



Dated 08-09-2024



**KARACHI PORT TRUST**  
Gateway to Pakistan  
A Great Heritage - A Vibrant Future



**Solarization of KPT Head Office  
Supply Installation & Commissioning  
of 650 KW On-Grid Solar System at  
KPT Head Office.**

| Tender No. | Tender Fee | Date of Pre-Bid Meeting | Date & Time of Submission of Bid   |
|------------|------------|-------------------------|--|
| E-03/2024  | Rs 5,000/- | 30-09-2024              | 21-10-2024<br>(Bid submission upto 1100 hrs.<br>Bid opening at 1130 hrs) |

1. All the interested firm(s) who possess well experience in relevant field may obtain the tender documents available on downloaded version at websites of KPT, PPRA & Ministry of Maritime Affairs as well as on the links of Ministry of Maritime Affairs Twitter & Facebook Accounts. However, tender document fees amounting to Rs 5,000/- via Pay Order in the name of Karachi Port Trust should be submitted at the time of tender submission.

OR

All the interested firms who possess well experience in relevant field may also obtain a set of Tender documents from CM&EE Tender Committee room No 32 Ground Floor at KPT Head Office, Eduljee Dinshaw Road Karachi during working hours, upon submission of following:

- Request & Authorization letters from Proprietor / Director/Partner of firm on firm's letter head for issuance of bid document addressed to Dy. Chief Elect. Engineer (S&C) - KPT Authorized person of firm must show original CNIC and attached a copy of the same with authorization letter.
- Tender Documents fee @ Rs 5,000/- via cash, pay order or bank draft drawn in the name of Karachi Port Trust (KPT) to be deposited by the applicant in HBL KPT Head Office Branch. The Challan will be issued by M&EE-II Deptl.
- Person who is to be authorized to collect the bid documents must show original CNIC and attached a copy of the same with authorization letter issued by Proprietor /Director/Partner of bidding company.
- Copy of Valid PEC certificate in Technical category EE-04, EE-11 with Financial category of C-4.
- Copy of Certificates of NTN, GST, SRB & fresh copy of Active Tax payer List (ATL)
- Affidavit is to be submitted on Rs 100/- stamp paper mentioning therein that the firm has not been black listed by any Government / Semi Government / Autonomous / Semi Autonomous body

2. **BIDDING DOCUMENTS:** All the bidding documents (either downloaded or purchase physically) should be properly filled, signed, stamped and submitted along with the Tender and also copies of documents as mentioned above at Para1 (d to f) are also to be submitted, without which the tender will not be accepted.

3. **BIDDING PROCESS:** As per Clause 36 (b) of PPRA Rules-2004 (amended) for "Single Stage - Two envelope procedure". Tender documents duly filled, stamped & signed be submitted in Two Separately Sealed Envelops, one marked as "TECHNICAL PROPOSAL" and the other as "FINANCIAL PROPOSAL". Both envelopes should be placed in one sealed envelop, indicating the name of the project, complete name & address of bidder and addressed to Chief Mech & Elect Engineer -II - KPT.

4. Pre bid meeting will be held on 30-09-2024 at 11 00 Hrs in the GM(E) office KPT Head Office.

5. **BID SECURITY / EARNEST MONEY:** Pay Order amounting to Rs 2,400,000/- (Refundable) and Tender fee Rs 5,000/- (Non Refundable) in favour of Karachi Port Trust (KPT) should be submitted (in original) with the Technical Proposal, without that the Bid shall not be accepted.

6. **BID VALIDITY:** Bid should be valid for 90 days from the date of opening of Technical Bid.

7. **DATE OF BID OPENING:** The bid should reach in the GM&EE's Tender Committee Room # 032 at Ground Floor at KPT Head Office, Eduljee Dinshaw Road, Karachi not later than 1100 hours on 21-10-2024. Technical Proposals shall be opened on the same day i.e. 21-10-2024 at 1130 hours in the presence of bidder's authorized representative, who may so wish to witness, at the above stated GM&EE's Tender Committee Room # 032 in the first instance for Technical scrutiny and Financial Proposals of only the Technically qualified firms shall be opened later on.

8. KPT reserves the right to accept any or to reject any or all the offers at any time and annul the process as per PPR-2004.

Chief Mechanical & Electrical Engineer-II  
Mech & Elect Engg-II Deptt, M I Yard, West Wharf  
Telephone No. 021-99214955, Ext. 2576  
Fax No. 021-99214450  
<http://www.kpt.gov.pk> & <http://www.ppra.gov.pk>  
e-mail: [cmee@kpt.gov.pk](mailto:cmee@kpt.gov.pk)

PID K 668/24 "SAY NO TO CORRUPTION"

KARACHI PORT TRUST

**MECHANICAL & ELECTRICAL ENGINEERING DEPARTMENT**

**TENDER DOCUMENTS FOR THE:**

**Name of work: SOLARIZATION OF KPT HEAD OFFICE: SUPPLY INSTALLATION & COMMISSIONING OF 650 KW ON-GRID SOLAR SYSTEM AT KPT HEAD OFFICE.**

- Contents:**
- i. Tender Notice
  - ii. Instruction for Tender
  - iii. The Tender and Performa 'A' & 'B'
  - iv. The General Conditions of Contract with the Form of the Agreement
  - v. BOQ / Scope of work

---

**Issued to:**

**Name and Addresses of Tenderer**

M/s. ....

.....

.....

Date .....

**NB. (All tender documents read carefully, filled properly duly signed & stamped on each paper to be submitted accordingly. Incomplete tender bids will not be considered).**

The quotation (Tender documents) should be submitted in sealed envelope addressed to **CM&EE Tender Committee room No 32 Ground Floor at KPT Head Office, Edujee Dinshaw Road Karachi** with complete terms and conditions. All offers must remain valid for acceptance for **90 days** from the date of opening of tender. Tender will be opened in accordance with **Clause-36 (b) of PPRA Rules-2004** i.e. Two stage Bidding procedure ).

**KARACHI PORT TRUST**  
**MECH. & ELECT. ENGINEERING DEPARTMENT**

**“INSTRUCTION FOR TENDER”**

- 1. The Tenderer should examine carefully the General Conditions of Contract, the Specification and the drawing supplied herewith. He should visit and inspect the Site on his own responsibility and at his own expense to obtain all the information which may be necessary for the purpose of making a Tender.**
- 2. The Tenderer set down the rates and prices against the items in the Bill of Quantities are to be the full inclusive value of the finished work described there under and shall cover profit and all obligations of every kind which under the Contract are to be borne by the Contractor.**
- 3. The Quantities set out in the Bill of Quantities are estimated only and their accuracy or inaccuracy shall in no way effect the validity of the Tender or of any Contract based thereon. The total amount of the various item set out in the Bill of Quantities at the rates or prices inserted by the Tenderer shall be stated in each case, but this figure is required solely for the purpose of facilitating the comparison of the various Tenders received and shall not be deemed to be the actual sum which is to be paid to the Contractor for the execution of the work. The actual sum to be paid to the Contractor whose Tender is accepted will be determine by measuring the work, actually done in accordance with the Contract and valuing it the rates or prices inserted by the Contractor in the Bill of Quantities.**
- 4. The Contractor whose Tender accepted will be required to enter into an Agreement Form of which (subject to any necessary adaptations) will be as set out in the Form appended to the General conditions of the Contract.**
- 5. The Contractor whose Tender accepted will also be required to furnish as Security deposit in cash, or in approved public Rupee security or in approve Bankers guaranteed Bond valid till the successful completion of the Contract, for the sum equivalent to Five percent (5%) of the Contractor price for the due performance of the Contract, (see Clause-9 of the General Conditions of Contract).**
- 6. Tenders must be made on the separate Form supplied herewith must be accompanied by two copies of the Bill of quantities fully price, monies out and totaled in ink and sign by Tenderer. Tender must be reached to the Chief Mechanical & Electrical Engineer Karachi Port Trust, not later than the time stated in the Tender Notice.**
- 7. No unauthorized alteration may be made in the Form of Tender or the accompanying Documents and if alteration is made or if the Bill of Quantities is not properly filled in, or if these instructions are not fully complied with the Tender may be rejected.**
- 8. Tenderer must be produced evidence with their Tender, that they had experience and are fully capable carrying out the work of this class and magnitude and must give full details of the plant they propose to use on the works in Proforma “A”.**
- 9. The Board of Trustees of the Karachi Port Trust reserves to themselves the right to reject any Tender without any reason or to accept any Tender in whole or in part and do not hind themselves to accept the lowest or any Tender.**
- 10. Should there be any doubt or obscurity as to the meaning of any Tender Documents or if any further information is required, the Tenderer must address his enquiry in writing (in duplicate) to the Chief Mechanical & Electrical Engineer Karachi Port Trust, not later than two weeks before the date fixed for the delivery of Tender.**
- 11. Unless otherwise agreed all payments to be made to the Contract, under the Contract will be made locally in Pakistan Rupee Currency.**



**12. Each Tender must be accompanied** by the requisite amount of Earnest money deposit either in cash or a Bank certified Cheque to the **Chief Accounts Officer Karachi Port Trust. Bankers Guaranteed Bond** valid for an indefinite period or a pay order drawn in favor of the Chief Accounts Officer Karachi Port Trust. The earnest money will be refunded to the unsuccessful Tenderer to after the Tender are decided. It will be optional with the successful Tenderers to re-appropriate the Earnest Money or part of the Earnest Money for the payment or part payment towards the Security deposit. **(See Clause-9 of the General Conditions of Contract).**

**13. The Tender must be sent in a sealed cover envelope** required as described in the Tender Notice and must be reached to the Chief Mechanical & Electrical Engineer Karachi Port Trust, before the due time and date fixed for opening of the Tender.

**14. The Contractors have to quote items rate** as per schedule of quantities attached with Tender. Any insertion of percentage whether below or above on the rates after filling of the rates shall make the Tender invalid and the Tender will not be considered.

**CHIEF MECHANICAL & ELECTRICAL ENGINEER  
KARACHI PORT TRUST**

**KARACHI PORT TRUST**  
**MECHANICAL & ELECTRICAL DEPARTMENT**

**“THE TENDER”**

Tender are required to fill in the blanks space in this tender Form and the attached Performa “A”

To,  
**The Chief Mechanical & Electrical Engineer**  
**KARACHI PORT TRUST**  
**KARACHI**  
**PAKISTAN**

**Description** **of** **work**  
.....  
.....  
.....

**1.** Having examined the drawing, General Conditions of Contract, and special condition of Contract (if any), specification and Bill of Quantities for the above named works. We the undersigned offer to carry on the said works in conformity with the said Drawings General Conditions of the Contract , Special conditions of Contract (if any ) specification and Bill of quantities for the sum of Rupees xxx (Rs.xxxxxxxxxxxxx) or such other sums as may be ascertained with the said conditions.

**2.** We undertakes if our tender is occupied in whole or in part to commence the work with in ..... days of receipt of the Engineer’s order to commence and to complete and deliver the whole of the work comprised in the Contract with in ..... Days calculated form the last days of the aforesaid period in which the works are to be commenced.

**3.** If our tender is accepted in whole or in part we will furnish a Security deposit for due performance of the Contract in accordance with **Clause-9 of the General Conditions of Contract.**

**4.** We agree to abide by the tender for a period of ..... Days form the date fixed for receiving same and it shall remain binding upon us may be accepted at any time before expiration of that period.

**5.** Unless and until a formal Agreement is prepared and executed, this tender, together with your written acceptance thereof, shelf constitutes a binding Contract between us.

**6.** We understand that you are not bound to accept the lowest or any tender; you may receive and accept any tender in part or in whole.

**7.** We further agree to pay all cost toward the execution of the Contract Agreement including the cost of stamps.

8. We agree that should we withdraw the offer within the aforesaid period or fail to execute the formal Contract Agreement and / or make the required Security deposit , the Board of Trustees of Karachi Port Trust shall be at liberty at their absolute discretion to appropriate our earnest money deposit of Rs ..... Either as agreed liquidated damages without any proof whatsoever of the extend of such damages or an account, reserving to themselves the right to recover from us any further loss or expenses to which they may have been put directly or indirectly by reason of any failure on our part as aforesaid.

9. \* We have deposited / sent by Cheque No ..... / enclose a Pay Order / enclose a Bank Certificate Cheque No ..... / enclose a Bank guaranteed Bond for Rs .....  
As Earnest money in favour of **Chief Accounts Officer, Karachi Port Trust** and hold his receipt No ..... Dated.....

10. We agree to maintain the work in good order for a period of ..... Months, from the date of its completion.

**Dated**.....  
**TENDERER**.....

**Place**..... **(Full signature)**

**Signed by Mr.** .....

**For and on**

**Behalf of**

**Messrs** \_\_\_\_\_

—

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_  
\*Delete whichever is Not Applicable

**KARACHI PORT TRUST**  
**MECH. & ELECT. ENGINEERING DEPARTMENT**

**PROFORMA "A"**  
**(To be submitted with the tender)**

| <b>Particulars</b>   | <b>Details</b> |
|--|----------------|
| 1. Experience as a Contractor.   |                |
| 2. Work carried out in the past with detailed cost, particulars and the year in which they were under taken etc. |                |
| 3. Bankers reference regarding Financial status.   |                |
| 4. Whether registered with any other Department or Organization? If so, give details.                            |                |



| Particulars  | Details   |
|--|---|
| <p>5. Plant and equipment in possession(Give Detail with cost)</p> <p>6. Technical personnel employed; give Names and other details.</p> <p>7. If your firm registered?</p> <p>8. State Capital of your firm.</p> <p>9. Details of Income tax, Sales tax, registration etc.</p> <p>10. Number of years of actual work carried out in Pakistan.</p> <p>11. Attach attested copy of certificate of past work of the same nature carried out as that in tender.</p> <p>12. Electrical Contractor license No. and date.</p> <p>Date: _____</p> <p>Place: _____</p> | <p style="text-align: center;">_____<br/>SIGNATURE OF TENDERER</p> <p>Signed by<br/>Mr. _____</p> <p>For and on behalf of<br/>_____</p> |

**KARACHI PORT TRUST**  
**MECH & ELECT DEPARTMENT**

**PROFORMA – “B”**

| <b><u>S.NO</u></b> | <b><u>P A R T I C U L A R S</u></b>  | <b><u>D E T A I L S</u></b> |
|--------------------|--|-----------------------------|
| <b>1.</b>          | <b><u>In case of “SOLE PROPRIETOR SHIP” concern.</u></b><br>a. Full Name of the Proprietor.<br>b. Business address and Phone No. if any.<br>c. Residential address and Phone No. if any.<br>d. Certified copy of certificate of registration with Registrar of Firms to be attached.   |                             |
| <b>2.</b>          | <b><u>In case of “PARTNERSHIP” Concern:</u></b><br>a. Name of the Partners with their business/ residential address and Phone No. if any.<br>b. Partnership Deed & Certificate of Registration (Certified copies to be attached)   |                             |
| <b>3.</b>          | <b><u>In case of “PRIVATE LIMITED COMPANY”.</u></b><br>a. Name of all Directors with their Business/Residential address and Phone No., if any.<br>b. Memorandum & Articles of Association of the Company and Certificate of in corporation. (Certified copies to be attached.)   |                             |
| <b>4.</b>          | <b><u>In case of “PUBLIC LTD., COMPANY”.</u></b><br>Memorandum & Articles of Association and (Certified copies to be attached).  |                             |
| <b>5.</b>          | <b><u>In case firm is to be represented by “ATTORNEY”.</u></b><br>a. Legal Status and full particulars of the Attorney.<br>b. Period of validity of Power of Attorney (Certified copies of Special or General Power of Attorney duly executed on Stamp Paper of proper value and authenticated/attested by a competent Authority to be attached. |                             |
| <b>6.</b>          | <b><u>G.I.R. No: Income Tax and amount of Income paid during the last assessment year(state year of Assessment)</u></b>  |                             |
| <b>7.</b>          | A Certificate from the Bankers, sealed and addressed to the KPT showing the financial position of the Institution tendering, should be enclosed.   |                             |

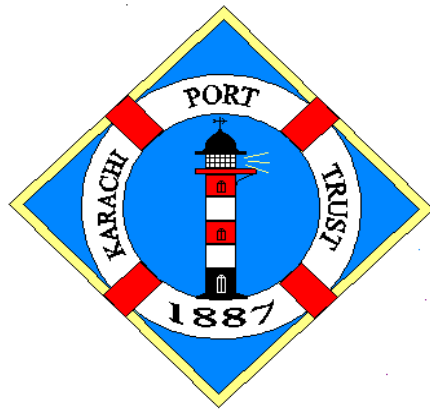
**SIGNATURE AND SEAL OF THE TENDERER**

**SIGNED BY MR. \_\_\_\_\_**

**FOR & ON BEHALF OF \_\_\_\_\_**

# **KARACHI PORT TRUST**

**(MECH. & ELECT. ENGINEERING DEPARTMENT)**



# **GENERAL CONDITIONS OF CONTRACT**

**The General Conditions of Contract have been approved by the Board of Trustees of Karachi Port Trust Under their Resolution No.21, dated 9<sup>th</sup> April, 1958 for adoptions of works.**

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## **General Conditions of Contract**

### **DEFINITIONS AND INTERPRETATION**

1.(1) In the Contract (as hereinafter defined) the following words and expression shall have the meanings hereby assigned to them except where the context otherwise requires:-

- (a) **“Board”** means the Board of Trustees of the Port of Karachi, Pakistan, and includes the Board’s representatives of successors.
- (b) **“Contractors”** means the person or person firms or company whose Tender (as hereinafter defined) has been accepted by the Board and includes the Contractor’s personal representative successors and permitted assigns.
- (c) **“Engineer”** means the Chief Mechanical and Electrical Engineer of the Karachi Port Trust or other Engineer appointed from time to time by the Board.
- (d) **“Representative of the Engineer”** means any Engineer Assistant Engineer and any other duly authorized Agents of Agents appointed from time to time by the Board of the Engineer to perform the duties set forth in **Clause-2** hereof.
- (e) **“Works”** means the works to be executed in accordance with the Contract.
- (f) **“Contracts”** means the conditions of Contract, Specification, Drawings, priced Bill of Quantities, Schedule of Rates and prices (if any), Tender and the Contract Agreement.
- (g) **“Contract Price”** means the sum named in the Tender subject to such additions there to or deductions there from as may be made under the provisions hereinafter contained.
- (h) **“Constructional Plant”** means all appliances things of whatsoever nature required in or about the execution completion or maintenance of the works or Temporary works (as hereinafter defined) but does not include materials or other things, intended to form or forming part of the permanent work.
- (i) **“Temporary works”** means all temporary works if every kind required in or about the execution completion or maintenance of the works.
- (j) **“Drawing”** means the drawing referred to in the specification and any modifications of such drawings approved in writing by the Engineer and such other drawing as may from time to time be furnished or approved in writing by the Engineer.
- (k) **“Site”** the lands and other places on, under in or through which the works are to be executed or carried out and any other lands or places provided by the Board for the purpose of the Contract.
- (l) **“Approved”** means approved in writing including subsequent written confirmation of previous verbal approval and “approval” means approved in writing including as aforesaid.
- (m) **“Tender”** means the offer tendered by the Contractor for the works governed by the Contract.

(2) Words importing the singular only also include the Plural and vice versa where the contents requires.

(3) The marginal headings or note in these General Condition shall not be deemed to be part thereof or be taken into consideration in the interoperation or construction thereof or of the Contract.

**Singular and  
Plural**

**Marginal Headings  
or Notes**



## REPRESENTATIVES OF THE ENGINEER

### Duties and Power of 2. Representative of the Engineer.

2. The duties of the Representative of the Engineer are to watch and supervise the works and to test and examine any material to be used or workmanship employed in connection with the works. He shall have no authority to relieve the Contractor of any of his duties or obligations under the Contract nor except as expressly provided hereunder or else where in the Contract, to order any work involving delay or any extra payment by the Board nor to make any variation of or in the Works.

The Engineer may from time to time in writing delegate to the Representative of the Engineer any of the powers and authorities vested in the Engineer and shall furnish to the Contractor, a copy of all such written delegation of powers and authorities. Any written instructions or approval given by the Representative of the Engineer to the Contractor within the terms of such delegation ( but not otherwise) shall bind the Contractor and the Board though it had been given by the Engineer, provided always as follows :-

- (a) Failure of the Representative of the Engineer to disapprove any work of material shall not prejudice the power of the Engineer there after to disapprove such work or materials and to order the pulling down removal or breaking up thereof.
- (b) If the Contractor shall be dissatisfied by reason of any decision of the Representative of the Engineer he shall be entitled to refer the matter to the Engineer who shall there upon confirm reverse or vary such decision.

### ASSIGNMENT AND SUB- LETTING

### Assignment and sub- letting

3. The Contractor shall not assign or Sub-let the Contract or any part thereof or any benefit or interest or interest therein or there under without the written consent of the Board.

### EXTENT OF CONTRACT

### N Extent Of Contracts

4. The Contract comprises the construction, completion and maintenance of the works and except in so far as the Contract otherwise provides provision of all labour materials. Constructional Plant. Temporary works as every thing whether of temporary or permanent nature required in and for such construction completion and maintenance so far as the necessity for providing the same is specified in or reasonably to be inferred from the Contract.

### CONTRACT DOCUMENTS

### Documents manually Explanatory Drawings

5. The several documents forming the Contract are to be taken as mutually explanatory of one another and in case of ambiguities or discrepancies the same shall be explained and adjusted by the Engineer whose decision in this respect shall be final.

6. **Three (3) copies** of the approved drawings shall be furnished to the Contractor free of cost. The Contractor shall provide and make at his own expense any further copies required by him. At the completion of the Contract the Contractor shall return to the Engineer all drawings provided under the Contract.

### One Copy of Drawings to be kept on Site

One copy of drawings furnished to the Contractor as aforesaid shall be kept by the Contractor on the Site and the same shall at all reasonable time be available for inspection and use by the Engineer and the representative of the Engineer.

### Further Drawings and Instructions

7. The Engineer shall have full power and authority to supply to the Contractor from time to time during the progress of the works such further drawings and instructions as shall be necessary for the purpose of the proper and adequate execution and maintenance of the works and the Contractor shall carry out and bound by the same.

### GENERAL OBLIGATIONS

### Contract Agreement

8. The Contractor shall within **Fourteen (14) days** after written notice of acceptance of the

Tender has been posted to the Contractor enter into and execute a Contract agreement, (to be prepared at the cost of the Contractor) in the form annexed, with such modifications as may be necessary.

9. Unless otherwise agreed between the Board and the Contractor the Contractor shall within **Fourteen(14) days** after written notice of acceptance of the Tender has been posted to the Contractor and before the Contract agreement is entered into and executed, furnish to the Board a security for the due fulfillment of the Contract in cash with the **Chief Accounts Officer Karachi Port Trust** or the equivalent in approved Public Rupee Securities or Approved Banker's Guaranteed Bond valid till the successful completion of Contract endorsed in the favor of the chief Accounts officer Karachi Port Trust amounting to a sum equal to **Five percent 5%** of the Contract price. If the Security deposit as aforesaid is made in cash it shall be optional with the Contractor to make the full deposit before entering into and executing the agreement or to deposit **Fifty percent 50%** of the amount due at the time and the balance to be made up by deduction of **Five percent 5 %** of the amount payable to the Contractor in each on – account bill or certificate.

#### **Security Deposit**

In the event of the Contractor failing to execute a formal Contract or to make a Security Deposit therefore in the manner aforesaid and in the period specified, the Board is entitled appropriate any earnest money or initial deposit made by the Contractor with his Tender without prejudice to their right to claim any further loss or damage which may result to them by reason of the aforesaid defaults of the Contractor as if a Contract is actually executed for purpose of such claim.

#### **Contractor's Failure to Furnish Security Deposit**

10. The Contractor shall inspect and examine the Site and its surroundings and shall satisfy himself before submitting the Tender as to the nature of ground and sub - soil, the from and nature of the Site the quantities and nature of the work and materials necessary for the completion of the works and the means of access to the Site of the accommodation he may requires and in general shall himself obtain all necessary information as to risk contingencies and other circumstances which may influence or affect his Tender.

#### **Inspection of Site**

11. The Contractor shall be deemed to have satisfied himself before tendering as to correctness and sufficiency of his Tender for the Works and of the rates and prices staged in the priced Bill of quantities and the Schedule of rates ( if any ) which rates and prices shall except in so far otherwise provided in the Contract cover all his obligations under the Contract and all matters and things necessary for the proper completion and maintenance of the Works.

#### **Sufficiency of Tender**

12. The Contractor shall execute, complete and maintain the works in strict accordance with the Contract to the satisfaction of the Engineer and shall comply with the adhere strictly to the Engineer's Instruction and directions on any matter (whether mentioned in the Contract or not ) touching or connecting the work. The Contractor shall take instruction and direction only from the Engineer or (subject to the Limitations referred to in **Clause 2** hereof) from the Representative of the Engineer.

#### **Work to be to Satisfaction of Engineer.**

13. As soon as practicable after the acceptance of his Tender the Contractor shall if required submit to the Engineer for his approval a Programme showing the order of procedure and method in which he proposes to carry out the Works and shall whenever required by the Engineer or Representative of the Engineer furnish for his information particulars in writing of the Contractor's arrangements for the carrying out of the Works and of the Constructional Plant and Temporary Works which the Contractor intends to supply use or construct as the case the case may be. The submission to and approval by the Engineer or the Representative of the Engineer of such Programme or the furnishing of such particulars shall not relieve the Contractor of any of his duties or responsibilities under the Contract.

#### **Programme to be furnished**

14. The Contractor shall give or provide all necessary Superintendence during the execution of the Works and as long thereafter as the Engineer may consider necessary for the proper fulfilling of the Contractor obligations under the Contract the Contractor or a competent and authorized agent or representative approved of in writing by the Engineer (which approval may at any time be withdrawn) is to be constantly on the Works and shall give his whole time to the Superintendence of the same. If such approval shall be withdrawn by the Engineer, the Contractor shall as soon as is practicable (having regard to the requirements of replacing him as hereafter mentioned) after receiving written notice of

#### **Contractor's Superintendence**



such withdrawal removes the agent from the Site and shall not thereafter employ him again on the Site in any capacity and shall replace him by another agent approved by the Engineer. Such authorized agent representative shall receive on behalf of the Contractor and directions instructions from the Engineer or (subject to the Limitations of **Clause 2** hereof) Representative of the Engineer.

**Contractor's  
Employees**

15. (1) The Contractor shall provide and employ on the Site in connection with the execution and maintenance of the works :-

(a) Only such technical assistants are as skilled and experienced in their respective callings and such sub-agents foremen and leading hands as are competent to give proper supervision to the work they are required to supervise.

(b) Such skilled semi- skilled and unskilled labour as is necessary for the proper and timely execution and maintenance of the Works.

(2) The Engineer shall be at liberty to object to and require the Contractor to remove forthwith from the work any person employed by the Contractor in or about the execution or maintenance of the Work who in the option of the Engineer misconducts himself or is incompetent or negligent in the proper performance of his duties or whose employment is otherwise considered by the Engineer to be undesirable and such person shall not be again employed upon the works without the written permission of the Engineer. Any person so removed from the Works shall be replaced without delay by a competent substitute approved by the Engineer.

(3) The Contractor shall if required by the Engineer deliver to the Engineer or the Representative of the Engineer returns in such form and at such intervals as the Engineer may prescribe showing in detail the supervisory staff and the number of the several classes of labour from time to time employed by the Contractor on the Site.

**Setting Out**

16. The Contractor shall be responsible for the true and proper setting out of the work and for the correctness of the position levels dimensions and alignment of all part of the Works and for the provision of all necessary instruments appliance and labour in connection therewith. If at any time during the progress of the Works any error shall appear or arise in the position levels dimensions or alignments of any part of the works, the Contractor on being required to do so by the Engineer or the Representative of the Engineer shall at his own expense rectify such error to the satisfaction of the Engineer or the Representative of the Engineer. The checking of any setting out of any line or level by the Engineer or the Representative of the Engineer shall not in any way relieve the Contractor of his responsibility for the correctness thereof and the Contractor shall carefully protect and preserve all bench-marks, Site- rails pegs and other things used in setting out the Works.

**Watching and  
Lighting**

17. The Contractor shall in connection with the Works provide and maintain at his own cost all lights, guards fencing and watching when and where necessary or required by the Engineer or the Representative of the Engineer or by and duly constituted authority for the protection of the Works or for the safety and convenience of the public or others.

**Care of Works**

18. (a) From the commencement to the completion of the Works the Contractor shall take full responsibility for the care thereof and of all Temporary works and in case any damage loss or injury shall happen to the work or to any part thereof or to any Temporary Works from any cause whatsoever ( save and except the excepted risks as defined in **sub-Clause (2)** of this **Clause**) shall at his own cost repair and make good the same so that at completion the works shall be in good order and condition and in conformity in every respect with the requirements of the Contract and the Engineer's instructions. The Contractor shall also be liable for any damage to the Works occasioned by him in the course of any operations carried out by him for the purpose of complying with his obligations under **Clause 4** hereof.

**Expected Risks**

(b) The "**expected risks**" are war, hostilities(whether war be declared or not ) Invasion, act of foreign enemies , rebellion, revolution, Insurrection or military usurped power, civil war or (otherwise than among the Contractor 's own Employees) riot, commotion or disorders or the use or occupation by the Board of any portion of the Works

or disorders or the use or occupation by the Board of any portion of the Works in respect of which a Certificate of Completion has been issued or any such operation of the forces of nature as reasonable foresight and ability on the part of the Contractor could not foresee or reasonably provide against (all of which are herein collectively referred to as “the expected risks.”)

19. The Contractor shall (expect if and so far as the Specification Provides otherwise) indemnify and keep indemnified the Board against all losses and claims for injuries or damage to any persons or any property whatsoever (other than surface or other damage to land being or crops being on the Site suffered by tenants or occupiers) which may arise out of or in consequences of the construction and maintenance of the works and against all claims demands proceeding damage, costs charges and expenses whatsoever in respect of or in relation thereto.

**Damage to Persons and Property**

20. The Board shall not be liable for or in respect of any damages or compensation payable at law in respect or in consequence of any accident or injury to any Workman or other person in the employment of the Contractor or any sub-contractor and the Contractor shall indemnify and keep indemnified the Board against all such damages compensation and against claims demands proceeding costs charges and expenses whatsoever in respect thereof or in relation thereto.

**Accident or Injury to workman**

21. Contractor shall give all notices and pay all fees required to be given or paid by any National or state statute Ordinance or other Law or any Regulation or By-law of any local or other duly constituted authority in relation to the execution of the Works or of any Temporary Works and by the rules and regulations of all public bodies and companies whose property or right are affected or may be affected in any way by the Works or any Temporary Works.

**Giving Of Notices and Payment Of Fees**

The Contractor shall confirm in all respects with the provisions of any such statute Ordinance or Law as aforesaid and the regulation or By-Law of any Local or other duly constituted authority which may be applicable to the Works or to any Temporary Works and with such rules and regulations of public bodies and companies as aforesaid and shall keep the Board indemnified against all penalties and liabilities of every kind for breach of any such statute Ordinance or Law regulation or By-law.

**Compliance with statute Regulations etc.**

22. All fossils coins articles of value or antiquity and structures and other remains or things of geological or archaeological interest discovered on the Site of the Works shall as between the Board and the Contractor be deemed to be the absolute property of Board and the Contractor shall take reasonable precautions to prevent his workmen or any other persons from removing or damaging any such article or thing and shall immediately upon discovery thereof and before removal acquaint the Representative of the Engineer of such discovery and carry out at the expense of the Board Representative of the Engineer’s orders as to the disposal of the same.

**Fossils, etc.**

23. The Contractor shall save harmless and indemnify the Board from and against all claim and proceedings for or on account of infringement of any patent rights design trade-mark or name or other protected rights in respect of any constructional Plant machine work or material used for or in connection with the Works or Temporary Works or any of them and from and against all claims demands proceedings damages costs charges and expense whatsoever in respect thereof or in relation there to except where otherwise specified the Contractor shall pay all tonnage and other royalties and other payments or compensation (if any ) for getting stone, sand , gravel clay or other materials required for the Works or Temporary Works or any if them.

**Patent Rights and Royalties**

24. The Contractor shall in accordance with the requirements of the Engineer afford all reasonable opportunities for carrying out their work to any other Contractor employed by the Board and their workmen and to the workmen of the Board and of any other duly constituted authorities who may be employed in the execution on or near the Site of any work not included in the Contract of any Contractor which the Board may enter into in connection with or ancillary to the works.

**Opportunities for other Contractor’s**

25. Except where otherwise specified the Contractor shall at his own expense supply and provide all the Constructional plant. Temporary Works Materials both for temporary

**Supply of Plant Materials and Labour**

and for permanent works labour (Including the supervision thereof) transport to or from the Site and in and about the work and other things of every kind required for the construction completion and maintenance of the works.

**Clearance of Site on Completion**

26. On the completion of the work the Contractor shall clear away and remove from the Site all constructional plant surplus material rubbish and Temporary works of every kind and leave the whole of the Site and works clean and in a workman like condition to the satisfaction of the Engineer.

**LABOUR**

**Hours of Employment and payment of Wages  
Return of Labour Etc.**

27. The Hours of Employment Regulation and payment of Wages Act so far these are applicable to the Contractor's labour shall be adhered to by the Contractor.

28. The Contractor shall if required by the Engineer deliver to the Representative of the Engineer or at his office a return in detail in such form and at such Intervals as the Engineer may prescribe showing the number of the several classes of labor from time to time employed by the Contractor on the Site and such information respecting Constructional plant as the Representative of the Engineer may require.

**WORK MATERIAL AND PLANT**

**Quality of Material and workmanship and Tests**

29. (1) All Materials and workmanship shall be of the respective kinds described in the Contract and in accordance with the Engineer's Instructions and shall be subjected from time to time to such tests as the Engineer may direct at the place of manufacture of fabrication or on the Site or at all or any or such places. The Contractor shall provide such assistance Instruments, machines, labour and materials as are normally required for examining measuring and testing any work and the quality, weights or quantity of any material used and shall supply samples of materials before incorporation in the works for testing as may be selected and required by the Engineer.

**Cost of samples  
Cost of Test**

(2) All samples shall be supplied by the Contractor at his own cost.

(3) The cost of making all tests specified in the Contract shall be borne by the Contractor.

**Access to Site**

30. The Engineer and any person authorized by him shall at all times have access to the works and to the Site and to all workshops and places where work is being prepared or whence materials, manufactured articles, or machinery are being obtained from works, and the Contractor shall afford every facility for and every assistance in or obtaining the right to such access.

**Examination of Work Before Covering Up**

31. No work shall be covered up or put out of view without approval of the Engineer or the Representative of the Engineer and the Contractor shall afford full opportunity for the Engineer or the Representative of the Engineer to Examine and measure any work which is about to be covered up or put out of view and to examine foundation before permanent work is placed thereon. The Contractor shall give notice to the Representative of the Engineer whenever any such work or foundation is ready or about to be ready for examination.

**Removal of Improper Work and materials**

32. (1) The Engineer shall during the progress the works have power to order from time to time.

(a) The removal from the Site within such time or times as may be specified of any materials which in the opinion of the Engineer are not in accordance with the Contract.

(b) The substitution of proper and suitable materials and

(c) The removal and proper re-execution (not-with-standing any previous test there of or interim payment therefore) of any work which in respect of materials or workmanship is not In the opinion of the Engineer in accordance with the Contract.

**Default of Contractor In compliance**

(2) In case of default on the part of the Contractor in carrying out such order the Board shall be entitled to employ and pay other person to carry out the same and all expenses consequent thereon incidental thereto shall be borne by the Contractor and

shall be recoverable from him by the Board or may be deducted by the Board from any monies due or which may become due to the Contractor.

33. The Contractor shall on the written order of the Engineer suspend the progress of the Works or any part thereof for such time to times and such manner as the Engineer may consider necessary and shall during such suspension property protect and secure the Works so far as is necessary in the opinion of the Engineer. The Extra cost (if any) incurred by the Contractor in giving effect to the Engineer's Instructions under this **Clause** shall be born and paid by the Board unless suspension is:-

#### **Suspension of Works**

- (a) Otherwise provided for in the Contract or
- (b) Necessary for the proper execution of the Works or by reason of weather conditions affecting the safety or quality of the Work or by some default on the part of the Contractor or.
- (c) Necessary for the safety of the Works or any part thereof. Provided that the Contractor shall not be entitled to the recover any such extra cost unless he give notice in writing of his intention of claim to the Engineer within **28 days** of the Engineer's order. The Engineer shall settle and determine the extra payment to be made to the Contractor in the respect of such claim as the Engineer shall consider fair and reasonable.

### **COMMENCEMENT TIME AND DELAYS**

34. The Contractor shall commence the Works on Site within the period named in the tender after the receipt by him on an order in writing to this effect from the Engineer and shall proceed with the same with the due expedition and without delay except as may be expressly, sectioned or ordered by the Engineer or be wholly beyond the Contractor's control.

#### **Commencement of Works**

35. (1) Save in so far as the Contractor may prescribe the extent of options of the Site of which the Contractor is to be given possession from time to time and the order in which such portions shall be made available to him and subject to any requirement in the Contract as to the order in which the Work shall be executed, The Engineer will with the written order to commence the Works, give to the Contractor possession of so much of he Site as may be required to enable the Contractor to commence and proceed with the construction of the Works in accordance with the program referred to in **Clause 13** hereof (if any) and otherwise in accordance with such reasonable proposals of the Contractor as he shall by notices in writing to the Engineer make and will from time to time as the Works proceed give to the Contractor possession of such further portions of the Site as may be required to enable the Contractor to proceed with the construction of Works with due dispatch is accordance with said program or proposals (as the case may be).

#### **Possession of Site**

(2) The Contractor shall bear all expanses and charges for special or temporary way leaves required by him in connection with access to the Site. The Contractor shall also provide at his own cost any additional accommodation outside the Site required by him for the purpose of the Works.

#### **Way Leaves Etc.**

36. Subject to any requirement in the specification as to completion of any portion of the Works before completion of the whole of the Work, the Work shall be completed within the time stated in the tender calculated from the last day of the period named in the tender as that within which the Works are to be commenced or such extended time as may be allowed under **Clause 37** hereof.

#### **Time for Completion**

37. Should the amount of extra or additional Work of any kind or other special circumstances of any kind whatsoever which may occur be such as fairly to entitled the Contractor to any extension of time for the completion of the Works the Engineer shall determine the amount of such extension provided that the Engineer is not bound to take into account any extra or additional Works or other special circumstances unless the Contractor has, within **28 days** after such Works has been commenced or circumstances have arisen or as soon thereafter as is practicable delivered to the representative of the Engineer full and detailed particulars of any claim to extension of time to which may consider himself entitled in order to such claim may be investigated at the time.

#### **Extension of Time for Completion**

**Rate of Progress**

38. (1) The whole of the material plant and labour to be provided by the Contractor under **Clause- 4** hereof and mode manner and speed of execution maintenance of the Works are to be of a kind and conducted in a manner approved of by the Engineer. Should the rate of progress of the Works or any part thereof be at any time in the opinion of the Engineer to slow to ensure the completion of Works by the prescribe time or extended time for completion. The Engineer shall so notify the Contractor in writing and the Contractor shall thereupon take such step as the Contractor may think necessary and the Engineer may approved to expedite progress so as the complete the Works by the prescribed time or extended time for completion. If the Works is not being carried on by day and by night and the Contractor shall request permission to work by night as well as by day then if the Engineer shall grant such permission, the Contractor shall not be entitled to any additional payment for so doing.

**Termination of Contract for slow progress**

(2) Not-with-standing any thing contained hereto in the event of the rate of progress of the Works being such that in the opinion of the Engineer Works cannot be completed by the prescribed time or the extended time, the Engineer may have the Works constructed, completed through any other agency either concurrently with or independently of the Contractor at the risk and cost -of the Contractor or the Engineer may supplement the Contractor's labour plant equipment and materials at the Contractor's cost and risk and in all such cases provisions of **Clause-39** hereof shall apply. Further the Board shall have the power to terminate the Contract and withhold payment to the Contractor till the whole of the Works have been constructed completed and maintained in the manner laid down in the Contract and the Contractor shall be liable for any loss or damage which the Board may sustain on the account and forfeiture the provision of **Clause 56 and 57** here of shall apply.

**Liquidated Damages for Delay**

39. If the Contractor shall fail to complete the Works within the time prescribed by **Clause 36** hereof or extended time then Contractor shall pay to the Board a sum equal to **0.5%** of the total Contract value as liquidated damages for such default and not as a penalty for every week or part of week which shall elapse between the time prescribed by **Clause No. 36** hereof or extended time as the case may be and the date of completion of the Works, up to a maximum of **10%** of the total value of Contract of the Contract. The Board may without prejudice to any other method of recovery deduct the amount of such damages from any monies in the Board's hands due or which may become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his oblige ion to complete the work or form any other of his obligations and liabilities under the Contract nor it will prejudice the Board's right to recover the actual amount of damages, which the Board may suffer on account of delay in completion of the works. Furthermore, the fact that the Board has not deducted any amount of liquidated damages during the execution of works will not prejudice the Board's right either to deduct the same from the final bill or to recover the same through recourse to law.

**Certificate of Completion of Works**

40. As soon as in the opinion of the Engineer the Works shall have been substantially completed and shall have satisfactorily passed final test that may be prescribed by the Contract the Engineer shall on receiving a written undertaking by the Contractor to finish any outstanding Works during the Period of Maintenance issue a Certificate of Completion in respect of the Works, and the period of Maintenance of the Works shall commence from the date of such certificate. Provided that the Engineer may give such a certificate with respect to any part of Works before the completion of the whole of the Works and shall upon the written application of the Contractor give such certificate with respect to any substantial part of the Works which has been both completed to the satisfaction of the Engineer and occupied or used by the Board and when any such certificate is given in respect of a part of the Works such part shall be considered as completed and the period of Maintenance of such part shall commence from the date of such certificate. Provided also that a Certificate of Completion given accordance with the foregoing provisions of any part of the Works occupied and used as aforesaid shall not be deemed to certify completion of any ground of surfaces requiring reinstatement unless such certificate shall expressly so state.

**MAINTENANCE AND DEFECTS**

**Definition of Period of Maintenance**

41. (1) In these conditions the expression "period of Maintenance" shall mean the period of maintenance named in the Tender calculated from the date of completion of the Works certificate by the Engineer in accordance with **Clause 40** hereof or in the event of more then one certificate having been issued by the Engineer under the said **Clause** from the respective dates so certified and in relation to the period of Maintenance the expression '**the Works**' shall be construed accordingly.

**Execution of Works of Repair, Etc.**

(2) To the Intent that the Works shall at or as soon as practicable after the expiration of the period of Maintenance be delivered up to the Board in as good and perfect condition (fair wear and tear excepted) to the satisfaction of the Engineer as that in which they



Were at the commencement of the period of maintenance the Contractor shall execute all such Works for repair, amendment, reconstruction, reflection and making good of defects, imperfection, shrinkages or other fault as may be required of the Contractor in writing by the Engineer during the period of maintenance or with **Fourteen (14) days** after its expiration as a result of an inspection made by or on behalf of the Engineer.

(3) All such Work shall be carried out by the Contractor at his own expenses if the necessity thereof shall in the opinion of the Engineer be due to the use of materials of Workmanship not in accordance with the Contract or to neglect or failure on the part of the Contractor to comply with any obligation expressed or implied on the Contractor's part under the Contract. If in the opinion of the Engineer such necessity shall be due to any other cause the value of such Works shall be ascertained and paid for as if it were additional Works.

(4) If the Contractor shall fail to do any such Work aforesaid required by the Engineer the Board shall be entitled to carry out such Works by its own Workman or by other Contractor and if such Works is Work which the Contractor should have carried out at the Contractor's own cost shall be entitled to recover from the Contractor the cost thereof or may deduct the same from any monies due or that become due to the Contractor.

**Cost of Execution  
works of Repair Etc.**

**Remedy on  
Contractor's Failure to  
carry out Works  
required**

### **ALTERATION ADDITIONS AND OMISSIONS**

42. (1) The Engineer shall make any variation of the quality or quantity of the Works or any part thereof that may in his opinion be necessary and for that purpose or if for any other reason it shall in his opinion be desirable

**Variation**

shall have power to order the Contractor to do and the Contractor shall do any of the following:-

- (a) Increase or decrease the quality of any Work included in the Contract
- (b) Omit any such Work
- (c) Change the character or quality or kind of any such Work
- (d) Change the levels, lines, position and dimensions of any part of the Works and
- (e) Execute additional Works of any kind necessary for the completion of the Works.

And no such variation shall in any way validate or invalidate the Contract, but the value (if any) of all such variation shall be taken into account in ascertaining the amount of the Contract price.

(2) No such variation shall be made by the Contractor without an order in writing of the Engineer, provided that no order in writing shall be required for increase or decrease in the quantity of any Work where such increase or decrease is not the result of an order given under his **Clause** but is the result of the quantities exceeding or being less than those stated in the Bill of Quantities. Provided also that if for any reason the Engineer shall consider it desirable to give any such order verbally, the Contractor shall comply with such order and any confirmation in writing of such verbal order given by the Engine whether before or after the carrying out the order shall be deemed to be an order, in writing within the meaning of this **Clause**.

**Order of variation to  
be in writing**

43. (1) The Engineer shall determine the amount (if any) to be added to or deducted from the sum named in the tender in respect of any extra or additional Works done or Work omitted by his order. All such Works shall be valued at the rates set out in the Contract if in the opinion of the Engineer the same shall be applicable. If the Contract shall not contain any rates applicable to the extra or additional Work then reasonable prices shall be fixed by the Engineer.

**Valuation of Variations**

(2) Provided that if the nature or amount of any omission or addition relative to the nature or amount of the whole of the Contract Work or to any part thereof shall be such that in the opinion of the Engineer the rate or price contained in the Contract for any time of the work is by reason of such omission or addition rendered unreasonable or inapplicable the Engineer shall fix such other rates or price as in the circumstances he shall think reasonable and proper.

**Power of Engineer to  
Fix Rates**

## PROPERTY IN MATERIALS AND PLANT

### Plant Etc. the Property of the Board

44. (1) All constructional plant, Temporary Works and maternities provided by the Contractor shall when bought on to the Site immediately be deemed to become the property of the Board and the Contractor shall not removed the same or any part thereof without the consent in writing of the Engineer. But the Engineer will permit the Contract the exclusive use of all such constructional plant. Temporary Works and material in and for the completion of the Works until the happening of an event which gives right to the Board of exclude Contractor from the Site and proceed with the completion of the Works.

### Revesting of Plant, Etc.

(2) Upon the removal of any such constructional plant, temporary Works or materials with consent as aforesaid the same shall be deemed to revest in and become the property of the Contractor and upon completion of the Works the reminder of the said constructional plant and temporary Works and any unused material provided by the Contractor shall be deemed to revest in and become the property of the Contractor who shall remove the same. If the Contractor fails to remove any of the said constructional plant, temporary Works of unused materials within such reasonable time after the completion of the Works as may be allow by the Board then the Board may sell the same and shall after deducting from the proceeds the cost charges and expenses of and in connection with such sale pay the balance (if any) to the Contractor.

### Board not liable for Damage to plant Etc.

(3) The Board shall not at any time be liable for loss or injury to any of the said constructional plant, Temporary Works, or material.

### No Approval by Vesting

45. The operation of the **Clause 44** shall not be deemed to imply any approval by the Engineer of the materials or other matters referred to therein nor shall it prevent the rejection of any such materials at any such time by the Engineer.

## MEASUREMENT

### Quantities

46. The quantities set out in the Bill of Quantities are estimated quantities of the Work but they are not be taken as the actual and correct quantities of the Works to be executed by the Contractor in fulfillment of his obligations under the Contract.

### Work to be Measured

47. The Engineer shall, except as otherwise stated, ascertain and determine by admeasurements the value in accordance with the Contract of Work done in accordance with the Contract. he shall when he require any part or parts of the Works to be measured give notice to the Contractor's agent or representative who shell forthwith attend or send a qualified agent to assist the Engineer or the representative of the Engineer in making such measurement and shall furnish all particulars required by the either of them. Should the Contractor not attend or neglect or omit to send such agent then the measurement made by the Engineer or approved by him shall be taken to be the correct measurement of the Works.

### Method of Measurement

48. The Works shall be measured net notwithstanding any general or local custom except where otherwise specially describe or prescribed in the Contract.

## PROVISIONAL SUMS

### Use o f provisional and Contingency items

49. All the sums set out in the Bill of Quantities which shall be stated to be provisional or for contingencies shall be used only at the direction and discretion of the Engineer and if not used either wholly or in part shall as to the amount not used be deducted from the Contract Price.

### Item not monies

50. All item not monies out in the Bill of Quantities shall be used at the direction and discretion of the Engineer and if used either wholly or in part shall as to amount used, added to the Contract price.

## CERTIFICATE AND PAYMENT

### Bill for On-account Payments

51. (1) The Contractor shall submit to the representative of the Engineer during the execution of the Works on-account bill signed by the Contractor showing the quantities and values of the permanent Works done on the Site as soon as measurements have been recorded as per **Clause 47** hereof.

### Rates and Price

(2) The rates and prices in such on-account bills shall be in accordance with those in priced Bill of Quantities so far as such rates and prices are applicable and on the approved rates and prices for other items or Works.

(3) The quantities in such on-account bills shall be in accordance with the agreed measurement recorded by the representative of the Engineer as per provision of **Clause 47** hereof.

**Quantities**

(4) The Contractor will be paid on the certified of the Engineer the estimated Contract value of the permanent work executed and in addition such amount as the Engineer may consider fair and reasonable for any temporary Works for which separate amounts are provided in the Bill of Quantities subject so far as it applies to a retention of a percentage until the amount retained shall reach the amount of security deposit as per **Clause 9** hereof, after which time no further deduction or retention will be made.

**Advances**

52. No certificate other than maintenance certificate referred into **Clause 53** hereof shall be deemed to constitute approval of any Work or other matter in respect of which it is issued or shall be taken as an admission of the due performance of the Contract or any part thereof or of the accuracy of an claim or deemed made by the Contractor by the Contractor or of additional or varied Work having been ordered by the Engineer nor shall any other certificate conclude or prejudice any of the powers of the Engineer.

**Approval only by  
Maintenance  
certificate**

53. The Contractor shall not be consider as completed until a maintenance certificate shall have been signed by the Engineer and delivered to the Board stating that the Works have been completed and maintained to his satisfaction. The maintenance certificate shall be given by the Engineer twenty **Eight (08) days** after the expiration of the period of maintenance (or if different period of maintenance shall become applicable different part of the Works the expiration of the latest such period) and full effect shall be given to the **Clause** notwithstanding any previous entry of the Works or the taking possession Working or using thereof or any part thereof by the Board. The security deposit of the Contractor shall be refunded after the maintenance certificate has been issued by the Engineer after deducting any sums which may become due from Contractor in terms of provision of **Clause 38 (2), 39 and 41 (4)** hereof.

**Maintenance  
certificate**

54. When the Engineer granted a certificate or certificates of completion of the whole of the Works under **Clause 40** hereof and when the Board has ascertained the estimated final sum due to the Contractor the Board shall after allowing for the amount all of previous on account bills and certificate and after allowing for all other payments due form the Contractor to the Board pay to the Contractor such a sum out of balance so calculated as remaining due to the Contractor as will leave to be retained by the Board a sum equal to the security deposit (see **Clause 9** hereof).

**Payment on  
Completion**

55. Unless otherwise agreed between the Board and the Contractor all payment to be made to the Contractor under this Contract shall be in Pakistani rupee currency.

**Currency of payment**

## **REMEDIES AND POWER**

56. (1) If the shall become bankrupt or have a receiving order made against him or shall present his petition in bankruptcy or shall make an arrangement with or assignment in favor of his creditors or shall agree to carry out the Contract under a committee of Inspection of his creditors or (being a corporation) shall go into liquidation (other than a voluntary liquidation for the purpose of amalgamation or reconstruction) or if the Contractor shall assign the Contract without the consent in writing of the Board first obtained or shall have an execution levied on the goods or if the Engineer shall certify in writing to the Board that in his opinion the Contractor.

**Forfeiture**

- (a) has abandoned the Contract or
- (b) without reasonable excuse has filed to commence the Works or has suspended the progress of the Works for **Ten (10) days** after receiving from the Engineer written notice to proceed or
- (c) has failed to remove materials from the Site or to pull down and replace Work for **28 days** after receiving from the Engineer written notice that the said materials or Work had been condemned and rejected by the Engineer under these conditions or
- (d) is not executing the Works in accordance with the Contract or is persistently or flagrantly neglecting to carry out his obligations under the Contract or

- (e) Has to the detriment of good Workmanship or in defiance of the Engineer's instructions to the contrary sublet any part of the Contract?

Then the Engineer may after giving **14 days** notice writing to the Contractor enter upon the Site and the Works and expel the Contractor there from without hereby avoiding the Contract or releasing the Contractor from any of his obligations or liabilities under the Contract or affecting the rights and powers conferred on the Board of the Engineer by the Contract and may himself complete the Works or may employ any other Contractor to complete the Works and Board or such other Contractor may use for such completion so much of the constructional plant temporary Works or materials which have been deemed to become the property of the Board under the provision of the Contract as he or the Board may think proper and Board may at any time sell any of the said constructional plant, Temporary Works and used materials and apply the proceed or sale in or towards the satisfaction of any sums due which may become due to the Board from the Contractor under the Contract.

**Valuation at Date  
forfeiture**

(2) The Engineer as soon as may be practicable after any such entry and such entry and expulsion by the Board fix and determine or after reference to the parties or after such investigation or enquiries as he may think fit to make or institute and shall certify what amount (if any) had at the time of such entry and expulsion been reasonably earned by on or would reasonably accrue to the Contractor in respect of Work then actually done by him under the Contract and what was the value of any unused or partially used materials and constructional plant and any temporary Works which have been deemed to become the property of the Board under the provision of the Contract.

**Payment after  
Forfeiture**

(3) If the Board shall enter and expel the Contractor under this **Clause** the Board shall not be liable to pay to the Contractor any money on account on the Contract until the expiration of the period of maintenance and thereafter until the cost of completion and maintenance damages for delay in completion (if any) and all other expenses incurred by the Board have been ascertained and the amount thereof certified by the Engineer the Contractor shall be entitled to receive only such sum or sums (if any) as the Engineer may certify would have been due to him upon due completion by him after deducting the said amount. But if such amount shall exceed the sum which would have been payable to the Contractor on due completion by him Contractor shall upon deemed pay to the Board the amount such excess and it shall be deemed a debt due to the Contractor to the Board and shall be recoverable accordingly.

**Urgent Repairs**

57. If by reason or any accident or failure or other event occurring to in or in connection with the Works or any part thereof either during the execution of the Works or during the period of maintenance any remedial or other Works or repair shall in the opinion of the Engineer or the Representative of the Engineer be urgently necessary for security and the Contractor is enable or unwilling at once to do such Work or repair as the Engineer may by his own or other Workmen do such Works or repair as the Engineer or the Representative of the Engineer may consider necessary. If the Works repairs so done by the Engineer is Works which in the opinion of the Engineer the Contractor was liable to do at his own expense under the Contract all cost and charges property incurred by the Board in so doing shall no demand be paid by the Contractor to the Board or may be deducted by the Board from any monies due or which may become due to the Contractor. Provided always that the Engineer of the Representative of the Engineer (as the case may be) shall as soon as after the occurrence of any such emergency as may be reasonable practicable notify the Contractor thereof in writing.

**Bribes Commission  
Etc.**

58. Any bribe commission gift or advantages given promised or offered by or on behalf of the Contractor or his partner, agent or servant or any one on his or their behalf to any officer, servant, representative, or agent of the Board or any person on its behalf in relation to the obtaining or to the execution of this or any other Contractor with he Board shall in addition to any criminal liability which may incur subject the Contractor to cancellation of this and all other Contract and also to payments of any loose or damage resulting from such cancellation to the like extent as is provided in case of forfeiture under **Clause 56** hereof and the Board shall be entitled to deduct the amounts so payable from any monies otherwise due to the Contractor under this or any other Contract.

In case hot Works is involved, the Contractor is liable to take permit from the Port Fire Officer before start of the Works, and hot Work is to be carried out according to his directions.

## **SETTLEMENT OF DISPUTES**

59. This Contract shall be governed by the law of Pakistan. Resort to court by either of the parties in respect of any dispute should be had only to an appropriate court within the limit of KARACHI.

**Law Covering the Contract**

60 Any dispute regarding the quality of material or Workmanship or currency of measurements or reasonableness of the rate for any item or any other question of an Engineering or Technical nature shall be decided by the Engineer and his decision shall be final and binding on all the parties.

**Arbitration**

Any other dispute of whatsoever nature (Including the Interpretation of this or any other relevant documents) arising under this Contract (except as to any matters, the decision of which is specially provided for by these conditions) shall be referred to a sole arbitrator to be pointed by the chairman, Karachi Port Trust, who shall have absolute discretion either to appoint an officer or the K.P.T or any one else as the sole arbitrator. The decision as such sole arbitrator shall be final and conclusive and shall be binding on all the parties to the Contract and the provision of the arbitration Act 1940 and any statutory modification thereof and rules framed there under shall be deemed to apply to and be incorporated in this Contract.

The Contractor shall not stop the Work during the pendency of the arbitration proceedings, but he shall continue to execute the Work with full speed. However, the Chief Mechanical and Electrical Engineer shall have the power to ask the Contractor in writing to stop the Work in full or in part if he considers it necessary.

## **FORM OF AGREEMENT**

**This Agreement made the .....day of .....Two Thousand.....  
between the Board of trustees of the Port of Karachi Incorporated under the Karachi**

Port Trust Act VI of 1886 as amended from time to time thereafter called the "Board" of the one part and .....of..... (Thereinafter called the "Contractor") of the other part **whereas** the Board is desirous that certain Works should be constructed viz.....

..... and has accepted a tender by the Contractor for the construction completion and maintenance of such Works **and whereas** the Contractor has already deposited with the Board the Sum of **Rupees** .....and has given to the Board a lien over such sum as security for the due fulfillment of the Contract **now this agreement is witnessed** as follows:-

1. In this agreement words and expression shall have the same meanings as are respectively assigned to them in the conditions of Contract hereinafter referred to.
2. The following Documents which for the purpose of identification have been signed by the.....On behalf of the Contractor and by ..... (The Engineer of the Board) on behalf of the Board all of which shall be deemed to from and be read and construed as part of this agreement, viz:-
  - (a) The said Tender.
  - (b) The Drawing.
  - (c) The General Conditions of Contract.
  - (d) The special condition of the Contract.
  - (e) The specification.
  - (f) The bill of Quantities.
  - (g) The Relevant Correspondence:-
3. In Consideration of the payment to be made by the Board to the Contractor as hereinafter mentioned the Contractor hereby covenants with the Board to construct complete and maintain the Works in conformity in all respects with the provision of the Contract.
4. The Board hereby covenants to pay to the Contractor in consideration of the construction, completion and maintenance of the Works, the Contract price in the manner prescribed by the Contract.

***In witness where of,*** the parties here to have hereinto set their respective hands and seals the day and year first above written.

**Signed sealed and delivered by:-**

The Chairman and two Trustees on behalf of the Board of Trustees of the Port of Karachi.

|                             |       |              |
|-----------------------------|-------|--------------|
| Signed by                   | ..... | Chairman     |
| In the presence of          | ..... | Trustees     |
| Signed by                   | ..... | Trustees     |
| In the presence of          | ..... |              |
| And                         | ..... |              |
| .....for and on behalf..... |       | (Contractor) |
| Signed by                   |       |              |
| In the presence of          | ..... | (Contractor) |

**KARACHI PORT TRUST  
MECH. & ELECT. ENGR DEPTT.**

**SCOPE OF WORK / BILL OF QUANTITY**

**(FOR TECHNICAL BID)**

**SOLARIZATION OF KPT HEAD OFFICE: SUPPLY INSTALLATION & COMMISSIONING OF  
650 KW ON-GRID SOLAR SYSTEM AT KPT HEAD OFFICE.**

| S. NO | DESCRIPTIONS OF WORK  | QTY                   | Bidder's confirmation |       |
|-------|---|-----------------------|-----------------------|-------|
| 1     | <b>Solar Panel :</b><br>Supply / providing of Tier-1, Grade-A, 580W to 600W, Monoperc, Half cut, HIMO6, N type of reputable make as per international standard,<br>IEC61215,IEC61730,ISO9001,ISO14001,ISO45001  | 1120<br>Nos           | XXXXX                 | XXXXX |
| 2.    | <b>Inverter :</b><br>Supply / providing of Tier-1, Grade-A, on grid 125KW Inverter of reputable make as per international standard<br>IEC62109,IEC61727,IEC62116,IEC60068,IEC61683,IEC61000-6-2,IEC61000-6-4  | 6 Nos                 | XXXXX                 | XXXXX |
| 3     | <b>PV Diesel Controller:</b><br>Supply / providing of PV Diesel Genset Controller for Synchronization of Solar with Genset of reputable make as per international standard.   | 01<br>Complete<br>job | XXXXX                 | XXXXX |
| 4     | <b>Wifi Dongle:</b><br>Supply / providing of Wifi Dongle of reputable make as per international standard.   | 1 No.                 | XXXXX                 | XXXXX |
| 5     | <b>Automatic Load Shed:</b><br>Supply / providing of Automatic load Shed system for Old & New Building Load Distribution, to cut off the critical load during interchange of the load from KE to Gen sets.  | 01<br>Complete<br>job | XXXXX                 | XXXXX |
| 6     | <b>Lighting Arrestors:</b><br>Supply / providing of Copper Lighting arrestors (Height=1m)   | 02 Nos.               | XXXXX                 | XXXXX |
| 7     | <b>AC / DC Earthing:</b><br>Supply / providing of Copper Rod with Earthing Powder with Boring at less than 5 ohms (upto 25ft) for AC/DC Earthing Pits of lighting arrestors, Solar Panels & Inverters.  | 05 Jobs               | XXXXX                 | XXXXX |
| 8     | <b>M.S. Elevated Structure:</b><br>(Height of Front pole: 09' & Back pole: 12' Tilt: 5 degrees)<br>With Industrial Paint & Supporting materials<br><br>Supply / providing of MS pipe 95mm size 14-gauge thickness<br><br>Supply / providing of MS girder 5"x2.5" size 14-gauge (2.2 to 2.5mm) thickness.<br><br>Supply / providing of MS top plate 8"x8" size 8mm thickness.<br><br>Supply / providing of MS base plate 4"x4" size 4mm thickness.<br><br>Supply / providing of MS square pipe 1"x2" size 18-gauge thickness (for walkway & ladder).<br><br>Supply / providing of Aluminum T & Z clamps. | 01<br>Complete<br>job | XXXXX                 | XXXXX |

|   |  |                                    |       |       |
|---|--|------------------------------------|-------|-------|
| 9   | <b>BoS (Balance of System):</b><br>Providing of AC Cable 90mm <sup>2</sup> , 4 core Copper Wire PVC insulated make Pakistan Cables / Fast Cables or equivalent (from Inverter to AC Combiner Cabinet).   | 90 meters                          | XXXXX | XXXXX |
|   | Providing of AC Cable 300mm <sup>2</sup> , 4 core Copper Wire PVC insulated make Pakistan Cables / Fast Cables or equivalent (from AC Combiner Cabinet to DB)  | 50 meters                          | XXXXX | XXXXX |
|   | Providing of AC Cable 300mm <sup>2</sup> , 4 core Copper Wire PVC insulated make Pakistan Cables / Fast Cables or equivalent (from AC Combiner Cabinet to DB)  | 50 meters                          | XXXXX | XXXXX |
|   | Providing of AC Cable 50mm <sup>2</sup> , single core Copper Wire PVC Green insulated make Pakistan Cables / Fast Cables or equivalent (for earth pits)  | 90 meters                          | XXXXX | XXXXX |
|   | Providing of AC Cable 25mm <sup>2</sup> , single core Copper Wire PVC Green insulated make Pakistan Cables / Fast Cables or equivalent (for lighting arrestors)  | 90 meters                          | XXXXX | XXXXX |
|   | Providing of AC Cable 10mm <sup>2</sup> , single core Copper Wire PVC Green insulated make Pakistan Cables / Fast Cables or equivalent (for Inverter grounding)  | 90 meters                          | XXXXX | XXXXX |
|   | Providing of AC Cable 2.5mm <sup>2</sup> , single core Copper Wire PVC Green insulated make Pakistan Cables / Fast Cables or equivalent (for grounding solar panels)   | 360 meters                         | XXXXX | XXXXX |
|   | Providing of DC Flexible Wire 4mm <sup>2</sup> , single core 1000VDC Copper Wire PVC insulated make Pakistan Cables / Fast Cables or equivalent (for wiring of solar panels)   | 12000 meters (as per req. at site) | XXXXX | XXXXX |
|   | Providing of AC Breakers 200A, MCCB, 400VAC 4-Pole make Terasaki, ABB or equivalent. (for inverter AC output supply)   | 06 Nos.                            | XXXXX | XXXXX |
|   | Providing of AC Breakers 400A, MCCB, 400VAC 4-Pole make Terasaki, ABB or equivalent.(for combining AC output of inverters)   | 02 Nos.                            | XXXXX | XXXXX |
|   | Providing of AC SPD 4-Pole 400VAC 60KA make Terasaki, ABB or equivalent.   | 06 Nos.                            | XXXXX | XXXXX |
|   | Providing of DC Breakers/DC fuses 16A, MCB 1000VDC 2-Pole make Terasaki, ABB or equivalent. (for panels)   | 90 Nos.                            | XXXXX | XXXXX |
|   | Providing of DC SPD 1000VDC 2-Pole 40KA make Terasaki, ABB or equivalent.  | 90 Nos.                            | XXXXX | XXXXX |
|   | Providing of AC Combiner Cabinet of GI IP-20 reputable make for combining AC outputs of inverters, Size: WxHxD=6'x6'x3' Gauge:18AWG with indication lamps, Digital Energy Analyzers, Volt & Ammeter and with all necessary railings & fittings etc as per site requirements. | 01 No.                             | XXXXX | XXXXX |
| Providing of DC Distribution Boxes of GI IP-20 reputable make for each inverter for placing DC strings, Size: WxHxD=2.5'x2.5'x1' with indication lamps, Digital Volt & Ammeter and with all necessary railings & fittings etc as per site requirements. | 06 Nos.  | XXXXX                              | XXXXX |       |
| Providing of Misc. Items e.g.: Cable Tray GI 16 SWG with 18 SWG cover. Accessories (MC4 connectors, Cable ties, conduit, anchor bolts, PVC flexible pipes & clamps, PVC tapes, thimbles etc).   | 01 Job   | XXXXX                              | XXXXX |       |



|    |  |                       |       |       |
|----|--|-----------------------|-------|-------|
| 10 | <b>Supply New LT Panels:</b><br>Supply Two New LT Panels designed according to existing LT scheme and integration of solar power at KPT Head Office.   | 01<br>Complete<br>job | XXXXX | XXXXX |
| 11 | <b>Civil Works for Elevated Structure:</b><br>Constructing of Cemented civil pads for PV Roof mounting shed structure with dimensions LxWxH=12"x12"x8" with MS studs & bolts reinforcement.  | 01<br>Complete<br>job | XXXXX | XXXXX |
| 12 | <b>Services :</b><br>Installation, Commissioning, Net Metering (including KE charges will be responsibility of contractor) and Services of S. No. 1 to 10.   | 01<br>Complete<br>job | XXXXX | XXXXX |
| 13 | <b>03 Years Preventive Maintenance:</b><br>After the warranty period of 12 months the contractor / firm would be required to provide 3 years preventive maintenance services and repairs without spare parts. A complete job in all respect as required at site. <b>From S.No. 1 to 10</b> | 01<br>Complete<br>job | XXXXX | XXXXX |

**Chief Mech & Elect Engineer- II**

**Signature & Seal of the Bidder**

## **TERMS AND CONDITIONS**

### **1. Work site:-**

All the firms participating in bidding for this work must visit the work site for assessing the actual conditions, locations, spaces, logistics, etc before submitting their bids.

### **2. Operation and maintenance manuals and drawings:-**

Contractor shall supply one set of Operation and maintenance Manual and 3 sets of Product Specs Catalogue for all the equipment before the supply, installation and commissioning of equipment for study of KPT Engineer. Contractor shall supply 3 sets of manuals for all equipment after completion but before final handing over. Three sets of connection diagrams and schematic diagrams for the complete works showing actual as built condition shall be prepared by the contractor and provided for study and record prior to commissioning of the system. The contractor, if directed by KPT Engineer, shall incorporate any modifications / corrections, in the drawings.

### **3. Manufacturer catalogues along with tender document:-**

Manufacturer catalogues, in English for offered equipment should be provided along with the tender documents for study of KPT Engineers for verification of specifications and ascertaining the suitability of the equipment.

### **4. Load test and certificates:-**

The Contractor along with the supply shall provide manufacturer's test certificate. Actual test trial to be carried out after completion and installation as per standard procedures for satisfactory commissioning.

### **5. Training**

Contractor shall arrange for 4-days training of 4 nominated officials of KPT at the manufacturing / assembling premises of the equipment to be supplied. Said training shall cover operation, routine maintenance, fault diagnosis, defect rectification etc pertaining to the main equipment to be supplied.

## **6. SERVICE LEVEL AGREEMENT (SLA) FOR MAINTENANCE**

The maintenance activities will be divided into the following parts:

Preventative maintenance - will include inspections and tests of Solar PV equipment to depict their performance.

Corrective maintenance - will include troubleshooting and parts replacement (if required) in case of abnormal behavior, component failure or breakdown.

## Preventative Maintenance

Preventative maintenance shall encompass all the equipment installed, inverters, LV Panels, solar modules etc.

### Inspections of Installed Equipment

- i. PV Modules on daily basis
  - a) 172 panels to be inspected and cleaned daily.
  - b) 517 panels inspection will be completed in 3 days
  - c) PV Modules Glass cracks checking
  - d) MC4 connectors check for any loose connections
- ii. PV Inverters on a daily and monthly basis
  - a) Visual checks for any damages
  - b) MC4 connectors checking
- iii. Structure daily, monthly, and annual inspections and maintenance
  - a) Nuts & Bolts Tightening
  - b) ZRC application

| Sr. # | Inspection                  | Daily                               | Monthly                             | Annually                            |
|-------|-----------------------------|-------------------------------------|-------------------------------------|-------------------------------------|
| 1.    | PV Modules Inspection       | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 2.    | PV Modules Cleaning         | <input checked="" type="checkbox"/> |                                     |                                     |
| 3.    | PV Inverters Inspection     | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 4.    | Structure Inspection        | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |
| 5.    | Plant Performance Reporting | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |

Preventative maintenance shall be carried out by the site team throughout the calendar year.

### Bi-Annual Inspections

Bi-Annual inspection will be performed twice a year. Once after six months and other at the end of the year

The scope must include the following

#### (PV Modules and Supporting Structure)

- 100% visual inspection of modules regarding damage in 1<sup>st</sup> bi-annual inspection. Modules will be inspected daily and damage / replacement shall be reported. However, modules will be checked for any damage, decolonization, cracking, splitting will be covered in bi-annual inspections.
- Random check for loosening of module clips. Clips should be replaced if necessary
- ZRC application on rusty parts of the structure
- Nuts and bolts tightening of the structure and PV Modules

#### Inverter (100% per inspection to be covered)

- Functional check of inverters
- Testing of inverter features according to manufacture's maintenance
- Maintenance of inverters according to manufacture's instructions

#### Additional Inspections

- Functionality testing of the monitoring system
- Maintenance of all PV Plant components according to manufacturer's instructions
- Visual damage inspection of all accessible cable trenches and cable trays
- Dressing of the cables if and as required.

#### Additional Main Annual Inspection

-

In addition to the bi-annual inspections, one main annual PN Plant inspection will be conducted. The inspection is to follow the detailed inspection procedures and will be documented accordingly. Below is the scope of annual inspection:

- Visual damage inspection of all accessible cable trenches and cable trays
- Visual inspection and random testing of module string connector's clamps, all components and degree of pollution. Testing of over-voltage protection

#### Corrective Maintenance

The following corrective maintenance services shall be offered till system is under O&M contract:

- Critical Reactive Repair
- Condition Based Maintenance
- Warranty Enforcement
- Equipment Replacement through Spares (planned / unplanned)
- Complaint Management
- MC4s replacement and cable dressing, if and as required

Corrective maintenance shall be carried out by the site team if and as required.

### **7. WARRANTY AND GUARANTEE:**

- One year standard warranty of complete Project.
- International Standard warranty for Solar Panel (Product warranty 16 years and performance warranty 30 years, 5 years Inverter warranty).

### **8. PRESHIPMENT INSPECTION:**

Pre shipment inspection will be carried out by 02 KPT officials, all the expenses will be borne by the contractor / supplier (if applicable).

**KARACHI PORT TRUST  
MECH. & ELECT. ENGR DEPTT.**

**SCOPE OF WORK / BILL OF QUANTITY**

**(FOR FINANCIAL BID)**

**SOLARIZATION OF KPT HEAD OFFICE: SUPPLY INSTALLATION & COMMISSIONING OF  
650 KW ON-GRID SOLAR SYSTEM AT KPT HEAD OFFICE.**

| S. NO | DESCRIPTIONS OF WORK  | QTY                   | UNIT RATE | TOTAL AMOUNT |
|-------|---|-----------------------|-----------|--------------|
| 1     | <b>Solar Panel :</b><br>Supply / providing of Tier-1, Grade-A, 580W to 600W, Monoperc, Half cut, HIMO6, N type of reputable make as per international standard,<br>IEC61215,IEC61730,ISO9001,ISO14001,ISO45001  | 1120<br>Nos           | Rs        | Rs           |
| 2.    | <b>Inverter :</b><br>Supply / providing of Tier-1, Grade-A, on grid 125KW Inverter of reputable make as per international standard<br>IEC62109,IEC61727,IEC62116,IEC60068,IEC61683,IEC61000-6-2,IEC61000-6-4  | 6 Nos                 | Rs        | Rs           |
| 3     | <b>PV Diesel Controller:</b><br>Supply / providing of PV Diesel Genset Controller for Synchronization of Solar with Genset of reputable make as per international standard.   | 01<br>Complete<br>job | Rs        | Rs           |
| 4     | <b>Wifi Dongle:</b><br>Supply / providing of Wifi Dongle of reputable make as per international standard.   | 1 No.                 | Rs        | Rs           |
| 5     | <b>Automatic Load Shed:</b><br>Supply / providing of Automatic load Shed system for Old & New Building Load Distribution, to cut off the critical load during interchange of the load from KE to Gen sets.  | 01<br>Complete<br>job | Rs        | Rs           |
| 6     | <b>Lighting Arrestors:</b><br>Supply / providing of Copper Lighting arrestors (Height=1m)   | 02 Nos.               | Rs        | Rs           |
| 7     | <b>AC / DC Earthing:</b><br>Supply / providing of Copper Rod with Earthing Powder with Boring at less than 5 ohms (upto 25ft) for AC/DC Earthing Pits of lighting arrestors, Solar Panels & Inverters.  | 05 Jobs               | Rs        | Rs           |
| 8     | <b>M.S. Elevated Structure:</b><br>(Height of Front pole: 09' & Back pole: 12' Tilt: 5 degrees)<br>With Industrial Paint & Supporting materials<br><br>Supply / providing of MS pipe 95mm size 14-gauge thickness<br><br>Supply / providing of MS girder 5"x2.5" size 14-gauge (2.2 to 2.5mm) thickness.<br><br>Supply / providing of MS top plate 8"x8" size 8mm thickness.<br><br>Supply / providing of MS base plate 4"x4" size 4mm thickness.<br><br>Supply / providing of MS square pipe 1"x2" size 18-gauge thickness (for walkway & ladder).<br><br>Supply / providing of Aluminum T & Z clamps. | 01<br>Complete<br>job | Rs        | Rs           |

|    |  |                                    |    |    |
|----|--|------------------------------------|----|----|
|    |  |                                    |    |    |
| 9  | <b>BoS (Balance of System):</b><br>Providing of AC Cable 90mm <sup>2</sup> , 4 core Copper Wire PVC insulated make Pakistan Cables / Fast Cables or equivalent (from Inverter to AC Combiner Cabinet).   | 90 meters                          | Rs | Rs |
|    | Providing of AC Cable 300mm <sup>2</sup> , 4 core Copper Wire PVC insulated make Pakistan Cables / Fast Cables or equivalent (from AC Combiner Cabinet to DB)  | 50 meters                          |    |    |
|    | Providing of AC Cable 300mm <sup>2</sup> , 4 core Copper Wire PVC insulated make Pakistan Cables / Fast Cables or equivalent (from AC Combiner Cabinet to DB)  | 50 meters                          |    |    |
|    | Providing of AC Cable 50mm <sup>2</sup> , single core Copper Wire PVC Green insulated make Pakistan Cables / Fast Cables or equivalent (for earth pits)  | 90 meters                          |    |    |
|    | Providing of AC Cable 25mm <sup>2</sup> , single core Copper Wire PVC Green insulated make Pakistan Cables / Fast Cables or equivalent (for lighting arrestors)  | 90 meters                          |    |    |
|    | Providing of AC Cable 10mm <sup>2</sup> , single core Copper Wire PVC Green insulated make Pakistan Cables / Fast Cables or equivalent (for Inverter grounding)  | 90 meters                          |    |    |
|    | Providing of AC Cable 2.5mm <sup>2</sup> , single core Copper Wire PVC Green insulated make Pakistan Cables / Fast Cables or equivalent (for grounding solar panels)   | 360 meters                         |    |    |
|    | Providing of DC Flexible Wire 4mm <sup>2</sup> , single core 1000VDC Copper Wire PVC insulated make Pakistan Cables / Fast Cables or equivalent (for wiring of solar panels)   | 12000 meters (as per req. at site) |    |    |
|    | Providing of AC Breakers 200A, MCCB, 400VAC 4-Pole make Terasaki, ABB or equivalent. (for inverter AC output supply)   | 06 Nos.                            |    |    |
|    | Providing of AC Breakers 400A, MCCB, 400VAC 4-Pole make Terasaki, ABB or equivalent.(for combining AC output of inverters)   | 02 Nos.                            |    |    |
|    | Providing of AC SPD 4-Pole 400VAC 60KA make Terasaki, ABB or equivalent.   | 06 Nos.                            |    |    |
|    | Providing of DC Breakers/DC fuses 16A, MCB 1000VDC 2-Pole make Terasaki, ABB or equivalent. (for panels)   | 90 Nos.                            |    |    |
|    | Providing of DC SPD 1000VDC 2-Pole 40KA make Terasaki, ABB or equivalent.  | 90 Nos.                            |    |    |
|    | Providing of AC Combiner Cabinet of GI IP-20 reputable make for combining AC outputs of inverters, Size: WxHxD=6'x6'x3' Gauge:18AWG with indication lamps, Digital Energy Analyzers, Volt & Ammeter and with all necessary railings & fittings etc as per site requirements. | 01 No.                             |    |    |
|    | Providing of DC Distribution Boxes of GI IP-20 reputable make for each inverter for placing DC strings, Size: WxHxD=2.5'x2.5'x1' with indication lamps, Digital Volt & Ammeter and with all necessary railings & fittings etc as per site requirements.                      | 06 Nos.                            |    |    |
|    | Providing of Misc. Items e.g.: Cable Tray GI 16 SWG with 18 SWG cover. Accessories (MC4 connectors, Cable ties, conduit, anchor bolts, PVC flexible pipes & clamps, PVC tapes, thimbles etc).  | 01 Job                             |    |    |
| 10 | <b>Supply New LT Panels:</b><br>Supply Two New LT Panels designed according to existing LT scheme and integration of solar power at KPT Head Office.   | 01 Complete job                    | Rs | Rs |
| 11 | <b>Civil Works for Elevated Structure:</b><br>Constructing of Cemented civil pads for PV Roof mounting shed  | 01 Complete                        | Rs | Rs |

|   |     |  |  |
|---|-----|--|--|
| structure with dimensions LxWxH=12"x12"x8" with MS studs & bolts reinforcement. | job |  |  |
|---|-----|--|--|

|  |  |                          |    |    |
|--|--|--------------------------|----|----|
| 12                                       | <b>Services :</b><br>Installation, Commissioning, Net Metering (including KE charges will be responsibility of contractor) and Services of S. No. 1 to 10.   | 01<br>Complete<br>job    | Rs | Rs |
| 13                                       | <b>03 Years Preventive Maintenance:</b><br>After the warranty period of 12 months the contractor / firm would be required to provide 3 years preventive maintenance services and repairs without spare parts. A complete job in all respect as required at site. <b>From S.No. 1 to 10</b> | 01<br>Complete<br>job    | Rs | Rs |
| <b>Sub Total</b>                         |  |                          | Rs |    |
| <b>Add 15% SST on item Nos. 11 to 13</b> |  |                          | Rs |    |
| <b>Add 18% GST on item Nos. 1 to 10</b>  |  |                          | Rs |    |
| <b>Grand Total</b>                       |  |                          | Rs |    |
| <b>Total amount in words:</b>            |  |                          |    |    |
| <b>Terms &amp; Conditions</b>            |  |                          |    |    |
| <b>Validity of Offer</b>                 |  | 90 days                  |    |    |
| <b>Completion period</b>                 |  |                          |    |    |
| <b>Terms of Payment</b>                  |  | After completion of work |    |    |

**Chief Mech & Elect Engineer- II**

**Signature & Seal of the Bidder**

**KARACHI PORT TRUST**  
**MECH. & ELECT. ENGG. DEPTT.**  
**TECHNICAL EVALUATION CRITERIA**

**FOR TECHNICAL BID**

**SOLARIZATION OF KPT HEAD OFFICE: SUPPLY INSTALLATION & COMMISSIONING OF 650 KW ON-GRID SOLAR SYSTEM AT KPT HEAD OFFICE.**

**I). MANDATORY REQUIREMENT:**

The firms should fulfill for the following mandatory requirement / condition and supporting documents should be submitted accordingly:

**CAUTION:** Non compliance of any Mandatory Conditions will leads rejection of bid and no further evaluation:-

| <b>S.No</b> | <b>Description</b>  |  |  | <b>Remarks</b> |
|-------------|---|--|--|----------------|
| 1.          | In case of companies and firms, last 03 years financial statements are to be provided showing minimum average turnover of Rs 120 million.<br>OR<br>In case of individuals / Sole proprietors, last 03 years tax returns filed with FBR are to be provided showing minimum turnover of Rs 120 million minimum on average for 03 years. |  |  |                |
| 2.          | Copy of Pakistan Engineering Council registration certificate for Financial Limit in Category C-4 and Technical Categories EE-04, EE-11.  |  |  |                |
| 3.          | Affidavit is to be submitted on Rs 100/- stamp paper mentioning therein that the firm has not been black listed by any Government / Semi Government / Autonomous / Semi Autonomous body.  |  |  |                |
| 4           | Copy of certificate of NTN, GST, SRB & fresh copy of Active tax payer list (ATL).   |  |  |                |
| 5.          | The bidder shall submit their bid on original tender documents duly filled with each page signed and stamped against each column as token of acceptance.  |  |  |                |
| 6.          | Copy of registration Certificate of firm with Classification Society.   |  |  |                |





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**II). TECHNICAL REQUIREMENT**

Minimum Qualifying Marks =70% in each category

The points / marks shall be given in the following manners:

**Summary of marks / points**

|              | Category                | Maximum point / marks | To qualify Minimum points to be scored separately in each category |
|--------------|-------------------------|-----------------------|--|
| A            | Status of firm          | 10                    | 7 i.e 70% of 10 marks  |
| B            | Professional Capability | 30                    | 21 i.e 70% of 30 marks   |
| C            | Relevant Experience     | 40                    | 28 i.e 70% of 40 marks   |
| D            | Financial               | 20                    | 14 i.e 70% of 20 marks   |
| <b>Total</b> |                         | 100                   | <b>70 i.e 70% of 100 marks</b>                                     |

| S.No.        | Description   |   | Min. marks      | Max. marks      |
|--------------|---|---|-----------------|-----------------|
| A.           | <b>STATUS OF FIRM : (Max. marks-10) (Min marks 07)</b>  |   |                 |                 |
|              | i). Private Limited / corporation<br>.Partnership<br>. Proprietor   | 05 marks<br>04 marks<br>3.5 marks             | 3.5 Marks       | 05 Marks        |
|              | ii). Completion of 05 years of firm established<br>Completion of 04 years of firm established<br>. Completion of 03 years of firm established<br>.Below 03 years of firm established<br>(Evidence to be provided) | 05 marks<br>04 marks<br>3.5 marks<br>00 marks | 3.5 Marks       | 05 Marks        |
| <b>Total</b> |   |   | <b>07 Marks</b> | <b>10 Marks</b> |

| <b>B.</b> | <b>PROFESSIONAL CAPABILITY<br/>(Max. marks-30) (Min marks 21)</b>   |  | Min. marks      | Max. marks      |  |  |
|-----------|---|--|-----------------|-----------------|--|--|
|           | <p>i). <b>Managerial staff. ( 10 Marks)</b></p> <ul style="list-style-type: none"> <li>• Director / Controller (10 years experience) 10 marks</li> <li>• Manager Engineering (05 years experience) 08 marks</li> <li>• Manager Finance (05 years experience) 07 marks</li> </ul> <p>ii). <b>Technical staff.( 20 Marks)</b></p> <p>Provide detail of technical staff involved in Solar installation work:</p> <p>Electrical / Electronic / Mechatronics Engineer having 05-10 years experience. 10 marks</p> <p>Electrical / Electronic / Mechatronics Engineer having 03-05 years experience. 8.5 marks</p> <p>Electrical / Electronic / Mechatronics Engineer having 01-03 years experience. 07 marks</p> <p>iii. <b>Work Facility (10 marks )</b></p> <p>Detail to be provided methodology of Solar repairing workshop facility, fully equipped with machine &amp; tools required for subject work having following accessories.</p> <ul style="list-style-type: none"> <li>▪ Online facility 24/7 diagnosing fault. 2 marks</li> <li>▪ Air compressor 1 marks</li> <li>▪ Pneumatic tools 1 marks</li> <li>▪ Plate bending machine 1 marks</li> <li>▪ Welding plant 1 marks</li> <li>▪ Shaper grinding machine 1 marks</li> <li>▪ Electric grinders 1 marks</li> <li>▪ Tools for fabrication work 1 marks</li> <li>▪ List of safety equipment such as helmet safety goggles hand gloves etc will carry. 1 marks</li> </ul> |  |                 |                 |  |  |
|           | <b>Total</b>  |  | <b>21 Marks</b> | <b>30 Marks</b> |  |  |

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|                              |   |          |                 |                  |  |  |
|------------------------------|---|----------|-----------------|------------------|--|--|
| <b>C.</b>                    | <b>RELEVANT EXPERIENCE OF SOLARIZATION WORK</b><br>Max. marks -40 (Min marks 28)<br>Give reference to (documentary proof) in. |          |                 |                  |  |  |
|                              | ▪ 05 contracts for Solar Installation work<br>300KW or above.   | 40 marks |                 |                  |  |  |
|                              | ▪ 03 contracts for Solar Installation work<br>300KW or above.   | 30 marks | 28 Marks        | 40 Marks         |  |  |
|                              | 02 contracts for Solar Installation work<br>300KW or above.   | 28 marks |                 |                  |  |  |
| <b>Total</b>                 |   |          | <b>28 Marks</b> | <b>40 Marks</b>  |  |  |
| <b>D.</b>                    | <b>FINANCIAL SOUNDNESS</b> (Max. marks-20)  |          | Min. marks      | Max. marks       |  |  |
|                              | <b>Turnover.</b><br>140 Million and above.  | 20 marks |                 |                  |  |  |
|                              | 130 Million and less than 140 Million.  | 16 marks |                 |                  |  |  |
|                              | 120 Million and less than 130 Million.  | 14 marks | 14 marks        | 20 marks         |  |  |
|                              | Below 120 Million.  | 00 marks |                 |                  |  |  |
| <b>Total</b>                 |   |          | <b>14 Marks</b> | <b>20 Marks</b>  |  |  |
| <b>Grand Total (a+b+c+d)</b> |   |          | <b>70 Marks</b> | <b>100 Marks</b> |  |  |

**NOTE**

1. Firm should arrange 4-days training of 4 nominated officer / officials of KPT at the manufacturing / assembling premises of the equipment to be supplied. Said training shall cover operation, routine maintenance, fault diagnosis, defect rectification etc pertaining to the main equipment to be supplied.

2..The selection of firm would be made via “**Most Advantageous Bid**” with **70% weightage** to be given to **Technical Criteria** and **30% weightage** to be given to **Financial Bid**.

**Formula for evaluation:**

- **Technical Score =  $\frac{\text{Bidder's Technical Score}}{\text{Total Technical Score}} \times 70$**
- **Financial Score =  $\frac{\text{Lowest Bid Price}}{\text{Bidder's Quoted Price}} \times 30$**
- **Total Score = Technical Score + Financial Score**