear compartment. The LED Light manufacturing company/Assembler should have local Technical backup support facility with necessary machines, tools and measuring/testing instruments. Must have basic testing facility, housed in local production unit, mandatory for production and batch testing or collaboration with local facility. (Engineer In-charge/ Management of procuring agency should visit the facility of manufacturer/ assembler/ supplier claiming for local backup support for future up gradation and resolving warrantees issues)
8. LED Driver/ Electronics Control Gear for LED Module	100 V to 270 V AC with 50 hz (+ or – 10 % tolerance) Power Factor more than 0.9 Driver Efficiency 85 % or more The LED driver may have energy saving, dimming options as per the project requirement (optional) so that the luminaire can be operated at various reduced wattages as per traffic conditions to have an energy efficient use. The LED driver shall confirm to following latest standards and codes. I. EN61347-1 LED control gear general and safety requirements II. EN61347-2-13: particular requirements for DC or AC supplied electronic control gear for LED modules III. EN62384: DC or AC supplied electronic control gear for LED modules performance requirements
9. LED	The LED chip shall be Samsung, Cree, Nichia, Osram, Lumiled or equivalent (duly typed tested as specified and in full

	conformance to the technical requirements/ specifications.) The LED shall I. Be designed for lumen maintenance of L70 or 70% at the end of useful life at ambient temperature of 35 °C II. Have a useful life of 40,000 burning hours. III. Have a minimum color rendering index of 70 +10/-10 and a color temperature range from 3000K-6500K as per the requirement. The LED shall confirm to following latest standards and codes detailed report. I. LM-80 for LED chips being used. II. LM82-12-Approved method of measuring LPW@50°C III. IEC 62471 (Photo biological safety test for the LED chips being used).
10. Thermal Management	Perfect contact with the body heat sink and LED chip Proper thermal dissipation mechanism for heat generated by LED lights. PCBs for LED should be metal; contact with body sink should be highly efficient thermal conductance material.
11. Photometric	Light distribution should be symmetric. Product must have photometric data file (IES, IES; EULUMDAT or TM-14) file for simulation on Dialux, Relux or any other lighting design renowned illumination simulation software.
12. Warranties	Luminaire and accessories warranty 5 years. Complete replacement of luminaire in case of fault.
13. Applicable standards and codes	Verifiable detail test reports and certificates with model number and pictures of product are required. In case of equaling, supported documents must be provided. The luminaire should confirm to the following standards & codes. The supplier shall submit detailed type test reports from certified international testing agency /laboratory with complete report that includes model number and picture. Cross verification should be possible. 1. IEC/EN 60598-1 2. IEC/EN 650598-2-3 (For Road Lighting)

	3. IEC/EN 650598-2-5 (For Flood Lighting) 4. IEC/EN 62471 (Photo biological safety test for the complete fixtures being offered as well as for the LED chips). 5. EN55015:2006 and 2007 Limits and methods of measurement of radio disturbance characteristics of electrical lighting. 6. EN 61547 1995/ +A1:2000 Equipment for the general lighting purpose EMC immunity requirements 7. EN61000-3-2:2006 Limitations of harmonic current emission 8. EN61000-3-3:2008 Limitation of voltage fluctuation and maker 9. EN62493 Assessment of lighting Equipment related to human exposure to electromagnetic field (Environmental Friendly)
14. International Independent Laboratories	For the specified Requirement of type test and type test Report by an independent authority/ independent laboratory (specific to their status/ approval for performance of specific tests) on the luminaire as defined in project. The following associated laboratories shall be considered as independent laboratories. I. Any Laboratory accredited by EA (European Co-operation for Accreditation) II. Any Laboratory accredited by ILAC(International Laboratory Accreditation Co-operation) III. Any Laboratory accredited by IAF(International Accreditation Forum) IV. Any Laboratory accredited by STL(Short Circuit Testing Liaison)
15. General Disruption	These specifications are generic for outdoor application only. PEECA will help the procuring agency for specific lighting application. PEECA will assist for Pre & Post Audit services to explore the maximum potential.

PUNJAB INDUSTRIAL ESTATES DEVELOPMENT AND MANAGEMENT COMPANY



**SUPPLY, INSTALLATION, TESTING AND COMMISSIONING OF LED
STREET LIGHTS ALONG WITH POLES AND ALLIED WORK ON
APPROACH ROAD AT BAHAWALPUR INDUSTRIAL ESTATE**

Technical Specifications

Table of Contents

SECTION – 1.....	3
LT POWER CABLES.....	3
1.1 MATERIAL.....	3
1.2 INSTALLATION	3
SECTION – 2.....	4
EXTERNAL LIGHTING.....	4
2.1 GENERAL.....	4
2.2 POLES.....	4
2.3 STREET LIGHT FIXTURES.....	4
2.5 STREET LIGHT CONTROL PANEL	5
COST OF INSPECTION BY EMPLOYER AND/OR ENGINEER ON MANUFACTURER'S PREMISES.....	7

SECTION – 1

LT POWER CABLES

1.1 MATERIAL

LT cable shall be XLPE insulated aluminium, armoured cables. The cable shall be suitable for operation in a 415/ 240 Volts, 50 Hz. three phase multiple neutral earthed distributed system. The cable shall be 4-core armoured cable suitable for direct burial, for installation in air or running in the ducts. The duct and soil conditions varying from dry to wet. The maximum Ambient Temperature shall be 50°C and the relative humidity may range up to 100%. The cable shall be suitable for conductor operating temperature as follows:

Continuous Operation	85°C
Short circuit (5 sec. Maximum duration).	160°C

The construction of the 4-core armoured cable shall be as briefly described below: -

The Low-Tension cables shall be manufactured to the requirements of B.S. 5467 and rated at 600/1000 volts.

The conductors specified for use in the cables shall be of at least 98% IASC conductivity to the requirement of BS 6360

The conductors shall be insulated with XLPE insulation. The minimum thickness of the insulation shall be in conformity with the specifications to which it is manufactured (BS 6746).

Various conductors forming the cables shall be laid together and voids shall be filled with non-hygroscopic materials so as to give a circular shape to the cable.

Steel wire armouring shall be applied on a tough PVC sheath extruded over the cable so as to cover the insulated conductors, fillers, jacket and armouring.

Cable sheath shall be consisted of black extruded PVC complying with BS 6746:1984

1.2 INSTALLATION

All the cables shall be laid in the trenches according to the drawings provided by the Consultant and to the approval of the Engineer. The Cable from trenches to LT conductor should be in UPVC pipe with suitable size steel clamps on PC poles as shown in drawing. In addition to the instructions for burial of cables in the ground, the following instructions will also be followed: -

- a) All cables shall terminate in suitable glands for securing the armour wires and incorporating a packing ring for exclusion of water and moisture. The cables will be terminated with suitable lugs and colour code shrouds in the transformer. On the other end O/H connectivity is made with PG Clamps as per cable/conductor size.
- b) For all type of equipment, close attention shall be paid to the cable glanding and sealing arrangement. Cable entries as provided by the manufacturer shall not be modified in any manner.
- c) All mechanical cable glands shall be correctly matched to the cable concerned and shall be tightened to frame pressure tight seal between gland and bedding of the PVC insulated cables.
- d) The cores of multi-core cables shall be coloured in conformity with the BS Specifications as Red, Black, Blue and either Yellow or Green in order to provide easy identification. Each cable core shall be sealed solid and then continue to the terminals of the equipment. The cores shall be insulated by sufficient layers of empire tape for the voltage.

Type Test:

All Cables should be valid type tested from any WAPDA approved Labs, or get tested under the witness of PIEDMC Engineer.

Approved Manufacturer of L.T Cables

- **Pakistan Cables**
- **Newage Cables**
- **Allied Cables**
- **Fast Cables**
- **CopperGAT Cables**
- **Or Approved Equivalent**

SECTION – 2 EXTERNAL LIGHTING

2.1 GENERAL

Road lighting shall be carried out with pole mounted LED lighting fixture shown on the drawings and indicated in the BOQ. Lighting cables shall be XLPE insulated cables as specified below and shall be laid as specified. All these road lights shall be energized through street light control panels, fed from Distribution Pad-mounted Transformers.

2.2 POLES

(a) Material

2.2.1 Street Light Poles

Steel octagonal Conical hot dipped galvanized poles complying with ASTM-A 501, having height of 12 meter, suitable for a safe wind load of 160 Km/ hour and dimensions as shown on the drawings. The thickness of the bottom section shall be 4.5 mm + 10% while the entire pole shall have a tolerance of ± 25 mm for overall length and +1% for outside diameters. Various stepped sections shall be welded with complete penetration and backing and shall be jointed off to give a smooth surface. Pole shall have an openable door at bottom section to house a terminal box and cable entry, having 1-6A Miniature Circuit Breaker, PVC line up connectors suitable for up to 25 mm sq., cables, gasket and other necessary materials/ accessories as required at site, as shown on the drawings. The pole shall have overhang arms to hold light fittings/ fixtures. Any damage to galvanization during transport shall be made good and the length to be buried shall be given a bitumen coating. Poles shall be installed in excavated holes with poured in-situ PCC 1:2:4 foundations. After installation the entire length above ground including hardware shall be given two coats of Aluminium paint.

Approved Manufacturer of Poles

- **M/s Jamal Pipe Industries**
- **M/s Spleen Manufacturing Pvt. Ltd**
- **M/s Muneer Industry**
- **Or Approved Equivalent**

2.3 STREET LIGHT FIXTURES

Street Light Fixture shall be as per latest PEECA Specifications. Light shall be tested from Govt Approved Lab as per PEECA specifications before approval from The Engineer. PEECA Specifications attached.

2.4 STREET LIGHT CABLES

4-Core 50 mm sq AL/XLPE/PVC/SWA/PVC Cable laid in trench will be used for connection of street light control panel from transformer and 4-Core 16 mm sq AL/XLPE/PVC/SWA/PVC laid in trench will be used for connection pole to pole. While PVC/PVC three core 2.5 mm sq copper conductor cable shall be used to connect the lighting fixture to the terminal box.

The terminal box of poles shall be connected to MCB inside Light Control Panels through cable of appropriate size as laid down in the BOQ. The Light Control Panels are fed from pad mounted transformer through cables of appropriate sizes as laid down in the BOQ.

The street light cables shall be of sizes: -

4-Core AL/XLPE/PVC/SWA/PVC Cables.		Pole to Pole 16 mm ²
		T/F to SLCP 50 mm ²

The Cable shall be as per WAPDA Specifications No. DD-S: 8:84 amended to date. The cable shall be suitable for underground laying, direct burial, overhead or installation in ducts. The maximum ambient temperature may be 50°C and the relative humidity may range up to 100%. The cable shall be suitable for operating conditions given for LT cables above.

For 3- core 2.5 mm² from terminal box to light fixture, the specifications will be BSS 6004.

2.4.1 Installation

The cable shall be laid in the already excavated trenches as per drawing provided by the Consultant. The instructions of the manufacturers shall be followed for laying the cables in addition to general instructions of laying the underground cables. This shall carry approval of the Consultant/ Engineer.

Approved Manufacturer of Street Light Cables

- Pakistan Cables
- Newage Cables
- Fast Cables
- Allied Cables
- CopperGAT Cables
- Or Approved Equivalent

2.5 STREET LIGHT CONTROL PANEL

2.5.1 Materials

The street light control panel shall comprise of the control device and A.C. contactor for correct and reliable opening and closing of the contacts. The control device shall be photoelectric. The equipment shall be installed within a weather proof, dust proof and moisture proof cabinet. It shall

have a small transparent window for photoelectric cell. The MCB shall control a group of lights and MCCB shall be rated to their total current. It shall be lockable.

The photoelectric cell and actuating relay shall have the features mentioned below:

Photo Electric Cell

The photoelectric cell shall have the following ratings:

Operating Voltage range	210 to 250-volt AC
Load Current Capacity	10 Amps.
Light Levels.	To turn ON. 50 Lux
	To turn OFF 200 Lux

Relay (Magnetic Contactor)

It shall be triple pole single throw and of electromagnetic type. Pole magnet shall be dimensionally stable. Performance shall be chatter free. Contacts shall be of long life at rated load. Some arrangements shall be provided with the armature to counter-act the effect of high inrush current.

The A.C. contactor for closing and opening of electrical street lighting circuits shall have the following features:

- (i) Maximum Ambient Temperature 50°C and relevant humidity up to 100%.
- (ii) The rated operational voltage of the contactor shall be 415 volts A.C.
- (iii) The rated control supply voltage for operating the contactor shall be 230 volts A.C. single phase.
- (iv) The contactor shall close satisfactorily with a control voltage between 85% and 110% of the rated voltage. The dropout voltage shall not be higher than 75% nor (with worn contacts) lower than 10% of the rated control supply voltage.
- (v) The rated thermal current which the contactor shall carry without exceeding the temperature limits specified in the relevant clause of the provided specifications shall be 50 Amps.
- (vi) The rated operational current of the contactor shall be 50 Amps.
- (vii) The rated frequency shall be 50 Hz.
- (viii) The contactor shall be suitable for uninterrupted duty, that is to remain closed without interruption for periods of more than 8 hours.
- (ix) The material and constructional features of the street lighting control devices shall be as per WAPDA Specification No. P-102:76 and that of A.C. contactor shall be WAPDA Specification No. P-125:79 amended to date.

2.5.2 Installations

The installation of the control panel shall be done on the already constructed concrete pad as per drawing provided by the Consultant and observing the specification mentioned above. The installation shall also carry approval of the Engineer.

2.5.3 Other Features

External lighting shall be controlled automatically with the facility of manual control as well, as specified and indicated in the drawings. Automatic Controlled Light Board (LCB) shall be installed comprising time switch, time relay, air breaker contactor etc

Terminal Box Control Gear

The control gear shall comprise:

Moulded Case Circuit Breaker: A Triple pole and neutral 500 Volts, 50 Hz. suitable for solenoid operation and flush mounting, with operating handle or knob on the front slide.

(a) MCCB TP&N Type

Miniature Circuit Breakers shall be provided on each outgoing circuit for short circuit protection. Dazed type fuse units shall be provided with the control circuit wiring on phase and neutral lines and shall be rated at 6-Amps.

(b) Time Switch:

Synchronous motor operated time switches shall be installed having 12/24 hours auxiliary sparing reserve operating on 220/250-volt, 50 Hz. with plug in type time switch and base incorporating one normally open and one normally closed contact of minimum 5-Amp's size. An adjustable hand-set or solar dial shall be provided in the timing switch for setting of switching time.

(c) Air Break Contactors:

Three phase 400 Volts solenoid voltage magnetic contactor shall be installed for the load to be switched ON and OFF. The contactor shall have auxiliary contacts as shown on wiring diagram and shall be continuous rating type. Where specified, the LCB shall be mounted on the pole in water proof 16 SWG painted metal sheet box. All accessories such as connectors, wiring inside LCB all nuts, washers, etc.: shall be provided to give a complete functioning system of street lighting to the satisfaction of the Engineer.

The control panel mechanical and electrical design shall be as per drawings provided herein and approved of the Consultant/ Engineer.

Type Test:

The equipment / Material should be valid type tested from approved Labs, or get tested under the witness of PIEDMC Engineer.

Approved Manufacturer of Street Light Control Panel. All Electrical Components (MCCB, Contactors, Photo Cell, Time Switch etc.) shall be make EU/UK/USA/Japan

- **PEL**
- **Electrech**
- **MESI Switchgear**
- **Tariq Electric**
- **Bilal Switchgear**
- **Or Approved Equivalent**

3.0 COST OF INSPECTION BY EMPLOYER AND/OR ENGINEER ON MANUFACTURER'S PREMISES

"Factory acceptance tests shall be witnessed by the personnel of the Employer and the Engineer.

The numbers of the visits are to be indicated by the Manufacturer, which will be finalized at the time of Award of Contract and will not be less than 8 in numbers (each visit shall comprise of three personnel). Charges towards inspection trips by the Employer/Engineer or by his authorised inspector(s), for daily allowance, accommodation and airfare shall be borne by the, Manufacturer. These shall include the cost of business class air travel from Pakistan to place of inspection/testing and back, hotel accommodation/boarding/lodging (as per actual), inland transportation and daily allowance @ US Dollars 200 per day per person for inspection/testing to be conducted outside the Pakistan and Rs 6000 per day per person for inspection/testing to be conducted inside the Pakistan for each visit of every person to witness these tests. The Employer shall direct what sums by way of daily allowance are to be paid by the Manufacturer to such persons.

The time of visits by the personnel of the Engineer and the Employer shall be finalised after submission of the Manufacturer's workshop test programme.

Inspection visits shall, as far as possible, be arranged to coincide with the performance of key activities indicated in the workshop test program.