

## السادة أعضاء جمعية رجال الأعمال المصريين الأفارقة المحترمين

استكمالاً للجهود المستمرة والعلاقات المتميزة التي تربط جمعية رجال الأعمال المصريين الأفارقة بشركائها الاستراتيجيين، وحرصاً على تعزيز التعاون مع الجهات الخارجية، فقد ورد إلينا إخطار من التمثيل التجاري المصري من المكتب التجاري في عمان/الأردن، لطرح عدد من المناقصات الهامة في قطاع الكهرباء، من بينها مناقصة تحت مسمى **Two Years Call-Off Contract for Supply of Rated 33kV, 1x500 mm<sup>2</sup> Al/XLPE/AWA/PVC Cable** لصالح شركة كهرباء محافظة إربد بالمملكة الأردنية الهاشمية، بعقد توريد لمدة عامين لتوفير كوابل جهد متوسط 33 ك.ف وفقاً للمواصفات الفنية المعتمدة، إلى جانب مناقصة أخرى لتوريد عدادات كهرباء ذكية ثلاثية الأوجه لصالح إحدى شركات توزيع الكهرباء بالأردن، وهو ما يمثل فرصة استراتيجية للشركات المصرية المتخصصة في تصنيع الكوابل الكهربائية والعدادات الذكية لتعزيز تواجدها في السوق الأردني والدخول في تعاقدات مع جهات توزيع كهرباء كبرى، خاصة في ظل الطلب المستمر على منتجات قطاع الطاقة، وعليه ندعو الشركات العاملة في هذا القطاع إلى دراسة هذه الفرص والمشاركة في المناقصات، دعماً لزيادة الصادرات المصرية وتعزيز الحضور الصناعي المصري بالأسواق العربية.

مرفق مع المنشور

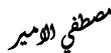
وتفضلوا بقبول فائق الاحترام،

رئيس مجلس إدارة جمعية  
رجال الأعمال المصريين الأفارقة

  
د/ يسري الشراوي

جمعية رجال الأعمال المصريين الأفارقة  
مشهرة برقم 11455 لسنة 2021  
Egyptian African Businessmen's Association  
6779/2020

الأمين العام لجمعية  
رجال الأعمال المصريين الأفارقة

  
م/ مصطفى الامير



THE HASHEMITE KINGDOM OF JORDAN  
**ELECTRICITY DISTRIBUTION COMPANY (EDCO)**

**Tender No.( 5/2026 )**

**Supply of Three-phase Smart Meters**

**Tenderer:**

- Name: \_\_\_\_\_
- Address: \_\_\_\_\_
- Telephone/ Cellular: \_\_\_\_\_
- Fax: \_\_\_\_\_
- Website: \_\_\_\_\_
- E-Mail: \_\_\_\_\_
- Contact Person: \_\_\_\_\_

**Director General**

**Electricity Distribution Company (EDCO)**

**P.O. BOX: 830878.**

**Amman - 11183 - Jordan.**

**The Hashemite Kingdom of Jordan.**

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## **INVITATION TO TENDER**

**(5/2026)**

**Dear Sir,**

You are kindly requested to tender for the supply of the below mentioned materials as per the quantities and technical specifications enclosed herewith, by filling in the schedules, signing the form of tender, and forwarding the complete tender documents to the attention of **EDCO-Director General** addressed as seen on the cover page, to be **received not later than 12: 00 pm (local time) (4/3/2026)**.

All bids must be accompanied with a bid bond of a value not less than **5%** of the highest alternative tender price, otherwise your tender will not be considered. The bid bond shall be enclosed in the same envelope of the tender and must be delivered to the above office **not later than 12:00 pm (local time) (4/3/2026)**.

- **The winning bidders/bidder shall bear the announcement costs in the local newspapers, no matter how often the announcement has been posted.**

## **GENERAL CONDITIONS**

- The below are general conditions of contract for the supply and delivery of plants and materials based on United Nations economic commission for Europe publication ref.: me/ 188 Geneva. March 1953 And/or according to FIDIC 1999 if there is a construction works.

### **1. Preamble**

1.1. These General Conditions shall apply, save as varied by express agreement accepted in writing by both parties.

### **1.2. Definition of Terms:**

The "**Purchaser**" shall mean "**ELECTRICITY DISTRIBUTION COMPANY.**" Hereinafter called "**EDCO**" and shall include **EDCOS** legal personal representatives and duly appointed engineers. "**Engineer**" shall mean ". **ELECTRICITY DISTRIBUTION COMPANY** " or persons for the time being or from time to time duly appointed in writing by the purchaser to act as Engineer for the purpose of the contract.

The words "approved" and "approval" where used in these conditions or in the specification shall mean "**approved by**" and "**approval of**" the purchaser respectively. The "Vendor" shall mean the "Contractor" who's tender has been accepted by the purchaser and shall include the **Vendor's**. (Contractor's) legal personal representatives, successors and permitted assigns, "**F.O.B. Price**" shall mean the cost of the equipment delivered free on board the ship or truck or aircraft, all port charges and handling charges (also heavy lift if applicable) included.

The contractor must insure the material against all risks from the time it leaves the work until it is placed F.O.B "**CFR price**" shall mean F.O.B. price plus freight including unloading at the port of destination. All Marine Insurance will be affected by the purchaser.

**NOTE:** -The contractor must provide full details of the material to be shipped in good time for **EDCO** to arrange for Marine Insurance before the material is actually shipped.

## **2. Formation of Contract**

- 2.1. The contract shall be deemed to have been entered into when the purchaser has sent an acceptance in writing before the time set in the tender for acceptance or any such later date extended by the tenderer at the request of the purchaser.
- 2.2. Notwithstanding that the contract and correspondence in connection with the contract shall be in the English language, the contract shall be and be deemed to be a Jordan contract and shall accordingly be governed by and construed according to the laws for the time being in force in the Hashemite Kingdom of Jordan.
- 2.3. **Power to Vary The Work:** no alternations, amendments, omissions, additions, suspensions, or variations of the work, (hereinafter referred to as "variations") under the contract as shown by the contract drawings or the specification shall be made by the contractor except as directed in writing by the purchaser, but the purchaser shall have full power, subject to the provision hereinafter contained, from time to time during the execution of the contract by notice in writing to instruct the contractor to make such variation without prejudice to the contract and the contractor shall carry out such variations, and be bound by the same conditions, as far as applicable, as though they said variations occurred in the specification. If any suggested variations would, in the opinion of the contractor, if carried out, prevent him from fulfilling any of his obligations or guarantees under the contract, he shall notify the purchaser thereof in writing, and the purchaser shall decide forthwith whether or not the same shall be carried out, and if the purchaser confirms his instructions, the contractor's obligations and guarantee shall be modified to such an extent as may be justified. The difference in cost, if any, occasioned by any such variations, shall be added to or deducted from the contract price as the case may require. The amount of such difference, if any, shall be ascertained and determined in accordance with the rates specified in the schedule of prices so far as the same may be applicable, and where the rates are not contained in the said Schedule, or are not applicable they shall be settled by the purchaser and the contractor jointly.

But the purchaser shall not become liable for the payment of any charge in respect of any such variations, unless the instruction for the

performance of the same shall have been given in writing by him. In the event of the purchaser requiring any variation, such reasonable a proper notice shall be given to the contractor as will enable him to make his arrangements accordingly, and in cases where goods or materials are already prepared, or any designs, drawings, or patterns made or work done that requires to be altered a reasonable sum in respect thereof shall be allowed by the purchaser. Provided that no such variations shall, except with consent in writing of the contractor, be such as will involve an increase or decrease of the total price payable under the contract by more than 25 percent thereof. The power given to the purchaser to make any alteration, amendment, omission, addition or variation to, from or in any part of the works shall include power to vary from time to time the date for the completion of the works or any part thereof, **also the purchaser shall have the absolute right to increase the quantities in such manner that the increment does not exceed the amount of 25% of the total price payable under the contract, however; the same prices awarded and any other relevant conditions shall remain the same for this purpose. This right is valid during the delivery period of the ordered material, implementation of works, or (90) days from the date of the letter of award, which has come later.**

**2.4. Precedence:** In the event of any discrepancy or contradiction between the provisions of the conditions of contract and of the specification, the conditions of contract shall take precedence. Furthermore, in case of discrepancy between unit and total prices then unit price will be considered.

**2.5. Prices:** the tender calls for firm prices, unless; otherwise mentioned in the special requirements schedule.

### **3. Drawings and Descriptive Documents**

**3.1.** The weights, dimensions, capacities, prices, performance rating and other data included in catalogues, prospectuses, circulars, advertisement, illustrated matter and price lists constitute an approximate guide. This data shall not be binding save to the extent that they are by reference expressly included in the contract.

**3.2.** Any drawings or technical documents intended for use in the construction of the material or of part thereof and submitted to the purchaser prior or

subsequent to the formation of the contract remain the exclusive property of the Vendor. They may not, without the Vendor's consent, be utilized by the purchaser or copied, reproduced, transmitted or communicated to a third party. Provided, however, that the said plans and documents shall be the property of the purchaser.

- a. If it is expressly so agreed, or
- b. If they are referable to a separate preliminary development contract on which no actual construction was to be performed and in which the property of the Vendor in the said plans and documents was not reserved.

3.3. Any drawings or technical documents intended for use in the construction of the material or of part thereof and submitted to the Vendor by the Purchaser prior or subsequent to the formation of the contract remain the exclusive property of the Purchaser. They may not, without his consent be utilized by the Vendor or copied, reproduced, transmitted or communicated to a third party.

3.4. The Vendor shall, if required by the purchaser, furnish free of charge to the purchaser at the commencement of the Guarantee Period, as defined in clause 9, information and drawings other than manufacturing drawings of the material in sufficient detail to enable the purchaser to carry out the erection, commissioning, operation and maintenance (including running repairs) of all parts of the material. Such information and drawings shall be the property of the purchaser and the restrictions on their use set out in paragraph 2 hereof shall not apply thereto. Provided that if the Vendor so stipulates, they shall remain confidential.

#### **4. Packing of the materials and shipping marks**

4.1. All materials, equipment and goods shall be very well packed, in seaworthy containers and/or wooden cases, etc. These should protect the material during shipping, handling, unloading for a reasonable period of storage at Aqaba and latter storage at EDCO stores.

4.2. Packing for indoor materials should be done in such manner as to adequately ensure no ingress of moisture, during the shipping and storage periods.

- 4.3. Packing of fragile equipment (e.g. including instruments and porcelain) should be done in a way which ensures a reasonable resistance to impact breakage during transport.
- 4.4. Packing shall in general be adequate and in compliance with the best international practice.
- 4.5. A descriptive and fully itemized list shall be prepared for the contents of each packing case. A copy of this list shall be placed in a waterproof envelope under a metal or other suitable plate and securely fastened to the outside of one end of the case. And its position adequately indicated by stenciling on the case. Where appropriate drawing showing the erection marking of the items concerned shall be placed inside the case.
- 4.6. **EDCO** will supply the successful tenderer with a drawing of its shipping mark for utilization.
- 4.7. All packing cases, crates, barrels and drums shall remain the property of the purchaser.

## 5. **Inspection and Tests**

All inspections and tests of the Plant and materials shall be performed to the extent and in the manner as stipulated in the Standards specified. Type test certificates shall be submitted for all important items supplied. They shall contain all major technical particulars which are mentioned in the Technical Data Sheets.

Routine test certificates showing the results of all tests performed on the individual Plant and materials shall be furnished to the Purchaser before dispatch of such equipment. The Purchaser reserves the right to have certain tests performed in the presence of his representative or an independent testing authority. A suitable program for such inspections and tests shall be agreed upon and adequate notice (at least 21 days) shall be given when the Plant and/or materials are ready for inspection or test and every facility shall provide by the Contractor to enable the Purchaser to carry out the necessary inspections and tests. The performance of any such inspections and tests in the presence of the Purchaser and/or an independent testing authority does not relieve the Contractor from his Contractual obligations.

## **5.1 General Inspection Requirement**

The whole of the material by the contract will be subject to inspection and testing by the engineer during manufacture and on completion. The approval of the engineer or the passing of any such inspection or test will not, however; prejudice the right of the purchaser to reject the material if it fails to comply with the specification when erected or to give complete satisfaction in service. The costs of all tests and inspection shall be borne by the contractor and shall be deemed to be included in the contract price. Before any material is packed or dispatched from the main or sub-contractor's works, all tests called for are to have been successfully carried out in presence of the engineer. Adequate notice shall be given when the material is ready for inspection or test and every facility shall be provided by the contractor and his inspection and his sub-contractors to enable the Engineer to carry out the necessary inspections and tests.

Triplicate copies of all principal test records and test certificates shall be supplied to the Engineer for all tests carried out in accordance with the provisions of the contract.

**5.1.1** If expressly agreed in the contract, the purchaser shall be entitled to have the quality of the materials used and the parts of the instruments, both during manufacture and when completed, inspected and checked by his authorized representatives.

Such inspection and checking shall be carried out at the place of manufacture during normal working hours after agreement with the Vendor as to date and time.

**5.1.2** If as a result of such inspection and checking the purchaser shall be of the opinion that any materials or parts are defective or not in accordance with the contract, he shall state in writing his objections and the reasons therefore.

**5.1.3 Sub-Contractors:** Within two months of acceptance of the tenders the contractor shall forward to the engineer a list of all sub-orders placed or intended. The contractor shall submit three copies of all sub-orders or selected by the engineer for progress or inspection. One copy

of all drawings referred to in the sub-order is to be submitted unless otherwise agreed by the engineer. The drawings and sub-orders submitted to the engineer will cover all major components which are subject to electrical and mechanical pressure or stress when the material is in operation and also auxiliaries and stores which will be dispatched to site direct from the sub-contractor's work. For the purpose of this clause inter-works orders are to be treated as sub-order. Sub-orders are to include a statement advising the sub-contractor that the items being order will be subject to inspection and test by the Engineer. It is important that all copies of such orders are clearly marked with the main contractor's name and the following reference:

**ELECTRICITY DISTRIBUTION COMPANY. CONTRACT No. (5/2026)**

Sub-Contractors are to comply with all the applicable requirements of this specification. Orders issued by the sub-contractor are also to include the main contractor's reference on their sub-order in addition to the above-mentioned heading.

## 5.2 **TESTS:**

All tests should meet the requirements of latest international standard mentioned in the contract or any relevant standard

- 5.2.1 Acceptance tests will be carried out and, unless otherwise agreed, will be made at the Vendor's works and during normal working hours. If the technical requirements of the tests are not specified in the contract, the tests will be carried out in accordance with the general practice obtaining in the appropriate branch of the industry in the country where the material is manufactured.
- 5.2.2 The Vendor shall give to the purchaser sufficient notice of the tests to permit the purchaser's representatives to attend. If the purchaser is not represented at the tests, the tests report shall be communicated by the Vendor to the purchaser and shall be accepted as accurate by the purchaser.
- 5.2.3 If on any test (other than a test site, where test on site are provided for in the contract) the material shall be found to be defective or not in accordance with the contract, the Vendor shall with all speed make good the defect or ensure that the plant complies with the contract. Thereafter, if the purchaser so requires, the test shall be repeated.
- 5.2.4 Unless otherwise agreed, the Vendor shall bear all the expenses of tests carried out in his works.
- 5.2.5 If the contract provides for tests on site, the terms and conditions governing such tests shall be such as may be specially agreed between the parties
- 5.2.6 **Material Tests:** The contractor shall provide test prices as required by the engineer to enable him to determine the quality of the material supplied free of charge and any cost of the tests shall be borne by the contractor. If any test pieces fails to comply with the requirements of the appropriate specifications for the material in question, the engineer may reject the whole of the material represented by that piece, the contractor's designers and

Metallurgists will be consulted before any material is so rejected. In the event of the engineer being furnished with the certified particulars of the tests which have been carried out for the

contractor by the suppliers of the material, he may, at his own discretion, dispense with the previously mentioned tests entirely.

**5.2.7 Tests at Manufacture's Works:** Works tests shall include all routine, electrical, mechanical and hydraulic tests in accordance with the relevant IEC standard or other standard may be approved except where departures there from and modifications thereto are embodied in this specification. For material not covered by an IEC or British standard or specifically mentioned in this specification the tests shall be agreed with the Engineer. After satisfactory completion of the witnessed tests at the works, the material shall be submitted for the engineer's approval preparatory to shipping. No item of material is to be dispatched to site until the Engineer has given his approval in writing.

**5.2.8 Test Certificates:** Triplicate sets of all principal test records test certificates and performance curves shall be supplied for all tests carried out in accordance with the provisions of this contract. These test records, certificates and performance curves shall be supplied for all tests, whether or not they have been witnessed by the engineer. The information given in such test certificates and curves shall be sufficient to identify the material or equipment to which the certificates refers and should also bear the contract reference and heading as given in clause 7.2 of this section.

**5.2.9 Rejection of the materials:** If Any item of material or component which fails comply with the requirements of this specification in any respect whatsoever at any stage of manufacture, test, erection or on completion at site may be rejected by the engineer either in whole or in part as he considers necessary, and after adjustment or modification if so directed by the Engineer, the contractor shall submit the item for the item for the further inspection and / or test.

In the event defects of such a nature that the requirements of this specification cannot be fulfilled by adjustment or modification shall be replaced by the contractor, at his own expense, to the entire satisfaction of the engineer.

### 5.3 **Maintenance:**

The contractor must submitted maintenance bond equal to (5%) of the Order amount to guarantee the efficient and good working of the material supplied under the contract for a period of 12 months (Gregorian) from the date of delivery of the material to EDCO SORES in accordance with the General conditions of contract.

### 6. **Passing of Risk**

Save as provided in paragraph 7.6, the time at which the risk shall pass shall be fixed in accordance with the International Rules for the Interpretation of Trade Terms (Incoterms) of the International Chamber of Commerce in force at the date of the formation of the contract.

### 7. **Delivery:**

- 7.1. Unless otherwise agreed the delivery period shall run from the latest of the following dates:
  - a. The date of the formation of the contract as defined in clause 2.
  - b. The date on which the Vendor receives notice of the issue of a valid import license where such is necessary for the execution of the contract.
  - c. The date of the receipt by the Vendor of such payment in advance of manufacture as stipulated in the contract.
- 7.2. Should delay in delivery be caused by any of the circumstances mentioned in clause 10 or by an act or omission of the purchaser and whether such cause occur before or after the time or extended time for delivery, they shall be granted subject to the provisions of paragraph 5 hereof such extension of the delivery period as is reasonable having regard to all the circumstances of the case.
- 7.3. If a fixed time for delivery is provided for in the contract and the Vendor fails to deliver within such time or any extension thereof granted under paragraph 2 hereof, the purchaser shall be entitled, on giving to the Vendor within a reasonable time notice in writing, to

**Claim a deduction of the price payable under the contract. Such**

**deduction shall be calculated at the rate of one half of one percent (0.5%) of that part of the price payable under the contract which is properly attributable to such portion of the plant as cannot in consequence of the said failure be put to the use intended for each complete week of delay commencing on the due date of delivery, but shall not exceed a maximum percentage deduction of ten percent.** Such deduction shall be allowed when a payment becomes due on or after delivery. Save as provided in paragraph 5 hereof, such deduction of price shall be to the exclusion of any other remedy of the purchaser in respect of the Vendor's failure to deliver as aforesaid.

- 7.4. If the time for delivery mentioned in the contract is an estimate only, either party may after the expiration of two thirds of such estimated time require the other party in writing to agree a fixed time. Where no time for delivery is mentioned in the contract, this course shall be open to either party after the expiration of six months from the formation of the contract. If in either case the parties fail to agree, either party may have recourse to arbitration, in accordance with the provisions of clause 13, to determine a reasonable time for delivery and the time so determined shall be deemed to be the fixed time for delivery provided for in the contract and paragraph 3 hereof shall apply accordingly.
- 7.5. If any portion of material in respect of which the purchaser has become entitled to the maximum deduction provided for by paragraph 3 hereof, or in respect of which he would have been so entitled had he given the notice referred to therein, remains undelivered, the purchaser may by notice in writing to the Vendor require him to deliver and by such last mentioned notice fix a final time for delivery which shall be reasonable taking into account such delay as has already occurred.
- 7.6. If for any reason whatever the Vendor fails within such time to do everything that he must do to effect delivery, the purchaser shall be entitled by notice in writing to the Vendor, and without requiring the consent of any court, to terminate the contract in respect of such portion of the material and thereupon to recover from the Vendor any amount not exceeding that part of the price payable under the Contract which is properly attributable to such portion of the material as could not in

consequence of the Vendor's failure be put to the use intended.

- 7.7. If the purchaser fails to accept delivery on due date, he shall nevertheless make any payment conditional on delivery as if the material had been delivered. The Vendor shall arrange for the storage of the material at the risk and cost of the purchaser. If required by the purchaser, the Vendor shall insure the material at the cost of the purchaser. Provided that if the delay in accepting delivery is due to one of the circumstances mentioned in clause 10 and the Vendor is in a position to store it in his premises without prejudice to his business, the cost of storing the material shall not be borne by the purchaser.
- 7.8. Unless the failure of the purchaser is due to any of the circumstances mentioned in clause 10, the Vendor may require the purchaser by notice in writing to accept delivery within reasonable time. If the purchaser fails for any reason whatever to do so within such time, the Vendor shall be entitled by notice in writing to the purchaser, and without requiring the consent of any court, to terminate the contract in respect of such portion of the material as is by reason of the failure of the purchaser aforesaid not delivered and thereupon to recover from the purchaser any loss, suffered by reason of such failure up to an amount not exceeding the value of the material, the delivery of which has not been accepted.
- 7.9. If the winner contractor in the tender, refrained for supply the material or execution of works which award for him or failed to execute the contract on the limited time, or failed to replace the rejected material or works in another applying materials on his account, the tenders committee which take its previous design to award the tender for this supplier has the right to Confiscation the bid bond or the performance bond or part of them as commensurate with the material & works value.
- 7.10. If refrained bidder to comply with his offer or did not complete the necessary contract and signing of the purchase order and did not submitted the performance bond within 15 days from the date of the order, the tender s committee has the right to confiscated the bid bond.

## **Force Majeure**

- Notwithstanding the provisions of clauses 7, the supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, its delay in performance or other failure to perform its obligations under the contract is the result of an event of Force Majeure.
- For purposes of this clause, "Force Majeure" means an event beyond the control the supplier not involving the supplier's fault or negligence. Such events may include, but are not restricted to, acts to the purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and fright embargoes.
- If a Force Majeure situation arises, the supplier shall promptly notify the purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as is reasonably practical, and shall all reasonable alternative means for performance not prevented by the Force Majeure event.

## 8. Payment:

### 8.1. **Terms of Payment:**

Subject to any deduction which the purchaser may be authorized to make under the contract or subject to any additions or deductions provided for under clause 2-3 above, The Company (EDCO) prefers to deal with the supplier on an **open account basis**, and the payment to be made as the following:

**1- For local Vendors:** Payment will be Settled (100%), to be Paid within (30) days after receive and accept the supplied goods at EDCO Stores.

#### **2- For foreign Vendors:**

- **CAD (cash against documents)**

A. (90%) CAD.

B. And (10%) to be paid within (30) days of Receipt of EDCO's certificate of acceptance, Receipt of goods at EDCO stores.

- **L/C (letter of credit)**

A. (100%) L/C, all L/C charges will be on vendor own expense, in all respects all banking charges are at vendors account.

The L/C will be confirmed and irrevocable but has to be acceptance L/C, and the supplier has to send the following documents **(Free of Payment)**:

- **Open Account**

A. (10%) of the CFR contract value (as shown by the supplier's invoice/contractor invoice) on receipt of the following **legalized shipping** documents by EDCO:

- (Original Invoice + five copies)
- (Certificate of origin + five copies)
- (Bill of lading 3-negotiable + 5 non-negotiable)
- (Test certificate (where applicable) + 6 copies).
- 

**The original shipping documents must arrive to EDCO or to our bank before (5) days at least prior the materials arrival.**

- B. (80%) of the invoice value to be paid within (30) days of Receipt of EDCO's certificate of acceptance, Receipt of goods at EDCO stores.
- C. (10%) of the contract value within (30) days from expiration of the guarantee period.

If the bidder insists on L/C (letter of credit) as a method of payment, all L/C charges will be on his own expense, in all respects all banking charges are at vendor account, the terms will be as follows:

- a. The L/C will be confirmed and irrevocable but has to be **acceptance L/C**, and the supplier has to send the following **legalized shipping** documents:
  - (Original Invoice + five copies),
  - (Certificate of origin + five copies),
  - (Bill of lading 3-negotiable + 5 non-negotiable),
  - (Test certificate (where applicable) + 6 copies).
  - (Release of shipment (where applicable) – fax copy is accepted).
- b. Payment will be released after submitting EDCO's certificate of acceptance to the bank within (30) days after receipt of goods at EDCO's stores.

**NOTE:**

- In case the supplier has better terms of payment than those mentioned above the purchaser will discuss such terms.
- Any deviation on the payment methods mentioned above, will negatively affect the evaluation of tenderer's offer.
- In case the payment by acceptance L/C, The performance bond should be valid for a period expiring at least one year after receipt of the last consignment in EDCO stores.
- EDCO has the right to request an additional bank guarantee equal to (5%) five percent to cover the guarantee period.

**Currency of Payment:** The contract price will normally be paid in the currency or currencies in which the price has been stated. The purchaser, however, reserves the right to make payments in the currencies of the countries of origin of goods and services at the exchange rates applicable at the time of payment of the contract price.

**Shipping documents shall comprise the following documents: -**

- 1) **Invoices** – one original, five copies.
  - 2) **Shipping specification (packing list)** – six copies.
  - 3) **Certificate of origin** – one original, five copies.
  - 4) **Bill of lading** – 3 three negotiable, five non-negotiable.
  - 5) **Test certificates (where applicable)** – six copies.
  - 6) **Release of shipment (where applicable)** – fax copy is accepted.
  - 7) **EDCO's Certificate of Acceptance** - fax copy is accepted
- 8.2. Any advance payments made by the Purchaser are payments on account and do not constitute a deposit, the abandonment of which would entitle either party to terminate the Contract.
- 8.3. A payment conditional on the fulfillment of an obligation by the Vendor shall not be due until such obligation has been fulfilled, unless the failure of the Vendor is due to an act or omission of the Purchaser.
- 8.4. If delay by the Purchaser in making any payment is due to one of the circumstances mentioned in clause 10, the Vendor shall not be entitled to any interest on the sum due.

**9. Guarantee:**

- 9.1. Subject as hereinafter set out; the Vendor undertakes to remedy any defect resulting from faulty design, materials or workmanship.
- 9.2. This liability is limited to defects which appear during the period (Hereinafter called the Guarantee Period) of **fifteen** months from date of dispatch ex-works or twelve months from the date of accepting the Materials at EDCO stores whichever shall be later.
- Or in case of turn key projects eighteen months from the date of setting to work.
- 9.3. In fixing this period due account has been taken of the time normally required for transport as contemplated in the contract.
- 9.4. In respect of such parts (whether of the Vendor's own manufacture or not) of the material as are expressly mentioned in the contract, the Guarantee Period shall be such other period (if any) as is specified in respect of each of such parts.
- 9.5. The Guarantee period is based on the continuous use of the plant in

services for 24 hours every day.

- 9.6. A fresh Guarantee Period equal to that stated in paragraph 2 hereof shall apply, under the same terms and conditions as those applicable to the original material, to parts supplied in replacement of defective parts or to parts renewed in pursuance of this clause. This provision shall not apply to the remaining parts of material, the Guarantee Period of which shall be extended only by a period equal to the period during which the material is out of action as result of a defect covered by this clause.
- 9.7. In order to be able to avail himself of his rights under this clause the purchaser shall notify the Vendor in writing without delay of any defects that have appeared and shall give him every opportunity of inspecting and remedying them.
- 9.8. On receipt of such notification the Vendor shall remedy the defect forthwith and at his own expense. Save where the nature of the defect is such that it is appropriate to effect repairs on site, the purchaser shall return to the Vendor any part in which a defect covered by this clause has appeared, for repair or replacement by the Vendor, and in such case the delivery to the purchaser of such part properly repaired or a part in replacement thereof shall be deemed to be a fulfillment by the Vendor of his obligations under this paragraph in respect of such defective part.
- 9.9. The Vendor shall bear all the costs and risks of the transport of defective parts or equipment's and their replacements.
- 9.10. Where, in pursuance of paragraph 9 hereof, repairs are required to be effected on site, the conditions covering the attendance of the Vendor's representatives on site shall be such as may be specially agreed between the parties.
- 9.11. Defective parts replaced according to this clause shall be placed at the disposal of the Vendor.
- 9.12. If the Vendor refuses to fulfill his obligations under this clause or fails to proceed with due diligence after being required so to do, the purchaser may proceed to do the necessary work at the Vendor's risk and expense, provided that he does so in a reasonable manner.

9.13. The Vendor's liability does not apply to defects arising out of materials provided, or out of a design stipulated, by the purchaser.

9.14. The Vendor's liability shall apply only to defect that appears under the conditions of operation provided for by the contract and under proper use. It does not cover defects due to causes arising after the risk in the material has passed in accordance with clause 6. In particular it does not cover defects arising from the purchaser's faulty maintenance or erection, or from alterations carried out without the Vendor's consent in writing, or from repairs carried out improperly by the purchaser, nor does it cover normal deterioration.

9.15. Save as in this clause expresses, the Vendor shall be under no liability in respect of defects after the risk in the material has passed in accordance with clause 6, even if such defects are due to causes existing before the risk so passed. It is expressly agreed that the purchaser shall have no claim in respect of personal injury or of damage to property not the subject matter of the contract or of loss of profit unless it is shown from the circumstances of the case that the Vendor has been guilty of gross misconduct.

9.16. All defective and/ or not complying materials shall be

Evacuated from

EDCO stores within a maximum of one month by the vender from the date of notifying him. All costs and expenses of transportation shall be borne by the vendor. Unless otherwise agreed.

Otherwise; EDCO has the right to deal with the defective materials in a proper way.

9.17. Gross misconduct "does not comprise any and every lack of proper care or skill, but means an act or omission on the part of the Vendor implying either a failure to pay due regard to serious consequences which a conscientious contractor would normally foresee as likely to ensue, or a deliberate disregard of any consequences of such act or omission.

## **10. Relief**

10.1. The following shall be considered as cases of relief if they intervene after the formation of the contract and impede its performance: industrial

disputes, and any other circumstances (e.g. fire, mobilization, requisition, embargo, currency restrictions, insurrection, shortage of transport, general shortage of materials and restrictions in the use of power) when such other circumstances are beyond the control of the parties.

- 10.2. The party wishing to claim relief by reason of any of the said circumstances shall notify the other party in writing without delay on the intervention and on the cessation thereof.
- 10.3. The effects of the said circumstances so far as they affect the timely performance of their obligation by the parties, are defined in clauses 7 and 8. Save as provided in paragraph 7.5, 7.7, and 8.7, if by reason of any of the said circumstances, the performance of the contract within a reasonable time becomes impossible, either party shall be entitled to terminate the contract by notice in writing to the other part without requiring the consent of any court.
- 10.4. If the contract is terminated in accordance with paragraph 3 hereof, the division of the expenses incurred in respect of the contract shall be determined by agreement between the parties.
- 10.5. In default of agreement it shall be determined by the arbitrator which party has been prevented from performing his obligations and that party shall bear the whole of the said expenses.

Where the purchaser is required to bear the whole of the expenses and has before termination of the contract paid to the Vendor more than the amount of the Vendor's expenses, the purchaser shall be entitled to recover the excess. If the arbitrator determines that both parties have been prevented from performing their obligation, he shall apportion the said expenses between the parties in such manner as to him seems fair and reasonable, having regard to all the circumstances of the case.

- 10.6. For the purposes of this clause "expenses" means actual out of pocket expenses reasonably incurred, after both parties shall have mitigated their losses as far as possible. Provided that as respects material delivered to the purchaser the Vendor's expenses shall be deemed to be that part of the price payable under the contract which is properly attributable thereto.

## **11. Limitation of Damages:**

- 11.1. Where either party is liable in damages to the other these shall not exceed the damage which the party in default could reasonably have foreseen at the time of the formation of the contract.
- 11.2. The party who sets up a breach of the contract shall be under a duty to take all necessary measures to mitigate the loss which has occurred provided that he can do so without unreasonable inconvenience or cost. Should he fail to do so, the party guilty of the breach may claim a reduction in the damages.

## **12. Rights at Termination:**

Termination of the contract from whatever cause arising shall be without prejudice to the rights of the parties accrued under the contract up to the time of termination.

## **Arbitration and Law Applicable:**

- 13.1. If Any dispute, question or controversy shall arise between the purchaser and the contractor concerning this contract the matter in dispute shall be referred to an arbitration committee composed of three (3) arbitrators
- 13.2. One arbitrator shall be nominated by the purchaser and one by the contractor, and the third arbitrator shall be appointed by both parties.
- 13.3. If either party fails to appoint his arbitrator within one month of the appointment of the arbitrator by the other party, or if the two parties fail to agree on the third arbitrator within two months of the date of the request to refer the dispute to arbitration, such arbitrator shall be appointed by the president of the highest court in Jordan at the request of either or both parties.
- 13.4. The decision of the arbitrators shall be final and binding on both the purchaser and the contractor. Any such reference shall conform to the statutory enactment or regulation governing arbitration as may be in force in Jordan at the time. The assessment of costs incidental to the reference and award respectively shall be at the discretion of the arbitration committee.

## **TENDERING INSTRUCTIONS**

1. The Tender shall be made in one copy of the accompanying form; however, all blanks and schedules shall be filled up in ink, and signed without alteration to the form of tender. If any such alteration were made, or if these Instructions were not fully complied with, the tender may be rejected. The tenderer; however, is at liberty to add any further details that he may deem desirable and, in the event of his so doing, shall print or type such details and annex the added matter to the tender submitted by him. Such additional details shall not be binding upon the purchaser unless they shall be subsequently incorporated in the contract.
2. One copy of the tender, and its accompanying documents, filled up as directed, together with the drawings, catalogs, and relevant documents called for, must be enclosed in a secure envelope endorsed **(Tender for Contract No. (5/2026))**.
3. All correspondences in connection with this tender and all matters accompanying the tender that are relevant to its examination shall be in English language and expressed in metric units.
4. The tender is to be held open for acceptance or rejection for a validity period of (90) days from the time fixed for opening the tenders.
5. Tenders received prior to the time fixed for opening of tenders will be securely kept, unopened. Tenders received after that time will be rejected. The purchaser bears no responsibility for premature opening of tenders not properly addressed or identified.
6. Tenders may be withdrawn by formal request received in writing from the tenderer prior to the time fixed for opening. If for any reason the tender should be withdrawn after the time fixed for opening and before expiry of the said validity period, the purchaser has the right to retain the full value of the tender bond.
7. The successful tenderer shall abide by the commercial and professional regulations as required by the Ministry of Industry & Trade, Engineering Association and other relevant Institutions in Jordan.

8. Tenderers attention is drawn to the action of customs officers in the discharge of their duties. Whereby air parcels are frequently opened In their own interests and in order to preserve the confidential nature of the tender price, tenderers are urged to pay attention to the:
  - a. To dispatch the completed tender document and any covering letter only by Air Mail which should be endorsed and labeled in the manner laid down in paragraph 10 of the Instructions to Tendering.
  - b. Technical literature and the like may reasonably be sent by Air Parcel or Air Freight but since this would then be separated from the actual Tender, each parcel should contain specific evidence identifying the Tender to which the contents refer.
  - c. The purchaser will not consider late or incompletely delivered tenders or literature supporting tenders due to the action of any customs officer.
9. In the event that the intending signatory does not manufacture one or more of the main sections of equipment and materials, then the tender submitted should give evidence to show that all the obligations imposed by the documents on the intending signatory have been fully understood and accepted, where applicable, by the manufacturer(s) to whom it would be intended to sub-contract one or more of the main sections of the equipment and materials.
10. For overseas transport of the contractor and his Sub-contractors, suppliers and manufactures must give priority to Jordan shipping national lines, and to Arab shipping companies and their subsidiaries for the shipping of goods, materials provided such companies ships call at the port of export. The contractor shall also give priority to the Royal Jordanian Airlines for air freight shipment and transport of personnel.
11. Tenderer must submit country of origin and name of manufacturer for the offered goods.
12. The foreign bidders who participate in this tender must submit their bids through a registered local agent or through their registered office in Jordan.
13. For all manufacturers from inside Jordan it is quite essential that they have JQM for their products and the purchaser will have the right to accept or reject their offer if they did not submitted the JQM certificate with their offer.

14. If samples were not re-claimed by the tenderer within one month from date of order all samples shall remain the property of the purchaser.
15. The purchaser will not be responsible for, nor to pay for, any expenses or losses which may be incurred by a tenderer in the preparation of his tender.
16. If the tenderer has any doubt about the meaning of any portion of the General Conditions, Specifications, Drawings, he shall clarify such doubts before submitting his tender, or in case of any further information can be obtained by an application in writing to the director general.
17. Tenderers are particularly directed that the amount entered on the form of tender shall be a fixed price for performing the contract strictly in accordance with the bound document, and shall be the sum total of all the amounts printed into and entered by the tenderer upon the schedule of prices.
18. Tender price shall include all incidental and contingent expenses.
19. The tender shall be accompanied by a tender bond in the form of a Bank Guarantee valid for at least 90 days from the time fixed for opening the tenders or certified check in favor of and payable to the purchaser for a sum of **5% Of Your Offer** \_\_\_\_\_ as a guarantee of good faith. This bond is to be issued by any approved bank in Jordan. The bond will be returned to the unsuccessful tenderer within (90) days from the time fixed for opening the tenders or at such earlier time as a tender shall have been accepted by the purchaser. In the case of the successful tenderer, the bond will, subject to the conditions of contract, be returned as soon as a formal contract agreement and a performance bond have been entered into.
20. The successful tenderer has to submit a performance bond equal to (10%) ten percent of the total amount of the order within (15) days from date of receipt of the order. Any delay will be subject to delay penalty.  
  
If the successful tenderer fails for any reason to submit the required performance bond within (15) days, the purchaser will confiscate the bid bond and the awarding letter will be cancelled too.
21. The performance bond should be valid for a period; expiring at least one month after receipt of the last consignment in EDCO stores.

22. The tenderer shall state in his tender the name or names of the sureties, insurance company, or bank proposed for guaranteeing the performance of the contract.
23. Prices are highly recommended to be on the basis of C&F EDCO STORES. However CFR Aqaba port or Amman customs are also accepted. All prices offered shall be exempted from custom duties, sales taxes, import license fees and any other tariffs.
24. The tenderer may state the tender price in Jordanian Dinars. If however, a portion of the tenderer's expenditure under the contract is expected to be made in countries other than Jordan he may state a corresponding foreign currency portion of the tender price in the currencies of those other countries.
25. Stamp duty and award fees are payable on Jordanian contracts according to Jordanian laws and, after the placing of a contract, it is the contractor's responsibility to purchase legal stamps to the requisite amount depending on the contract value.
26. If after receipt of tenders, the purchaser finds any difference between prices shown on the form of tender in writing and in numerals, then the price shown in writing shall be considered correct by the purchaser and the tenderer. If any discrepancies are found between the total in the price schedule and the total obtained by adding the products of each quantity and its particular rate then, whether the price shown on the form of tender in numerals or in writing corresponds or not, the total obtained by adding the products of the quantities and their particular rates shall be considered by the purchaser and the tenderer as the tender price.
27. Tender evaluation will be consistent with the terms and conditions set forth in the tender document. In addition to the tender price adjusted to correct arithmetical errors, other relevant factors such as the time of completion of delivery or construction, operating costs where applicable, or the efficiency and compatibility of the equipment, the availability of service and spare parts, and reliability of construction methods proposed will be taken into consideration, to the extent and in the manner specified in the tender documents, in determining the evaluated tender most advantageous to the purchaser. For comparison of all tenders, the currency or currencies of the tender price for each tender will be valued in terms of Jordanian Dinars. The

rates of exchange to be used in such valuation will be the selling rates published by the CENTRAL BANK OF JORDAN and applicable to similar transactions, on the day tenders are opened unless there should be a change in the value of the currencies before the award is made. In the latter case, the exchange rates prevailing at the time of the decision to notify the award to the successful tenderer may be used.

28. The purchaser does not bind himself to accept the lowest offers of any tender, nor to assign any reason for the rejection of any tender, nor to purchase the whole of the equipment and materials specified. The purchaser has the right to purchase part of the tender, even if it is only one item from the schedule of rates and prices.
29. The tenderer shall submit with his tender in order of the relevant clauses, a statement of any departures from specifications, or he can fill in the related schedule attached herewith. Notwithstanding any description, drawings, or literature which may be submitted, all details other than those in the statement of departures shall be assumed to be in accordance with the specification.
30. Although IEC standards for workmanship, equipment and materials, have been selected in this specification as a basis of reference, standards and specifications of other countries and recommendations of other international standard organizations will be acceptable provided that they are substantially equivalent to the designated standards and provided

Further that the tenderer submits for approval detailed specification which he proposes to use.

31. References to brand names or catalog numbers, if any, in this specification have been made only for that equipment for which it has been determined that a degree of standardization is necessary to maintain certain essential features. In certain instances such references have also been made for purpose of convenience to specify the requirements. In either case offers of alternative goods which have similar characteristics and provide performance and quality at least equal to those specified are acceptable.
32. Where compliance with a specific standard specification is called for the standard specification used shall be that in force at the time of tender.
33. The Tenderer should submit a type test certificate from independent testing laboratory similar to the Tender materials as an evidence of his capability to

manufacture such materials also to submit a reference list showing his past supply and he should prove that he supplied similar materials to more than one firm and operated for more than 3 years without problems otherwise his offer will not be considered.

34. A nonrefundable fee of **(100) JD** will be charged for each set comprising one copy of the Tender Documents.

## **TENDER AGREEMENT SUMMARY**

**Tender No. (5/2026)**

**Dear Sir;**

1. Having examined the conditions of Contract, specification and schedule for the above Works, the undersigned, offer to manufacture, supply, work, test, and deliver the said works described in the specification and schedules and in accordance with the said conditions of contract, for the sum of \_\_\_\_\_ or such other sum as may be ascertained in accordance with the said conditions.
2. We agree that this tender shall be held open for acceptance or rejection for the validity period of **(90) days** from the date fixed for opening tenders and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
3. Unless and until a formal agreement is prepared and executed, this tender, together with your written acceptance thereof, shall constitute a binding contract between us.
4. If our tender is accepted, we will deliver to **ELECTRICITY DISTRIBUTION COMPANY**. Within **(15) days** of being called upon to do so a performance bond by bank or insurance company (to be approved in either case by the purchaser) to be jointly and severally bound with us in a sum equal to **10%** of the value of the contract. The form of the performance bond will be as attached hereto. We propose the following Bank or insurance company as surety (or sureties) in this respect:-.....

5. We undertake if our tender is accepted and on receipt of your acceptance to commence and manufacture, works test, and complete for delivery **ex-works** the whole of the Works offered within (——) weeks calculated from the date of **Order Letter Awarding**, and to deliver on the dock at (————— port) - Jordan the whole of the works offered within a further (————— weeks, or to **EDCO stores** within a further (——) weeks.
  
6. We undertake to insure the materials against all risks from the time they leave the works until they are placed on board ship. We understand that marine insurance will be affected by **ELECTRICITY DISTRIBUTION COMPANY**. And we will provide details of the materials to be shipped in good time for **ELECTRICITY DISTRIBUTION COMPANY** to arrange for the said marine insurance.
  
7. A guarantee Period will apply to each section of the works of 15 months from the date of dispatch ex-works or 12 months from the date of setting to work whichever shall be later.
  
8. We understand that you are not bound to accept the lowest or any tender you may receive.

Dated this \_\_\_\_\_ day of / / 2026.

Signature \_\_\_\_\_ in the capacity of \_\_\_\_\_

Duly authorized to sign Tender for and on behalf of \_\_\_\_\_

ADDRESS \_\_\_\_\_ OCCUPATION \_\_\_\_\_

**ELECTRICITY DISTRIBUTION COMPANY.**

**Form of Bid Bond**

**Tender No. (5/2026)**

**Dear Sir,**

We are pleased to inform you that we guarantee  
M/S \_\_\_\_\_for the amount  
of \_\_\_\_\_in order to allow them to submit an offer  
for the due performance of the undertaking and obligation as specified in their  
Tender for Contract No. \_\_\_\_\_This Guarantee shall remain valid for a  
period of **(90)** days from the time fixed for opening the Tenders by  
**ELECTRICITY DISTRIBUTION COMPANY.**

This Guarantee shall be free from any interest and will be extended or paid in  
cash upon your first request in any or required, without the need for natural  
warning or judicial proceedings and without any rights to delay, oppose, or stop  
payment on our part, or on the part of the Tenderer or any of his  
representatives whomever.

This Guarantee shall be deemed valid until the submittal of a duly executed  
Performance Bond.

***Signed*** \_\_\_\_\_ ***Bank (Surety)***

**ELECTRICITY DISTRIBUTION COMPANY.**

**Form of Performance Bond**

**Tender No. (5/2026)**

**Dear Sirs,**

At the request of \_\_\_\_\_ bank (the Foreign Bank) and on behalf of M/S \_\_\_\_\_ (Contractor's Name and Address), we \_\_\_\_\_ Bank (the Local Bank) issue in your favor our irrevocable and unconditional Performance Bond No. \_\_\_\_\_ in the amount of \_\_\_\_\_ (In \_\_\_\_\_ words), in this connection we \_\_\_\_\_ Bank (the Local Bank) hereby consider ourselves responsible for unconditional payment to you or to your authorized representatives of the above sum on your first written demand in whole or in part notwithstanding any objections on the part of the above named contractor and without any need for natural warning or judicial proceedings.

This Bond will expire on \_\_\_\_\_ and shall be renewed automatically for a period of \_\_\_\_\_ months and for consecutive similar periods until it is returned by you to us.

***Signed*** \_\_\_\_\_ ***Bank (Surety)***

**ELECTRICITY DISTRIBUTION COMPANY.**

**Form of Maintenance Bond**

**Tender No. (5/2026)**

**M/S. ELECTRICITY DISTRIBUTION CO. (EDCO)  
Amman - Jordan**

At the request of \_\_\_\_\_ Bank ( the foreign bank ) and on behalf of M/S : \_\_\_\_\_ ( The Contractor name and address ), we \_\_\_\_\_ Bank (the local bank) issue in your favor our irrevocable and unconditional maintenance bond No.(\_\_\_\_\_ ) in the amount of \_\_\_\_\_ (In words) valid until \_\_\_\_\_ covering \_\_\_\_\_ PCT value of the \_\_\_\_\_ (Contract No. Name), in this connection we the \_\_\_\_\_ Bank (local bank ), hereby consider ourselves responsible for the unconditional payment to you or your authorized representatives of the above sum on your first written demand in whole or in part notwithstanding any objections on the part of the above named Contractor and without any need for notarial warning or judicial proceedings.

This bond will expire on \_\_\_\_\_ and shall be renewed automatically for a period of (\_\_\_\_\_) months and for consecutive similar periods until it is returned by you to us.

***Signed \_\_\_\_\_ Bank (Surety)***

## **Specifications of KWH AMI Meters**

### **A. Scope:**

Electricity Distribution Company (EDCO) intends to procure energy smart meters of the following types: three-phase direct meters, three-phase CT-operated meters, and three-phase CT/VT-operated meters. The meters shall be equipped with communication modules (2G/3G/4G) and shall be compatible for integration with EDCO's Head-End Systems (HES).

EDCO's existing Head-End Systems (HES) include "Hexing MDC v8.11.0.13\_ED2\_RELEASE" and "Holley MDC v1.3.24.2.20". The HES platforms may be upgraded during the project period; therefore, the tenderer shall ensure full compatibility of the proposed smart meters and communication modules with the latest upgraded versions of the HES systems.

### **B. Reference Standards:**

- ◆ International Standard specifications IEC 62052/53, 62053-21, 62052-11, 62053-22, 62053-23 ...etc. or an equivalent specification.
- ◆ International Communication Protocols are DLMS/COSEM, MOD-Bus, IEC62056-21... enabling AMI function application.

### **C. General Specifications:**

1. Meters' Firmware and communication modules shall be successfully capable to integrate with above-mentioned HES systems, including any future upgrades, at no additional cost to EDCO.
2. The tenderer shall submit certified documentary evidence demonstrating that the offered meters have been successfully integrated, tested, and operated with at least one of the above-mentioned Head-End Systems (HES), using the same specified software versions.
3. The tenderer must fully cooperate and coordinate with EDCO's HES vendors (Hexing and Holley) and ensure, at no additional cost to EDCO, the successful integration, testing, and commissioning of the newly supplied meters with at least one of EDCO's HES platforms.

4. All offered meters shall support secure remote firmware upgrades through EDCO's HES systems, if required, without any physical intervention or changes to the existing installation conditions.
5. The offered meters shall be equipped with integrated communication modules supporting 2G/3G/4G technologies. The tenderer shall provide complete and certified technical documentation and datasheets clearly specifying the communication module model, type, supported frequency bands, certifications, compliance standards, and manufacturer details.
6. The offered meters shall support plug-and-play integration of various communication modules, including PLC, Wi-Fi, Ethernet and RF modules, without any hardware or software modifications.
7. The tenderer shall bear full responsibility for obtaining all required approvals from the Telecommunications Regulatory Commission (TRC) and the Jordan Customs Department. Delivery shall be considered completed upon receipt of the goods at EDCO stores. EDCO's role shall be limited exclusively to providing supporting documents, if required, for dealings with the relevant governmental authorities.
8. Offered meters shall support reliable "last gasp" communication functionality, to automatically generate and transmit a notification upon power failure. The meters shall also support configurable push event messaging with a clear detail of the supported events.
9. The tenderer shall assign a qualified local metering specialist engineer to act as a single point of contact for EDCO, enabling discussion and resolution of any technical issue(s).
10. In view of EDCO available HESs (Hexing & Holley); AMI Expansion and licenses is under tenderer liability and full responsibility.
11. Any meters, which are found to have errors of more than error stated in related IEC standard (when transported by the supplier to EDCO test room and tested with the covers removed or in position) shall be replaced by the supplier at no cost to EDCO.
12. The tenderer/manufacturer of the meters offered shall supply proof that he has been manufacturing meters similar to those specified in this document, for at least 5 years. The Tenderer shall submit with his offer a list of supply Authorities using similar meters to those offered as references and the current re-certification period required by law in the country of manufacturer.
13. The expected operational time of the offered meter shall be not less than (20 years) and the accuracy of the meter shall remain within the specified class which must be confirmed by an official organization from KEMA,

SGS or NMI. A certificate or confirmation to this effect must be provided.

14. The battery life shall be in the range (15-20) years, the meter shall continue to operate even if the battery is lost for any reasons. The battery should not be used if the meter is electrified. The battery should be in a separated sealed place so can be changed in case of need without opening the main cover of the meter.
15. In addition to the battery mentioned in point no. 14, the meter shall be equipped with a fully charged super-capacitor or small battery that ensures the storage of cover-open events with time stamps for not less than 48 hours in case off power and battery (mentioned in point no. 14) failure.
16. The meter base, terminal and main cover shall be made of suitable rigid plastic material of adequate mechanical and insulation qualities; meter base and main cover shall be non-transparent, the terminal cover shall be of extended type and made from a transparent material.
17. The design of the communication modems shall ensure that all fixing screws remain securely in place. Appropriate design measures shall be implemented to prevent any loosening or detachment.
18. The terminals shall be made of nickel- coated brass (bimetallic) material to enable a good electrical contact in hot and humid conditions. The fixing screws shall also be nickel- coated brass material to enable a good contact and prevent loosening at heat. It must be resistant to damage because of use.
19. The meter shall be of tamper-proof design and construction. Tampering cases are detailed at technical part, with a clear detail of the supported events and its conditions.
20. Non-volatile memory shall have a retention time not less than 20 years even in case of power failure.
21. The meter shall not be affected by power failure, as it contains early detection means of power failure, which permits control circuits to store consumption data, and configure the circuit for this failure.
22. The meters shall not generate waves or harmonics, which might affect the neighbouring electrical instruments or super imposed on power.

23. The meter shall be provided with a clock and a calendar to get real time and date. In addition, backup power means that ensures the operation of the clock during the power failure and does not need periodic replacement.
24. Meters shall be support to program by a minimum of 4 tariffs for all supported Energy registers and MD, tariffs controlled by internal timing circuitry and a built-in tariff time switch module, the meter shall provide a minimum of 4 switching times and be capable of providing different programmable tariff structures for summer and winter season or many interval seasons.
25. The meter shall include a built-in time switch of base time shall been taken from crystal oscillator. This time switch shall be programmable to meet tariff scheme and the following requirements:
  - a) The programmable tariff software application shall provide different programmable tariff structures (up to 4 daily switching times) with day light time saving according to the Jordan Standard.

It must be possible to change date, time as well the tariff program; this should also include the ability to make changes remotely via the communications network using EDCO HES systems, MDM, SAP billing system, HHU & laptop (The HHU application shall be in the form of Windows based application with industry standard features).
  - b) Tenderers are requested to quote meter with a maximum demand, the meter shall be able to be programmed to activate the maximum demand within the specified daily period of maximum demand through software & HES. The daily period quantity should be specified as per Jordan local law (for 12 period at least).
  - c) The monthly/daily/ load profiles readings of all stored values.
  - d) Automatic and manual reset facilities shall be provided.
  - e) Four tariffs for Energy registers and four tariffs for Maximum Demand.
  - f) Import and Export measurement in two registers (NET register also)
26. Three phase direct meters inlets should be capable of accepting any size of conductor in the range 6 mm<sup>2</sup> up to 25 of stranded copper and aluminium conductor, PVC insulated.
27. The meter connection drawing should be provided under terminals cover.
28. The main cover seals shall be visible without any need to remove terminal cover.
29. The meter shall be completely tampering proof, facilitated with up-to-date anti-fraud protection with all fraud events that shall be record in meter's history.

30. The offer shall include the cost of the PC original Software, with necessary accessorise.

**31. List of type test certificates for the meters:**

- a) All type test certificates covering the equipment offered to IEC recommendations shall be submitted with the tender. Failure to provide copies of these type test certificates/reports will result in rejection of the tender.
- b) The Tender should submit with his offer type test certificates/reports, according to IEC standard from an independent & international recognized testing laboratory such as KEMA, SGS, NMI, for materials similar to the tender materials as an evidence of his capability to manufacture such materials.
- c) The expected operational time of the meter must be confirmed by an official organization like SGS, KEMA OFGEM, or NMI. A certificate or confirmation to this effect must be provided.
  - d) The relay shall be tested in respect of the following standard IEC 62055-31 (2005) Requirements for UC2. Also, it is a must for the tendered to submit type test certificates of relay from well-known third part laboratory like KEMA, or STL labs or others.
  - e) DLMS/COSEM compliance certificate for the offered meters.
  - f) CE report test, EMC test report, Radio test report and safety test report for the communication modules shall be submitted.

Type test made on identical designs of equipment to those offered	Certificate No.	Certificate Authority

**32. Property Plates**

- a) The meters shall be individually identified by a 10-digit alphanumeric code as follow:
  - I. The first five digits shall be identified and approved by EDCO.
  - II. 6<sup>th</sup> to 10<sup>th</sup> digits represent the individual meter number, which should be advised by the purchaser.

Example: XXXXX 00000.
- b) In addition, this 10-digit serial number shall be presented by a barcode to be read by a handheld. Barcode should be fixed outside over the outer frame, or inside the meter which can be reached through the glass. The barcode size should not affect the meter design.

- c) The meter nameplates shall be marked “**Property of EDCO**” and display EDCO logo.
- d) The meter nameplate shall be approved by EDCO.

**28) Drawings, Catalogues and Requirements:**

The Tenderer must submit with his offer all the specifications, software manual, indicating ratings, weights, dimensions, and time current characteristics of the offered materials.

**29) Deviation from specification if any completed by the tenderer.**

Item No.	Brief description	Deviation

- 30) Two No’s of Industrial Laptops (Dell Type) with latest specifications shall be offered including all needed concerned software and ports.
- 31) License of exiting EDCO's HESs (Hexing and Holley) shall be included.
- 32) “0.4 % “Ex stock spare parts (meters + modems) shall be available immediately (on call) once needed for rush replacement.
- 33) A sample of each meter type should be submitted with the offer. Any offer received without technical details and samples; EDCO has the right to reject that offer during evaluation without any prior notice.
- 34) All catalog and technical details of all items and options should be submitted with the offer.
- 35) A sample programming software should be submitted with the offer.
- 36) The sample meter shall be programmed to meet the previous EDCO Tariff scheme.
- 37) Tenderer should clarify and provide all supporting registers, channels, and capacity for every channel with full detailed documentation.
- 38) Tenderer should clarify and provide all supporting events with full detailed documentation.

## **D. Technical Specifications**

- 1) The meter shall be of indoor and outdoor domestic applications, 50 HZ frequency with internal electronic circuits foiled in Aluminium foils against high voltage application (400 KV).
- 2) The meter shall include two ways IrDA or Local Flag communications port (According to IEC62056-21/IEC61107 Mode C). Contractor shall provide software open protocol license, which enable the user to make easy read and write from and to the meter.
- 3) The Tenderer shall provide a serial port RS485 using open Standard Protocols (according should IEC 62056-21) that allows two-way communication with the meter using an external modem. (According should as per IEC 62056/DLMS HDLC mode).
- 4) The meter shall be provided with an internal built-in RTC (Real Time Clock), time and calendar, to indicate real time and date (TOU). Date and time must be available in the display during normal operation. (The accuracy of this clock must have high accuracy of variation not exceed +/-0.5 seconds per day.
- 5) The meter's register shall be reset to zero after reaching the maximum range, and not be permitted to reset to zero under any other circumstances.
- 6) A high contrast, large character Liquid Crystal Display (LCD) must be provided with light illumination and uses information on the display to indicate the active element.
- 7) An auto cycle display with a programmable switch-over time (0-30 sec.) between the different registers must be provided and can be programed.
- 8) The rated shelf life of the LCD screen shall not be less than 20 Years for continuous operation (In Normal operation).
- 9) A push button for rolling the display manually must be provided.
- 10) The meter shall be equipped with two LEDs for meter testing (active and reactive energy), calibration and operation, and the meter constant shall be in the form of Impulse/kWh and Impulse/kVARh, it is preferred that meters support pulse output terminal.
- 11) The meter shall detect and record the accurate energy consumption correctly even under tampering conditions.
- 12) The meter should not be influenced by external strong DC magnetic fields.
- 13) All the measured quantities and registers shall be compatible with OBIS-Code of the IEC62056 standard protocol, and the meter shall be capable to show any

stored register value on the LCD with its OBIS code, (for example: total import active energy shall be stored in 1.8.0 register and can be displayed on the LCD), and that should be approved by EDCO.

14) The meter shall be able to provide historical data, (billing periods for not less than 12 months). The meter shall be able to be programmed to show these historical data registers on LCD and can be read locally and remotely.

15) **High-level Anti- Tampering Meter.**

a) The meter shall be a high-level anti-tampering. This meter should detect and record the energy (energy recording in such cases should be fully explained from the tenderer and approved by EDCO) and event with time stamp for the following tampering cases:

I. Main cover opening.

II. Terminal cover opening.

III. Module cover opening.

IV. Module plug out.

V. Disconnecting one or more phases.

VI. High magnetic field exposure.

VII. High voltage DC discharge.

VIII. Other anti-tampering features are highly preferred.

IX. The meter shall be provided with alarm flag displayed on LCD to indicate for all the above tampering cases (and for any detected non-mentioned tampering case) and record the date and time of this case besides storing all the events in the meter's memory and storing the energy. And this flag should not disappear by itself but use PC software to clear it or remotely by HES.

b) The tenderer shall state in his document the behavior of meter for the following tampering cases, and its highly preferred to detect and record the energy (energy recording in such cases should be fully explained from the tenderer and approved by EDCO) and event with time stamp for these tampering cases:

I. Load connected to incoming supply terminals.

II. Switching between phases.

III. Load connected to incoming terminals as well as partial to earth.

IV. Connecting bypass between incoming phase and outgoing phase.

V. Current without voltage for the CT and CTVT meters (at least one phase should have voltage).

c) The meter shall be completely tamper-proof design and construction, facilitated with up-to-date anti-fraud protection with all fraud events that shall be recorded in meter's history in the logbook with their time stamp.

d) The meter shall detect and record the accurate energy consumption correctly even under tampering conditions. Under these conditions, (energy recording in such cases should be fully explained from the tenderer and approved by EDCO) which occur by opening terminal cover or meter's cover, a visual annunciation appears on the LCD screen and on

- LED at the meter front in addition to store these events in the logbook with their time stamp.
- e) The meter should not be influenced by external strong DC or electrostatic DC discharge up to 400 KV.
  - f) The meter shall be provided with alarm flag displayed (not symbols) on LCD to indicate for any of the above tampering cases and record the date and time of this case besides storing all the events in the meter's memory and it should not disappear by itself but to use PC software to clear it.
  - g) In addition to mentioned alarm flags, the meter should have Alarm LED and it should be programmable when it should be on, EDCO shall approve this operation.
- 16) The three-phase meter shall record bypass event according to the following conditions or as confirmed by EDCO:
- A. When  $3I_0 > 5.5A$  or  $I_n > 5.5A$ , then if  $\text{absolute}( (3I_0 - I_n) / I_{\text{max}} ) > Y_{\text{bp}}$  for a time duration more than  $T_d$ , the meter will record Bypass Start event.
  - B. When  $3I_0 < 5.5A$  and  $I_n < 5.5A$ , or  $\text{absolute}( (3I_0 - I_n) / I_{\text{max}} ) < Y_{\text{bp}}$  for a time duration more than  $T_d$ , the meter will record Bypass End event.
  - C. When the meter is powered off, the bypass event will end.
- $3I_0$** : the vector sum of the current of three phases in ampere.  
 **$I_n$** : the neutral current in ampere.  
 **$I_{\text{max}}$** : Max ( $3I_0$ ,  $I_n$ ) in ampere.  
 **$Y_{\text{bp}}$** : bypass threshold percentage %.  
 **$T_d$** : time threshold for bypass in sec.
- 17) Meters should support reading the current status (open/close) for the meters covers (Main, terminal & module cover).
- 18) The meter's software shall be user-friendly including all controllable parameterization features such as multi-level of security for downloading and Uploading the data. The software module could be upgraded frequently without extra charges while the Electricity Distribution Company (EDCO) owns all software management properties.
- 19) Further, meter's software should be capable to export the required registers' values in Excel office file such as voltages, currents and any other available values in meter, meter's software shall accept control signals via AMI software using DLMS including Hexing HES, Holley MDC, IDIS... etc. Communication protocols.
- 20) Voltage application should appear in date wise at meters load profile.
- 21) The enclosures of meters should be capable of being sealed with lead and two wire seals, and the hole shall be with suitable size for using two wire seals.

- 22) Offered CT and CT/VT meters shall fulfil the requirement of controlling a smart circuit breaker by the meters latching relay and to implement control mechanisms to operate the latching relay associated with CT and CT/VT meters (control output). This can involve software-based control systems that send commands to the latching relay to open or close the circuit with needed relay events in the meter.
- 23) All three phase meters shall use Arithmetic registration method in calculating energy in three phases as the example below:

**Arithmetic Registration Method:**

The meter can register A+ and A- energy in the same time.

Example: (same load in each phases)

Phase	L1	L2	L3
Load	A+	A-	A+

Total registration, import (forward) direction: OBIS 1.8.0 = (A+) + (A+)

Total registration, export (reverse) direction: OBIS 2.8.0 = (A-)

- 24) The required direct meters shall be provided with internal disconnecter (relay) to be used for remote connection/disconnection in addition to limit and control load current/voltage of the customer.

**◆ The relay should be:**

- a) Able to be programed on site or at utility's lab, and software shall contain the ability to enable or disable the relay function, the disabling is important to run the I-max test for accuracy test.
- b) In three phase meters: the relay contact for all phases shall be connected/disconnected together with mechanical interlock.
- c) The relay shall not be affected by any external magnetic field.
- d) Several measures shall be implemented to ensure that the relay status does not indicate "connected" when the relay hardware status “Disconnect”, but the voltage exists on both sides of the relay.
- e) The relay should not accept connect in case the voltage exists in the outage side.
- f) The relay should work on these modes:
  - f.1) Automatic modes for control the relay by:
    - Over/Under current with programmable threshold and should support programmable counting times for the operation.
    - Over/Under voltage with programmable threshold.
    - Over/Under active power KW (optional) with programmable threshold.

- Control the relay by schedule time.

These modes can run parallel or separate, EDCO can define or disable these modes remotely by HES and locally by PC software.

- f.2) Manual mode, this mode is to make connecting/disconnecting by the utility by using remote HES system including Hexing HES or Holley MDC or by handheld units HHU, the manual disconnection should be programmable to take place after a given time from the manual disconnect command i.e., after 0,15, 30, 40 ...minutes up to 72 hours.
- f.3) It shall be able of being programmed to disconnect by agreed tampering events like, covers open, Bypass events ... etc
- 25) Meters should store all relay events with all details of operation type and instantaneous reading.
- 26) Meter should have a clear way to show the relay status such as using tow LEDs to show overload or manual disconnection or to have clear screen message or any other suitable way and this need to be approved by EDCO.
- 27) EDCO should approve the relay behaviour for all mentioned and not mentioned cases.
- 28) The relay should be tested in respect of the following standard IEC 62055-31 (2005) Requirements for UC2. Also, it is a must for the tendered to submit type test certificates of relay from well-known third part laboratory like KEMA, or STL labs.

## A) Technical Specifications of the three phase direct connection meters

<b>Nominal Voltage</b>	(400 ± 10 %) V.
<b>Rated Current</b>	(15-100) A.
<b>Measured Quantities</b>	Four Rates kWh, kVARh and MD
<b>Connection</b>	Four wires
<b>Accuracy</b>	Class 1
<b>Display</b>	<p>Display screen:</p> <ul style="list-style-type: none"> <li>• Fully electronic (LCD), display is retained during loss of power.</li> <li>• 7 digits at least, display area for each digit not less than 20 mm<sup>2</sup>.</li> <li>• The registers shall reset to zero after reaching their maximum indication 9999999.</li> <li>• The display shall show all required data about consumption, reverse energy registered and total consumption.</li> </ul>
<b>Historical Data</b>	<ul style="list-style-type: none"> <li>• Display at least the latest billing period.</li> <li>• Stores historical data for at least 12 billing periods.</li> </ul>
<b>Relative Humidity</b>	Zero to 90 % or better
<b>Temperature Range</b>	<p>–20 °C to 80 °C ambient temperature.</p> <p>For electronic components inside the meter up to 80 °C.</p>
<b>Degree of protection</b>	IP 54
<b>Data retention</b>	Not less than 20 years (unpowered)
<b>Annunciation on LCD screen</b>	<p>A symbolic annunciation is present on the LCD screen to indicate the following:</p> <ul style="list-style-type: none"> <li>• Phase presence indication.</li> <li>• Phase sequence monitoring.</li> <li>• Applied tariff.</li> <li>• Tamper and fraud detection.</li> <li>• Opened meter cover or terminal box.</li> </ul>
<b>LED for meter testing</b>	<ul style="list-style-type: none"> <li>• Impulse/kWh and Impulse/kVARh</li> </ul>
<b>Communication ports</b>	<ul style="list-style-type: none"> <li>• Two ways IrDA communication ports or Local – Flag (According to IEC62056-21/IEC61107 Mode C).</li> <li>• Supported protocols (IEC 61850 "Smart Grid", DLMS/COMES, M-Bus, IDIS)</li> </ul>
<b>CONTROL</b>	<ul style="list-style-type: none"> <li>• Current Limitation.</li> <li>• Relay Contact.</li> </ul>

## B) Technical Specifications of the three phase CT operated meters

<b>Nominal Voltage</b>	(400 ± 10 %) V.
<b>Rated Current</b>	(5) A.
<b>Measured Quantities</b>	Four Rates kWh, kVARh and MD
<b>Connection</b>	Four wires
<b>Accuracy</b>	Class 0.5 for kWh, Class 2 for kVARh.
<b>Display</b>	<p>Display screen:</p> <ul style="list-style-type: none"> <li>• Fully electronic (LCD), display is retained during loss of power.</li> <li>• 7 digits at least, display area for each digit not less than 20 mm<sup>2</sup>.</li> <li>• The registers shall reset to zero after reaching their maximum indication 9999999.</li> <li>• The display shall show all required data about consumption, reverse energy registered and total consumption.</li> </ul>
<b>Historical Data</b>	<ul style="list-style-type: none"> <li>• Display at least the latest billing period.</li> <li>• Stores historical data for at least 12 billing periods.</li> </ul>
<b>Relative Humidity</b>	Zero to 90 % or better
<b>Temperature Range</b>	<p>–20 °C to 80 °C ambient temperature.</p> <p>For electronic components inside the meter up to 80 °C.</p>
<b>Degree of protection</b>	IP 54
<b>Data retention</b>	Not less than 20 years (unpowered)
<b>Annunciation on LCD screen</b>	<p>A symbolic annunciation is present on the LCD screen to indicate the following:</p> <ul style="list-style-type: none"> <li>• Phase presence indication.</li> <li>• Phase sequence monitoring.</li> <li>• Applied tariff.</li> <li>• Tamper and fraud detection.</li> <li>• Opened meter cover or terminal box.</li> </ul>
<b>LED for meter testing</b>	<ul style="list-style-type: none"> <li>• Impulse/kWh</li> <li>• Impulse/kVARh</li> </ul>
<b>Communication ports</b>	<ul style="list-style-type: none"> <li>• Two ways IrDA communication ports or Local – Flag (According to IEC62056-21/IEC61107 Mode C).</li> <li>• Supported protocols (IEC 61850 "Smart Grid", DLMS/COMES, M-Bus, IDIS)</li> </ul>

### C) Technical Specifications of the three phase CT/ VT operated meters

<b>Nominal Voltage</b>	(110 ± 10 %) V.
<b>Rated Current</b>	(1-5) A.
<b>Measured Quantities</b>	Four Rates kWh, kVARh and MD
<b>Connection</b>	Four wires
<b>Accuracy</b>	Class 0.5S for KWH, Class 2 for kVARh.
<b>Display</b>	<p>Display screen:</p> <ul style="list-style-type: none"> <li>• Fully electronic (LCD), display is retained during loss of power.</li> <li>• 7 digits at least, display area for each digit not less than 20 mm<sup>2</sup>.</li> <li>• The registers shall reset to zero after reaching their maximum indication 9999999.</li> <li>• The display shall show all required data about consumption, reverse energy registered and total consumption.</li> </ul>
<b>Historical Data</b>	<ul style="list-style-type: none"> <li>• Display at least the latest billing period.</li> <li>• Stores historical data for at least 12 billing periods.</li> </ul>
<b>Relative Humidity</b>	Zero to 90 % or better
<b>Temperature Range</b>	<p>–20 °C to 80 °C ambient temperature.</p> <p>For electronic components inside the meter up to 80 °C.</p>
<b>Degree of protection</b>	IP 54
<b>Data retention</b>	Not less than 20 years (unpowered)
<b>Annunciation on LCD screen</b>	<p>A symbolic annunciation is present on the LCD screen to indicate the following:</p> <ul style="list-style-type: none"> <li>• Phase presence indication.</li> <li>• Phase sequence monitoring.</li> <li>• Applied tariff.</li> <li>• Tamper and fraud detection.</li> <li>• Opened meter cover or terminal box.</li> </ul>
<b>LED for meter testing</b>	<ul style="list-style-type: none"> <li>• Impulse/kWh</li> <li>• Impulse/ kVARh</li> </ul>
<b>Communication ports</b>	<ul style="list-style-type: none"> <li>• Two ways IrDA communication ports or Local – Flag (According to IEC62056-21/IEC61107 Mode C).</li> <li>• Supported protocols (IEC 61850 "Smart Grid", DLMS/COMES, M-Bus, IDIS)</li> </ul>

## **25. The tariff scheme of EDCO meters in present time:**

- a) The programmable tariff software application shall provide different programmable tariff structures (up to 4 daily switching times) with day light time saving according to the Jordan Standard.
- b) The (MD) KW periods can be adjusted as EDCO requirements.
- c) The integration period for MD to be adjusted at 30 minutes.
- d) Monthly reset after automatic storage of all readings shall be on the first day of every month at 00:00 o'clock.
- e) The summer season starts on the last Friday of February every year at 00:00 o'clock.
- f) The winter season starts at the last Friday of October every year at 01:00 o'clock.
- g) The meter shall be capable of implementing the following:
  - 1- In the summer season, the clock is usually advanced automatically one full hour over the winter season time.
  - 2- In the winter season, the clock is usually automatically delayed one full hour from the summer season time.
  - 3- The change of seasons and daylight savings time occur concurrently.
  - 4- Jordan local time is (GMT + 3 hour) in the summer season and (GMT + 2 hour) in the winter season.

### **Note:**

- 1. All the above settings shall be arranged and shall obtain EDCO's approval before any manufacturing activities commence.**
- 2. All the above settings shall be programmable to meet any possible changes remotely by HES and locally by PC software.**

## **26. Sample meters and its Software.**

- a) Sample non-returnable meters, one for each of the items listed in Schedule 'A' and identical to the designs offered, shall be hand-carried, and submitted with the Tender on the specified date for opening Tenders. These representative samples will be closely examined and will undergo mechanical, electrical and accuracy tests at the EDCO Test Station in Amman. Failure of the samples to meet the mechanical and electrical specifications set out in this Document will entitle EDCO to reject the Tender.

- b) These samples shall be programmed to meet the previous EDCO Tariff scheme.
- c) A sample of programming software should be submitted with the offer with its user manual.
- d) The samples are preferred to be programmed in auto cycle display to show 15.8.0, and for the push button display should be programmed for these

Main registers or an equivalent OBIS code register and the tenderer need to explain it in the offer.

No	OBIS code	Description
1	0.9.1	Current time (hh:mm:ss)
2	0.9.2	Date (DD.MM.YY)
3	1.8.0	Total import active energy (A+) [kWh]
4	2.8.0	Total export active energy (A-) total [kWh]
5	15.8.0	Total absolute sum active energy ( A+ + A- ) [kWh] (absolute sum for 1.8.0 and 2.8.0)
6	16.8.0	Total absolute difference active energy ( A+ - A- ) [kWh] (absolute difference between 1.8.0 and 2.8.0)

## **SCHEDULES AND GUARANTEES**

<b><u>SCHEDULE NO.</u></b>	<b><u>DESCRIPTION</u></b>
<b>A</b>	<b>Schedule of Requirement</b>
<b>B</b>	<b>Price Schedule</b>
<b>C</b>	<b>Guaranteed Delivery Periods Schedule</b>
<b>D</b>	<b>Main Components Manufacturer Reference List</b>
<b>D.1</b>	<b>Manufacturer of Three Phase Direct Meter</b>
<b>D.2</b>	<b>Manufacturer of Three Phase CT Meter</b>
<b>D.3</b>	<b>Manufacturer of Three Phase CT/VT Meter</b>
<b>E.1</b>	<b>Technical Data for the Three Phase Direct Meter</b>
<b>E.2</b>	<b>Technical Data for the Three Phase CT Meter</b>
<b>E.3</b>	<b>Technical Data for the Three Phase CT/VT Meter</b>
<b>F</b>	<b>Standards</b>
<b>G</b>	<b>Deviation from specifications Schedule</b>

**SCHEDULE (A)**

**SCHEDULE OF REQUIREMENTS**

<b>ITEM NO.</b>	<b>Description</b>	<b>Stock Code</b>	<b>Unit Item</b>	<b>Quantity Required</b>
1.	Class 1 AMI programmable three phase direct 4 Rates kWh, kVARh and MD meters rated 3* 230/400 volt, (15 - 100) amps with internal disconnecter (relay), as specified in tender specifications and with communication modems (2G/3G/4G).	-----	No.	<b>2,500</b>
2.	Class 0.5 AMI programmable three phase 4-wire 4 Rates kWh, kVARh and MD meters, CT Operated, rated 400 volts and (5) amps, as specified in tender specifications with and with communication modems (2G/3G/4G).	-----	No.	<b>450</b>
3.	Class 0.5S AMI programmable three phase 4-wire, 4 Rates kWh, kVARh and MD meters, CT&VT Operated, rated 110 volts and (1-5) Amps, as specified in tender specifications with communication modems (2G/3G/4G).	-----	No.	<b>250</b>

**SCHEDULE (B)**  
**PRICE SCHEDULE**

ITEM NO.	Description	QTY & UNIT	UNIT PRICE & CURRENCY		TOTAL PRICE C&F AQABA-JORDAN
			FOB	C & F AQABA	
1)	Class 1 AMI programmable three phase direct 4 Rates kWh, kVARh and MD meters rated 3* 230/400 volt, (15 - 100) amps with internal disconnecter (relay), as specified in tender specifications and with communication modems (2G/3G/4G).	2,500	-----	-----	-----
2)	Class 0.5 AMI programmable three phase 4-wire 4 Rates kWh, kVARh and MD meters, CT Operated, rated 400 volts and (5) amps, as specified in tender specifications with and with communication modems (2G/3G/4G).	450	-----	-----	-----
3)	Class 0.5S AMI programmable three phase 4-wire, 4 Rates kWh, kVARh and MD meters, CT&VT Operated, rated 110 volts and (1-5) Amps, as specified in tender specifications with communication modems (2G/3G/4G).	250	-----	-----	-----
4)	EDCO staff training "Can be detailed for both onsite local training and abroad training" if required.	-	-----	-----	-----
5)	Factory Inspection and Test charges for two EDCO Engineers for 8 days per purchase order.	-	-----	-----	-----
<b>Total Price</b>					

**IMPORTANT NOTICE:**

- **FACTORY ACCEPTANCE TEST SHOULD BE PER ORDER.**
- **EDCO has the right to accept partial offer and to award part of the items or quantities without any limit or notice.**
- **Meter type/ model shall be written on the previous schedule.**
- **The offer shall include the cost of the Original Software.**

## SCHEDULE (C)

### GUARANTEED DELIVERY PERIODS

This schedule shall be completed by the Tenderer and the periods entered shall be binding on the Contractor.

ITEM NO.	Description	DELIVERY PERIOD FOB PORT OF LOADING-SPECIFY PORT	DELIVERY PERIOD AQABA PORT-JORDAN
1.	Class 1 AMI programmable three phase direct 4 Rates kWh, kVARh and MD meters rated 3* 230/400 volt, (15 - 100) amps with internal disconnect (relay), as specified in tender specifications and with communication modems (2G/3G/4G).	-----	
2.	Class 0.5 AMI programmable three phase 4-wire 4 Rates kWh, kVARh and MD meters, CT Operated, rated 400 volts and (5) amps, as specified in tender specifications with and with communication modems (2G/3G/4G).	-----	
3.	Class 0.5S AMI programmable three phase 4-wire, 4 Rates kWh, kVARh and MD meters, CT&VT Operated, rated 110 volts and (1-5) Amps, as specified in tender specifications with communication modems (2G/3G/4G).	-----	

**Note:**

- **Delivery time shall not exceed 12 weeks for the Single and Three phase meters, from the date of receipt EDCO purchasing order.**
- **Telecommunication Regulatory Commission approvals, and approvals related to Jordan custom duty are a part of Tenderer responsibilities where the delivery is considered EDCO stores. EDCO role play here is exclusive in supporting documents if needed to concern governmental departments.**
- **Packing: Every 10 meters must be in one package.**

**SCHEDULE (D)****The Main Components Manufacturer Reference List**

(To Be Completed by the Tenderer, only the Reference List Manufacturer is qualified in this Tender)

Item No.	Description	Reference Manufacturer	Offered component manufacturer	Offered component place of manufacture
1	SMT Resistance	TDK		
		YAGEO		
		UniOhm		
2	SMT Capacitor	TDK		
		YAGEO		
3	SMT Filter	TDK		
		Murata		
4	Electronics Capacitor	Nippon Chemi-Con		
		RUBYCON		
5	MCU*	ST Microelectronics		
		Microchip		
		Maxim Microelectronics		
		Texas Instruments		
6	E2PROM	Microchip		
		Maxim Microelectronics		
		Texas Instruments		
		ON Semiconductor		
7	FLASH ROM	Microchip		
		Maxim Microelectronics		
		Texas Instruments		
		ON Semiconductor		
8	RS485 Chip	Maxim Microelectronics		
		ON Semiconductor		
9	POWER REGULATOR	Maxim Microelectronics		
		ON Semiconductor		
		JRC		
		ST Microelectronics		
10	CRYSTAL OSCILLATOR	KDS		
		SEIKO		
11	BATTERY	SAFT		
		SANYO		

\* ARM technology is accepted.

**SCHEDULE (D.1)**  
**MANUFACTURERS, PLACES OF MANUFACTURE AND TESTING**  
**(TO BE COMPLETED BY THE TENDERER)**

<b><u>Item No. (1): Three Phase Direct Connection Meter</u></b>				
<b>Item No.</b>	<b>Description</b>	<b>Manufacturer</b>	<b>Place of Manufacturer</b>	<b>Place of Testing &amp; Inspection</b>
1.	Current Sensors	.....	.....	.....
2.	Power Supply Board	.....	.....	.....
3.	CPU	.....	.....	.....
4.	Memory	.....	.....	.....
5.	RAM	.....	.....	.....
6.	LCD	.....	.....	.....
7.	Push Buttons	.....	.....	.....
8.	Communication Boards	.....	.....	.....
9.	Terminals	.....	.....	.....
10.	batteries	.....	.....	.....
11.	Material of meter cover (Case)	.....	.....	.....
12.	Material of terminal cover	.....	.....	.....
13.	IrDA communication Port	.....	.....	.....
14.	Optical Communication port	.....	.....	.....
15.	RS 485 Port (Only for Optional item Number (2-B))	.....	.....	.....
16.	Modem and antenna if available	.....	.....	.....
17.	Disconnecter Relay	.....	.....	.....

**SCHEDULE (D.2)**  
**MANUFACTURERS, PLACES OF MANUFACTURE AND TESTING**  
**(TO BE COMPLETED BY THE TENDERER)**

<b><u>Item No. (2): Three Phase CT Operated Meter</u></b>				
<b>Item No.</b>	<b>Description</b>	<b>Manufacturer</b>	<b>Place of Manufacturer</b>	<b>Place of Testing &amp; Inspection</b>
1.	Current Sensors	.....	.....	.....
2.	Power Supply Board	.....	.....	.....
3.	CPU	.....	.....	.....
4.	Memory	.....	.....	.....
5.	RAM	.....	.....	.....
6.	LCD	.....	.....	.....
7.	Push Buttons	.....	.....	.....
8.	Communication Boards	.....	.....	.....
9.	Terminals	.....	.....	.....
10.	batteries	.....	.....	.....
11.	Material of meter cover (Case)	.....	.....	.....
12.	Material of terminal cover	.....	.....	.....
13.	Optical Communication port	.....	.....	.....
14.	RS485 Port	.....	.....	.....
15.	Communication boards.	.....	.....	.....
16.	Modem and antenna if available	.....	.....	.....
17.	Latching relay	.....	.....	.....

**SCHEDULE (D.3)**  
**MANUFACTURERS, PLACES OF MANUFACTURE AND TESTING**  
**(TO BE COMPLETED BY THE TENDERER)**

<b><u>Item No. (3): Three Phase CT/VT Operated Meter</u></b>				
<b>Item No.</b>	<b>Description</b>	<b>Manufacturer</b>	<b>Place of Manufacturer</b>	<b>Place of Testing &amp; Inspection</b>
1.	Current Sensors	.....	.....	.....
2.	Power Supply Board	.....	.....	.....
3.	CPU	.....	.....	.....
4.	Memory	.....	.....	.....
5.	RAM	.....	.....	.....
6.	LCD	.....	.....	.....
7.	Push Buttons	.....	.....	.....
8.	Communication Boards	.....	.....	.....
9.	Terminals	.....	.....	.....
10.	batteries	.....	.....	.....
11.	Material of meter cover (Case)	.....	.....	.....
12.	Material of terminal cover	.....	.....	.....
13.	Optical Communication port	.....	.....	.....
14.	RS485 Port	.....	.....	.....
15.	Communication boards	.....	.....	.....
16.	Modem and antenna if available	.....	.....	.....
17.	Latching relay	.....	.....	.....

**SCHEDULE (E.1)**  
**MANUFACTURERS, PLACES OF MANUFACTURE AND TESTING**  
**(TO BE COMPLETED BY THE TENDERER)**

<b><u>Three Phase Direct Meter</u></b>			
<b><u>Item</u></b>	<b><u>Description</u></b>		<b><u>Tenderer's reply</u></b>
1	Name of manufacturer		
2	Country of origin		
3	Type of meter		
4	Manufacturing License		
5	Quality Assurance certificate		
6	Standard IEC No		
7	Operating Ranges:		
8	Temperature	C°	
9	Humidity up to 90 %	RH	
10	Rated Voltage	(V)	
11	Basic Current	(A)	
	Max current	(A)	
12	Starting current of Basic Current	(A)	
13	Short circuit current	(A)	
14	Active energy class of meter		
15	Reactive energy class of meter		
16	Modem and antenna		
	Model / Manufacture		
	Support Bands		
17	AC Withstand voltage for 1min.	kV	
	4kVAC at 50Hz		
	IEC No 62052-11/62053-21		
18	Impulse withstands voltage 1.2/50 Microseconds.	kV	
	8kV main circuits, 6 kV auxiliary circuits		
	IEC No 62052-11		
19	Burst Test: Fast Transient Burst 4 kV for main circuits, 2 kV for auxiliary circuits	kV	
	IEC No 61000-4-5		
20	Electrostatic discharge	kV	
	contact discharge: 8 KV		
	Air discharge: 15 KV		
	IEC No 61000-4-2		
21	HF Magnetic field	V/m	

	Electromagnetic RF Fields 80MHz-2GHz, typical 30 V/m		
	IEC No 61000-4-3		
22	Electromagnetic Compatibility of 15kV		
	IEC No 61000-4-2		
23	Type of surge protection: 4 KV		
	IEC No 62052-11		
24	Insulation resistance	MOhm	
25	Total power consumption	VA	
26	Power consumption in voltage circuit	VA per phase	
27	Power consumption in current circuit	VA per phase	
28	Meter constant	Imp per kWh,KVARH	
29	Meter dimensions		
30	Material of the base (color)		
31	Material of the meter cover (color)		
	Material of terminal block cover(color)		
32	Material of terminal block connectors		
33	Meter weight		
34	Degree of Protection		
35	Min Cross section of terminal block holes		
36	No of digits for energy		
	Size of digits		
	Size of display		
	No of available decimal		
	Display contrast		
	LCD rated shelf time	Years	
37	Is self-diagnostic check available?		
38	Type of memory provided		
39	Non-volatile memory (Minimum retention time)	Years	
40	Backup supply continuous carryover capability (Batteries)	Years	
41	RTC accuracy		
42	Time keeping source available:		
	i: Internal time clock (depend on crystal oscillator)		
	ii: Synchronization to system frequency		
43	Optical port		
	IrDA Baud Rate		
44	Is the meter IEC62056 compliant?		
45	What other protocols used?		
46	Is pulse output provided?		
	- No of pulse outputs		
47	Method of pulse output		

48	Pulse transmission distance		
49	No of control inputs		
50	Is the meter "Tamper proof"? How?		
51	Is the meter equipped with phase failure Indicator on LCD?		
52	Is the meter equipped with Reverse run Indicator on LCD?		
53	is the meter equipped with phase rotation Indicator on LCD?		
54	Is the meter equipped with energy direction status Indicator on LCD?		
55	Is the meter equipped with Communication Indicator on LCD?		
56	Is the meter equipped with low battery Indicator on LCD?		
57	Is the meter equipped with terminal cover removing record indicator on LCD?		
58	Is the meter equipped with bypass indicator on LCD?		
59	Could the meter be extended for prepaid?		
60	Does "last gasp" communication exist?		
61	Is the meter for outdoor use?		
62	HHU provided for settings at site?		
63	The HHU operating system?		
64	Terminal cover dimension according to which IEC or equivalent DIN?		
65	Is the meter including load profile and maximum demand?		
66	Is the meter including bush bottom for manual reading?		
67	Routine test laboratory		
68	Type test laboratory		
69	Test Certificate No		
70	Name of testing laboratory		
71	Years of experience of manufacturing the required item (Similar Type)		
72	Software Features		
73	Is the software upgrade free of extra charge		
74	All software features shall be provided in tender offer.		
75	Relay		
	Model / Manufacture		
	Rated Current		
	Short circuit current		
	No of operation process during relay life		
76	No. of support events (should be attached)		

77	Monthly Billing data		
	support registers (should be attached)		
	channel Capacity	Months	
78	Daily Billing data		
	support registers (should be attached)		
	channel Capacity	Days	
79	load profile		
	No. of channels		
	Support registers, demands, instantaneous (should be attached)		
	channels Capacity in case 60 min	Days	
	channels Capacity in case 30 min	Days	
	channels Capacity in case 15 min	Days	

**SCHEDULE (E.2)**  
**MANUFACTURERS, PLACES OF MANUFACTURE AND TESTING**  
**(TO BE COMPLETED BY THE TENDERER)**

<b><u>Three Phase CT Meter</u></b>			
<b><u>Item</u></b>	<b><u>Description</u></b>		<b><u>Tenderer's reply</u></b>
1	Name of manufacturer		
2	Country of origin		
3	Type of meter		
4	Manufacturing License		
5	Quality Assurance certificate		
6	Standard IEC No		
7	Operating Ranges:		
8	Temperature	C°	
9	Humidity up to 90 %	RH	
10	Rated Voltage	(V)	
11	Basic Current	(A)	
	Max current	(A)	
12	Starting current of Basic Current	(A)	
13	Short circuit current	(A)	
14	Active energy class of meter		
15	Reactive energy class of meter		
16	Modem and antenna		
	Model / Manufacture		
	Support Bands		
17	AC Withstand voltage for 1min.	kV	
	4kVAC at 50Hz		
	IEC No 62052-11/62053-21		

18	Impulse withstands voltage 1.2/50 Microseconds.	kV	
	8kV main circuits, 6 kV auxiliary circuits		
	IEC No 62052-11		
19	Burst Test: Fast Transient Burst 4 kV for main circuits, 2 kV for auxiliary circuits	kV	
	IEC No 61000-4-5		
20	Electrostatic discharge	kV	
	contact discharge: 8 KV		
	Air discharge: 15 KV		
	IEC No 61000-4-2		
21	HF Magnetic field	V/m	
	Electromagnetic RF Fields 80MHz-2GHz, typical 30 V/m		
	IEC No 61000-4-3		
22	Electromagnetic Compatibility of 15kV		
	IEC No 61000-4-2		
23	Type of surge protection: 4 KV		
	IEC No 62052-11		
24	Insulation resistance	MOhm	
25	Total power consumption	VA	
26	Power consumption in voltage circuit	VA per	
		phase	
27	Power consumption in current circuit	VA per phase	
28	Meter constant	Imp per kWh,KVARH	
29	Meter dimensions		
30	Material of the base (color)		
31	Material of the meter cover (color)		
	Material of terminal block cover(color)		
32	Material of terminal block connectors		
33	Meter weight		
34	Degree of Protection		
35	Min Cross section of terminal block holes		
36	No of digits for energy		
	Size of digits		
	Size of display		
	No of available decimal		
	Display contrast		
	LCD rated shelf time	Years	
37	Is self-diagnostic check available?		
38	Type of memory provided		
39	Non-volatile memory (Minimum retention time)	Years	
40	Backup supply continuous carryover capability (Batteries)	Years	

41	RTC accuracy		
42	Time keeping source available:		
	i: Internal time clock (depend on crystal oscillator)		
	ii: Synchronization to system frequency		
43	Optical port		
	IrDA Baud Rate		
44	Is the meter IEC62056 compliant?		
45	What other protocols used?		
46	Is pulse output provided?		
	- No of pulse outputs		
47	Method of pulse output		
48	Pulse transmission distance		
49	No of control inputs		
50	Is the meter "Tamper proof"? How?		
51	Is the meter equipped with phase failure Indicator on LCD?		
52	Is the meter equipped with Reverse run Indicator on LCD?		
53	is the meter equipped with phase rotation Indicator on LCD?		
54	Is the meter equipped with energy direction status Indicator on LCD?		
55	Is the meter equipped with Communication Indicator on LCD?		
56	Is the meter equipped with low battery Indicator on LCD?		
57	Is the meter equipped with terminal cover removing record indicator on LCD?		
58	Is the meter equipped with bypass indicator on LCD?		
59	Could the meter be extended for prepaid?		
60	Does "last gasp" communication exist?		
61	Is the meter for outdoor use?		
62	HHU provided for settings at site?		
63	The HHU operating system?		
64	Terminal cover dimension according to which IEC or equivalent DIN?		
65	Is the meter including load profile and maximum demand?		
66	Is the meter including bush bottom for manual reading?		
67	Routine test laboratory		
68	Type test laboratory		
69	Test Certificate No		
70	Name of testing laboratory		

71	Years of experience of manufacturing the required item (Similar Type)		
72	Software Features		
73	Is the software upgrade free of extra charge		
74	All software features shall be provided in tender offer.		
75	Relay		
	Model / Manufacture		
	Rated Current		
	Short circuit current		
	No of operation process during relay life		
76	No. of support events (should be attached)		
77	Monthly Billing data		
	support registers (should be attached)		
	channel Capacity	Months	
78	Daily Billing data		
	support registers (should be attached)		
	channel Capacity	Days	
79	load profile		
	No. of channels		
	Support registers, demands, instantaneous (should be attached)		
	channels Capacity in case 60 min	Days	
	channels Capacity in case 30 min	Days	
	channels Capacity in case 15 min	Days	

**SCHEDULE (E.3)**  
**MANUFACTURERS, PLACES OF MANUFACTURE AND TESTING**  
**(TO BE COMPLETED BY THE TENDERER)**

<b><u>Three Phase CT/VT Meter</u></b>			
<b><u>Item</u></b>	<b><u>Description</u></b>	<b><u>Tenderer's reply</u></b>	
1	Name of manufacturer		
2	Country of origin		
3	Type of meter		
4	Manufacturing License		
5	Quality Assurance certificate		
6	Standard IEC No		
7	Operating Ranges:		
8	Temperature	C°	
9	Humidity up to 90 %	RH	
10	Rated Voltage	(V)	
11	Basic Current	(A)	

	Max current	(A)	
12	Starting current of Basic Current	(A)	
13	Short circuit current	(A)	
14	Active energy class of meter		
15	Reactive energy class of meter		
16	Modem and antenna		
	Model / Manufacture		
	Support Bands		
17	AC Withstand voltage for 1min.	kV	
	4kVAC at 50Hz		
	IEC No 62052-11/62053-21		
18	Impulse withstands voltage 1.2/50 Microseconds.	kV	
	8kV main circuits, 6 kV auxiliary circuits		
	IEC No 62052-11		
19	Burst Test: Fast Transient Burst 4 kV for main circuits, 2 kV for auxiliary circuits	kV	
	IEC No 61000-4-5		
20	Electrostatic discharge	kV	
	contact discharge: 8 KV		
	Air discharge: 15 KV		
	IEC No 61000-4-2		
21	HF Magnetic field	V/m	
	Electromagnetic RF Fields 80MHz-2GHz, typical 30 V/m		
	IEC No 61000-4-3		
22	Electromagnetic Compatibility of 15kV		
	IEC No 61000-4-2		
23	Type of surge protection: 4 KV		
	IEC No 62052-11		
24	Insulation resistance	MOhm	
25	Total power consumption	VA	
26	Power consumption in voltage circuit	VA per	
		phase	
27	Power consumption in current circuit	VA per phase	
28	Meter constant	Imp per kWh,KVARH	
29	Meter dimensions		
30	Material of the base (color)		
31	Material of the meter cover (color)		
	Material of terminal block cover(color)		
32	Material of terminal block connectors		
33	Meter weight		
34	Degree of Protection		
35	Min Cross section of terminal block holes		
36	No of digits for energy		

	Size of digits		
	Size of display		
	No of available decimal		
	Display contrast		
	LCD rated shelf time	Years	
37	Is self-diagnostic check available?		
38	Type of memory provided		
39	Non-volatile memory (Minimum retention time)	Years	
40	Backup supply continuous carryover capability (Batteries)	Years	
41	RTC accuracy		
42	Time keeping source available:		
	i: Internal time clock (depend on crystal oscillator)		
	ii: Synchronization to system frequency		
43	Optical port		
	IrDA Baud Rate		
44	Is the meter IEC62056 compliant?		
45	What other protocols used?		
46	Is pulse output provided?		
	- No of pulse outputs		
47	Method of pulse output		
48	Pulse transmission distance		
49	No of control inputs		
50	Is the meter "Tamper proof"? How?		
51	Is the meter equipped with phase failure Indicator on LCD?		
52	Is the meter equipped with Reverse run Indicator on LCD?		
53	is the meter equipped with phase rotation Indicator on LCD?		
54	Is the meter equipped with energy direction status Indicator on LCD?		
55	Is the meter equipped with Communication Indicator on LCD?		
56	Is the meter equipped with low battery Indicator on LCD?		
57	Is the meter equipped with terminal cover removing record indicator on LCD?		
58	Is the meter equipped with bypass indicator on LCD?		
59	Could the meter be extended for prepaid?		
60	Does "last gasp" communication exist?		
61	Is the meter for outdoor use?		
62	HHU provided for settings at site?		

63	The HHU operating system?		
64	Terminal cover dimension according to which IEC or equivalent DIN?		
65	Is the meter including load profile and maximum demand?		
66	Is the meter including bush bottom for manual reading?		
67	Routine test laboratory		
68	Type test laboratory		
69	Test Certificate No		
70	Name of testing laboratory		
71	Years of experience of manufacturing the required item (Similar Type)		
72	Software Features		
73	Is the software upgrade free of extra charge		
74	All software features shall be provided in tender offer.		
76	No. of support events (should be attached)		
77	Monthly Billing data		
	support registers (should be attached)		
	channel Capacity	Months	
78	Daily Billing data		
	support registers(should be attached)		
	channel Capacity	Days	
79	load profile		
	No. of channels		
	Support registers, demands, instantaneous(should be attached)		
	channels Capacity in case 60 min	Days	
	channels Capacity in case 30 min	Days	
	channels Capacity in case 15 min	Days	

**SCHEDULE (F)**  
**STANDARDS**

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The Tenderer shall list the standard specifications to which the main items of tendered equipment are designed and manufactured.

Equipment	National standard	English title

**SCHEDULE (G)**

**DEVIATION FROM SPECIFICATION IF ANY COMPLETED BY THE  
TENDERER**

ITEM NO.	BREIF DESCRIPTION	DEVIATION