

Project Director
Smart Pre-Payment Metering Project for West Zone
Power Distribution Company Ltd. (WZPDCL) Area
WZPDCL, Khulna

**STANDARD TENDER DOCUMENT (STD)
FOR THE PROCUREMENT OF GOODS (International)
FOR**

**Design, Manufacture, Supply, Installation,
Testing and Commissioning of Disaster
Recovery Center for Smart Pre-Payment
Metering System with related services on
Turn-key Basis.**

Invitation for Tender No. : 27.22.4785.905.50.040.20/48
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Table of Contents

Section-1: Instructions to Tenderers.....	1
A. General	2
1. Scope of Tender	2
2. Interpretation	2
3. Source of Funds	2
4. Corrupt, Fraudulent, Collusive or Coercive Practices	3
5. Eligible Tenderers	4
6. Eligible Goods and Related Services	5
7. Site Visit.....	5
B. Tender Document.....	6
8. Tender Document: General.....	6
9. Clarification of Tender Documents	6
10. Pre-Tender Meeting	6
11. Addendum to Tender Documents	7
C. Qualification Criteria	7
12. General Criteria	7
13. Litigation History.....	8
14. Experience Criteria.....	8
15. Financial Criteria	8
16. Appointment of Subcontractor.....	8
D. Tender Preparation.....	9
17. Only One Tender	9
18. Cost of Tendering.....	9
19. Issuance and Sale of Tender Document.....	9
20. Language of Tender	9
21. Contents of Tender.....	10
22. Alternatives.....	11
23. Tender Prices, Discounts	11
24. Tender Currency	14
25. Documents Establishing the Conformity of the Goods and Related services.....	14
26. Documents Establishing Qualifications of the Tenderer	14
27. Validity Period of Tender.....	15
28. Extension of Tender Validity and Tender Security.....	15
29. Tender Security	15
30. Form of Tender security	16
31. Authenticity of Tender Security	16
32. Return of Tender Security	16
33. Forfeiture of Tender Security.....	16

34. Format and Signing of Tender.....	17
E. Tender Submission.....	17
35. Sealing, Marking and Submission of Tender	17
36. Deadline for Submission of tenders	18
37. Late tender	18
38. Modification, Substitution or Withdrawal of Tenders	18
39. Tender Modification	19
40. Tender Substitution	19
41. Withdrawal of Tender	19
F. Tender Opening and Evaluation.....	19
42. Tender Opening	19
43. Evaluation of Tenders	21
44. Evaluation process	21
45. Preliminary Examination.....	21
46. Technical Examinations & Responsiveness	22
47. Clarification on Tender	23
48. Restrictions on the Disclosure of Information Relating to the Procurement Process ..	24
49. Correction of Arithmetical Errors	24
50. Conversion to Single Currency	24
51. Domestic Preference	25
52. Financial Evaluation	25
53. Assessing the Price of Unpriced Items	26
54. Evaluation of Domestic Preference	27
55. Price Comparison.....	27
56. Negotiation	27
57. Post-qualification	28
58. Rejection of All Tenders	28
59. Informing Reasons for Rejection.....	29
G. Contract Award	29
60. Award Criteria.....	29
61. Purchaser's Right to Vary Quantities	29
62. Notification of Award	29
63. Performance Security.....	30
64. Form and Time Limit for furnishing of Performance security	30
65. Validity of Performance Security	30
66. Authenticity of performance Security	30
67. Contract Signing.....	30
68. Publication of Notification of Award of Contract	31
69. Debriefing of Tenderers.....	31
70. Right to Complain.....	31

<u>Section-2: Tender Data Sheet</u>	32
A. General.....	33
B. Tender Document	33
C. Qualification Criteria	34
D. Preparation of Tender	35
E. Submission of Tender	36
F. Opening and Evaluation of Tenders	37
G. Award of Contract	38
<u>Section-3: General Conditions of Contract</u>	39
<u>Section-4: Particular Conditions of Contract</u>	58
<u>Section 5. Tender and Contract Forms</u>	77
Tender Submission Letter (Form PG4 – 1).....	79
Tenderer Information Sheet (Form PG4-2).....	82
Price Schedule for Goods (Form PG4-3A)	Error! Bookmark not defined.
Price Schedule for Goods (Form PG4-3B)	Error! Bookmark not defined.
Price Schedule for Goods (Form PG4-3C).....	Error! Bookmark not defined.
Price and Completion Schedule - Related Services (Form PG4-3D)	Error! Bookmark not defined.
Manufacturer’s Authorisation Letter (Form PG4 - 5)	101
Bank Guarantee for Tender Security (Form PG4 – 6).....	Error! Bookmark not defined.
Notification of Award (Form PG4 - 7)	Error! Bookmark not defined.
Contract Agreement (Form PG4 - 8)	Error! Bookmark not defined.
Bank Guarantee for Performance Security (Form PG4 – 9).....	Error! Bookmark not defined.
Bank Guarantee for Advance Payment (Form PG4 – 10)	Error! Bookmark not defined.
<u>Section-6: Schedule of Requirements</u>	Error! Bookmark not defined.
<u>Section-7: The Technical Specifications</u>	Error! Bookmark not defined.
Specifications Submission and Compliance Sheet (Form PG4-4).....	120
<u>Section-8: Drawings</u>	Error! Bookmark not defined.

Section-1: Instructions to Tenderers

Section-1: Instructions to Tenderers

A. General

- 1. Scope of Tender**
 - 1.1 The Purchaser named in the Tender Data Sheet (TDS) (hereinafter referred to as the "Purchaser") wishes to issues these Tender Documents for the supply of Goods, and Related Services incidental thereto, as specified in the TDS and as detailed in Section 6: Schedule of Requirements.
 - 1.2 The name of the Tender and the number and identification of its constituent lot(s) are stated in the TDS.
 - 1.3 The successful Tenderer will be required to complete the delivery of the goods and related services (when applicable) as specified in the GCC Clause **18**.
- 2. Interpretation**
 - 2.1 Throughout this Tender Document
 - (a) the term "in writing" means communication written by hand or machine duly signed and includes properly authenticated messages by facsimile or electronic mail;
 - (b) if the context so requires, singular means plural and vice versa; and
 - (c) "day" means calendar days unless otherwise specified as working days;
 - (d) "Tender Document ", means the Document provided by a Purchaser to a Tenderer as a basis for preparation of its Tender;
 - (e) "Tender ", depending on the context, means a Tender submitted by a Tenderer for delivery of Goods and Related Services to a Purchaser in response to an Invitation for Tender;
- 3. Source of Funds**
 - 3.1 The Purchaser has been allocated public funds from the source as indicated in the TDS and intends to apply a portion of the funds to eligible payments under the contract for which this Tender Document is issued.
 - 3.2 For the purpose of this provision, "public funds" means any funds allocated to a Purchaser under Government budget, or loan, grants and credits placed at the disposal of a Purchaser through the Government by the development partners or foreign states or organizations.
 - 3.3 Payments by the development partner, if so indicated in the TDS, will be made only at the request of the Government and upon approval by the development partner in accordance with the applicable Loan/Credit/Grant Agreement, and will be subject in all respects to the terms and conditions of that Agreement.

4. Corrupt, Fraudulent, Collusive or Coercive Practices

- 4.1 The Government requires that Procuring Entities, as well as Tenderers shall observe the highest standard of ethics during implementation of procurement proceedings and the execution of Contracts under public funds.
- 4.2 The Government requires that Procuring Entities, as well as Tenderers and Suppliers shall, during the Procurement proceedings and the execution of Contracts under public funds, ensure-
- (a) strict compliance with the provisions of Section 64 of the Public Procurement Act 2006 (Act 24 of 2006);
 - (b) abiding by the code of ethics as mentioned in the Rule 127 of the Public Procurement Rules, 2008;
 - (c) that neither it's any officer nor any staff or any other agents or intermediaries working on its behalf engages in any practice as detailed in ITT Sub Clause 4.3.
- 4.3 For the purposes of ITT Sub-clause 4.2 the terms set forth as follows:
- (a) **corrupt practice** means offering, giving or promising to give, receiving, or soliciting, either directly or indirectly, to any officer or employee of a Purchaser or other public or private authority or individual, a gratuity in any form; employment or any other thing or service of value as an inducement with respect to an act or decision or method followed by a Purchaser in connection with a Procurement proceeding or contract execution;
 - (b) **fraudulent practice** means the misrepresentation or omission of facts in order to influence a decision to be taken in a Procurement proceeding or Contract execution;
 - (c) **collusive practice** means a scheme or arrangement between two (2) or more Persons, with or without the knowledge of the Purchaser, that is designed to arbitrarily reduce the number of Tenders submitted or fix Tender prices at artificial, non competitive levels, thereby denying a Purchaser the benefits of competitive price arising from genuine and open competition; or
 - (d) **coercive practice** means harming or threatening to harm, directly or indirectly, Persons or their property to influence a decision to be taken in a Procurement proceeding or the execution of a Contract, and this will include creating obstructions in the normal submission process used for Tenders.
- 4.4 Should any corrupt, fraudulent, collusive or coercive practice of any kind come to the knowledge of the Purchaser, it will, in the first place, allow the Tenderer to provide an explanation and shall, take actions only when a satisfactory explanation is not received. Such exclusion and the reasons thereof, shall be recorded in the record of the procurement proceedings and promptly communicated to the Tenderer concerned. Any communications between the Tenderer and the Purchaser related to matters of alleged fraud or corruption shall be in

writing.

- 4.5 If corrupt, fraudulent, collusive or coercive practices of any kind determined by the Purchaser against any Tenderer alleged to have carried out such practices, the Purchaser shall -
- (a) exclude the concerned Tenderer from further participation in the particular Procurement proceeding; or
 - (b) reject any recommendation for award that had been proposed for that concerned Tenderer or;
 - (c) Declare, at its discretion, the concerned Tenderer to be ineligible to participate in further Procurement proceedings, either indefinitely or for a specific period of time.
- 4.6 The Tenderer shall be aware of the provisions on corruption, fraudulence, collusion and coercion in Section 64 of the Public Procurement Act, 2006 and Rule 127 of the Public Procurement Rules, 2008 and others as stated in GCC Clause 3.

5. Eligible Tenderers

- 5.1 This Invitation for Tenders is open to eligible Tenderers from all countries, except for any specified in the TDS. A Tenderer will be eligible if it is a citizen, or is constituted, registered and operates in conformity with the provisions of the laws of that country.
- 5.2 A Tenderer may be a physical or juridical individual or body of individuals, or company, association invited to take part in public procurement or seeking to be so invited or submitting a Tender in response to an Invitation for Tenders.
- 5.3 Government-owned enterprises in Bangladesh shall be eligible only if they can establish that they (i) are legally and financially autonomous, (ii) operate under commercial law, and (iii) are not a dependent agency of the Purchaser.
- 5.4 Tenderers shall have the legal capacity to enter into the Contract. A Tenderer that is under a declaration of ineligibility by the Government of Bangladesh in accordance with applicable laws at the date of the deadline for Tender submission or thereafter shall be disqualified.
- 5.5 Tenderers and all parties constituting the Tenderer shall not have a conflict of interest pursuant to Rule 55 of the Public Procurement Rules, 2008.
- 5.6 Tenderers in its own name or its other names or also in the case of its Persons in different names, shall not be under a declaration of ineligibility for corrupt, fraudulent, collusive or coercive practices as stated under ITT Sub Clause 4.3.
- 5.7 Tenderers are not restrained or barred from participating in public Procurement on grounds of execution of defective supply in the past under any Contract.
- 5.8 Tenderers are not under a declaration of ineligibility by an international financing agency such as World Bank, Asian Development Bank or any other international agency.

- 5.9 Tenderers shall not be insolvent, be in receivership, be bankrupt, be in the process of bankruptcy, be not temporarily barred from undertaking business and it shall not be the subject of legal proceedings for any of the foregoing.
- 5.10 Tenderers shall have fulfilled its obligations to pay taxes and social security contributions under the provisions of laws and regulations of the country of its origin. In the case of foreign Tenderers, a certificate of competent authority in that country of which the Tenderer is citizen shall be provided.
- 5.11 Tenderers shall provide such evidence of their continued eligibility satisfactory to the Purchaser, as the Purchaser will reasonably request.
- 5.12 These requirements for eligibility will extend, as applicable, to Sub-contractor proposed by the Tenderer.

6. Eligible Goods and Related Services

- 6.1 All goods and related services to be supplied under the contract are eligible, unless their origin is from a country specified in the TDS.
- 6.2 For purposes of this Clause, the term “goods” includes commodities, raw material, machinery, equipment, and industrial plants; and “related services” includes services such as insurance, transportation, installation, and commissioning, training, and initial maintenance.
- 6.3 For purposes of this clause, “origin” means the country where the goods have been mined, grown, cultivated, produced, manufactured or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.
- 6.4 The origin of goods and services is distinct from the nationality of the Tenderer. The nationality of the firm that produces, assembles, distributes, or sells the goods shall not determine their origin.

7. Site Visit

- 7.1 For goods contracts requiring installation/ commissioning/ networking or similar services at site, the Tenderer, at the Tenderer’s own responsibility and risk, is encouraged to visit and examine the Site and obtain all information that may be necessary for preparing the Tender and entering into a contract for the supply of goods and related services.
- 7.2 The Tenderer should ensure that the Purchaser is informed of the visit in adequate time to allow it to make appropriate arrangements.
- 7.3 The costs of visiting the Site shall be at the Tenderer’s own expense.

B. Tender Document

- 8. Tender Document: General**
- 8.1 The Sections comprising the Tender Document are listed below and should be read in conjunction with any addendum issued under ITT Clause 11.
- Section 1 Instructions to Tenderers (ITT)
 - Section 2 Tender Data Sheet (TDS)
 - Section 3 General Conditions of Contract (GCC)
 - Section 4 Particular Conditions of Contract (PCC)
 - Section 5 Tender and Contract Forms
 - Section 6 Schedule of Requirements
 - Section 7 Technical Specifications
 - Section 8 Drawings
- 8.2 The Purchaser shall reject any tender if the Tender Document was not purchased directly from the Purchaser, or through its agent as stated in the TDS.
- 8.3 The Tenderer is expected to examine all instructions, forms, terms, and specifications in the Tender Document as well as addendum to Tender Documents.
- 9. Clarification of Tender Documents**
- 9.1 A prospective Tenderer requiring any clarification of the Tender Document shall contact the Purchaser in writing at the Purchaser's address indicated in the TDS before **two-third** of time allowed for preparation and submission of Tender elapses.
- 9.2 A Purchaser is not obliged to answer any clarification received after that date requested under ITT Sub-Clause 9.1.
- 9.3 The Purchaser shall respond in writing within five (5) working days of receipt of any such request for clarification received under ITT Sub-Clause 9.1
- 9.4 The Purchaser shall forward copies of its response to all those who have purchased the Tender Document, including a description of the enquiry but without identifying its source.
- 9.5 Should the Purchaser deem it necessary to amend the Tender Document as a result of a clarification, it shall do so following the procedure under ITT Clause 11.
- 10. Pre-Tender Meeting**
- 10.1 To clarify issues and to answer questions on any matter arising in the Tender Document, the Purchaser may, if stated in the TDS, hold a Pre-Tender Meeting at the place, date and time as specified in the TDS. All Potential Tenderers are encouraged to attend the meeting, if it is held.
- 10.2 Minutes of the pre-Tender meeting, including the text of the questions raised and the responses given, together with any responses prepared after the meeting, will be transmitted within one week (7 days) after holding the meeting to all those who purchased the Tender Document and even those who did not attend the meeting.

10.3 Any amendment to the Tender Document listed in ITT Sub-Clause 8.1 that may become necessary as a result of the pre-Tender meeting shall be made by the Purchaser exclusively through the issue of an Addendum as stated under ITT Sub-Clause 11 and not through the minutes of the pre-Tender meeting.

10.4 Non-attendance at the pre-Tender meeting will not be a cause for disqualification of a Tenderer.

11. Addendum to Tender Documents

11.1 At any time prior to the deadline for submission of Tenders, the Purchaser on its own initiative or in response to a clarification request in writing from a Tenderer, having purchased the Tender Document or as a result of a Pre-Tender meeting, may revise the Tender Document by issuing an addendum pursuant to Rule 95 of the Public Procurement Rules, 2008.

11.2 The addendum issued under ITT Sub-Clause 11.1 shall become an integral part of the Tender Document and shall have a date and an issue number and shall be circulated by fax, mail or e-mail, to Tenderers who have purchased the Tender Documents within five (5) working days of issuance of such addendum, to enable Tenderers to take appropriate action.

11.3 The Tenderer shall acknowledge receipt of an addendum.

11.4 Tenderers who have purchased the Tender Documents but have not received any addendum issued under ITT Sub-clause 11.1 shall inform the Purchaser of the fact by fax, mail or e-mail before **two-third** of the time allowed for the submission of Tenders has elapsed.

11.5 Procuring Entities shall also ensure posting of relevant addenda with the reference number and date on their website.

11.6 To give a prospective Tenderer reasonable time in which to take an amendment into account in preparing its Tender, the Purchaser may, at its discretion, extend the deadline for the submission of Tenders, pursuant to Rule 95(6) of the Public Procurement Rule, 2008 and under ITT Clause 36.

11.7 If an addendum is issued when time remaining is less than one-third of the time allowed for the preparation of Tenders, a Purchaser shall extend the deadline by an appropriate number of days for the submission of Tenders, depending upon the nature of the Procurement requirement and the addendum. The minimum time for such extension shall not be less than seven (7) days.

C. Qualification Criteria

12. General Criteria

12.1 The Purchaser requires the Tenderer to be qualified by meeting predefined, precise minimum requirements, which entails setting pass/fail criteria, which if not met by the Tenderer, will result in rejection of its Tender.

- 12.2 In addition to meeting the eligibility criteria, as stated in ITT Clause 5, the Tenderer must satisfy the other criteria stated in ITT Clauses 13 to 15 inclusive.
- 12.3 To qualify for a multiple number of lots in a package for which tenders are invited in the Invitation for Tenders, The Tenderer shall demonstrate having resources and experience sufficient to meet the aggregate of the qualifying criteria for the individual lot. The requirement of overall experience and specific experience under ITT Sub-Clause 14.1 (a) and 14.1 (b) shall not be separately applicable for individual lot.
- 13. Litigation History**
- 13.1 The maximum number of arbitration awards against the Tenderer over a period shall be as specified in the TDS.
- 14. Experience Criteria**
- 14.1 Tenderers shall have the following minimum level of supply experience to qualify for supplying the Goods and Related Services under the contract:
- (a) A minimum number of years of overall experience in the supply of goods and related services as specified in the TDS; and
 - (b) Specific experience of satisfactory completion of supply of similar goods of minimum value stated in the TDS under maximum number of contracts stated in TDS within the period stated in TDS; and
 - (c) A minimum supply and/or production capacity of Goods as specified in the TDS.
- 15. Financial Criteria**
- 15.1 Tenderers shall have the following minimum level of financial capacity of qualify for the supply of goods under the contract:
- (a) Availability of minimum liquid assets or working capital or credit facilities from a Bank, as specified in the TDS.
- 16. Appointment of Subcontractor**
- 16.1 Tenderer, pursuant to Rule 53 of the PPR2008, is allowed to sub-contract a portion of the Supply.
- 16.2 The Tenderer shall specify in its Tender all portion of the Goods that will be Subcontracted, if any, including the entity(ies) to whom each portion will be subcontracted to, subject to the maximum allowable limit for subcontracting of Goods specified in the TDS.
- 16.3 All subcontracting arrangement must be disclosed at the time of Tendering, and subcontractors must be identified in the Tender submitted by Tenderer.
- 16.4 A Subcontractor may participate in more than one Tender, but only in that capacity.
- 16.5 Subcontractors must comply with the provision of ITT Clause 5. For this purpose contractor shall complete the Subcontractor's information in Form PG4-1 for submission with tender.
- 16.6 If the Purchaser determines that a subcontractor is ineligible, the subcontracting of such portion of the Goods assigned to the ineligible subcontractor shall be disallowed.

D. Tender Preparation

- 17. Only One Tender**
- 17.1 If a Tender for Goods is invited on 'lot-by-lot' basis, each lot shall constitute a Tender. A Tenderer shall submit only one (1) Tender for each lot, A Tenderer who submits or participates in more than one (1) Tender for each lot will cause all the Tenders with that Tenderer's participation to be rejected.
- 18. Cost of Tendering**
- 18.1 Tenderers shall bear all costs associated with the preparation and submission of its Tender, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Tendering process.
- 19. Issuance and Sale of Tender Document**
- 19.1 A Purchaser, pursuant to Rule 94 of the Public Procurement Rules, 2008 shall make Tender Documents available immediately to the potential Tenderers, requesting and willing to purchase at the corresponding price if the advertisement has been published in the newspaper pursuant to Rule 90 of the Public Procurement Rules, 2008.
- 19.2 Full contact details with mailing address, telephone and facsimile numbers and electronic mail address, as applicable, of those to whom Tender Documents have been issued shall be recorded with a reference number by the Purchaser or its agent.
- 19.3 There shall not be any pre-conditions whatsoever, for sale of Tender Document and the sale of such Document shall be permitted up to the day prior to the day of deadline for the submission of Tender.
- 20. Language of Tender**
- 20.1 Tenders shall be written in English language. Supporting documents and printed literature furnished by the Tenderer may be in another language provided they are accompanied by an accurate translation of the relevant passages into the English language, in which case, for purposes of interpretation of the Tender, such translation shall govern.
- 20.2 Tenderers shall bear all costs of translation to the governing language and all risks of the accuracy of such translation.

21. Contents of Tender

- 21.1 The Tender prepared by the Tenderer shall comprise the following:
- (a) Tender Submission Letter (Form PG4-1) as furnished in Section 5: Tender and Contract Forms;
 - (b) Tenderer information sheet (Form PG4-2) as furnished in Section 5: Tender and Contract Forms;
 - (c) The completed Price Schedule for Goods and Related Services (Form PG4-3A, 3B, 3C and PG4-3D) as furnished in Section 5: Tender and Contract Forms as stated under ITT Clauses 23 and 24;
 - (d) Tender Security as stated under ITT Clause 29,30 and 31;
 - (e) The completed Specifications Submission and Compliance Sheet (Form PG4-4) as furnished in Section 5: Tender and Contract Forms as stated under ITT clause 25.2;
 - (f) Alternatives, if permitted, as stated under with ITT Clause 22;
 - (g) Written confirmation authorising the signatory of the Tender to commit the Tenderer, as stated under ITT Sub-Clause 34.3;
 - (h) The completed eligibility declarations, to establish its eligibility as stated under ITT Clause 5, in the Tender Submission Sheet (Form PG4-1), as furnished in section 5: Tender and Contract Forms;
 - (i) An affidavit confirming the legal capacity stating that there are no existing orders of any judicial court that prevents either the Tenderer or employees of a Tenderer entering into or signing a Contract with the Purchaser as stated under ITT clause 5;
 - (j) An affidavit confirming that the Tenderer is not insolvent, in receivership or not bankrupt or not in the process of bankruptcy, not temporarily barred from undertaking their business for financial reasons and shall not be the subject of legal proceedings for any of the foregoing as stated under ITT Clause 5;
 - (k) A certificate issued by the competent authority stating that the Tenderer is a Tax payer having valid Tax identification Number (TIN) and VAT registration number or in lieu any other document acceptable to the Purchaser demonstrating that the Tenderer is a genuine Tax payer and has a VAT registration number as a proof of fulfillment of taxation obligations as stated under ITT Clause 5. In the case of foreign Tenderers, a certificate of competent authority in that country of which the Tenderer is citizen shall be provided ;
 - (l) Documentary evidence demonstrating that they are enrolled in the relevant professional or trade organizations registered in Bangladesh or in case of foreign tenderer in their country of origin or a certificate concerning their competency issued by a professional institution in accordance with the law of the country of their origin, as stated under ITT Clause 5;

- (m) The country of origin declarations, to establish the eligibility of the Goods and Related Services as stated under ITT Clause 6, in the Price Schedule for Goods and Related Services (Form PG4-3B, 3C and PG4-3D) as, applicable, furnished in Section 5: Tender and Contract Forms;
- (n) Documentary evidence as stated under ITT Clauses 25, that the Goods and Related Services conform to the Tender Documents;
- (o) Documentary evidence as stated under ITT Clause 26 that the Tenderer's qualifications conform to the Tender Documents;
- (p) Documents establishing legal and financial autonomy and compliance with commercial law, as stated under ITT Sub-clause 5.3 in case of government owned entity; and
- (q) Any other document as specified in the TDS.

21.2 The Tenderer shall submit the Tender Submission Letter (Form PG4-1) as furnished in Section 5: Tender and Contract Forms. This form must be completed without any alterations to its format, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested.

21.3 The Tenderer shall submit the completed Price Schedule for Goods and Related Services (Form PG4-3A, 3B, 3C and PG4-3D), according to their origin as appropriate as furnished in section 5: Tender and Contract Forms.

22. Alternatives

22.1 Unless otherwise stated in the TDS, alternatives shall not be considered.

23. Tender Prices, Discounts

23.1 The prices and discounts quoted by the Tenderer in the Tender Submission Letter (Form PG4-1) and in the Price Schedule (Form PG4-3A, 3B, 3C and PG4-3D) shall conform to the requirements specified below.

23.2 All lots or items as listed in Section 6: Schedule of Requirements must be listed and priced separately on the Price Schedule following the Form PG4-3A, 3B, 3C and PG4-3D as applicable.

23.3 Tenders are being invited either for a single lot or for a number of lots on 'lot-by-lot' basis, as specified in the TDS.

23.4 Each lot shall constitute a Tender, If Tenders for Goods are invited on 'lot-by-lot' basis.

23.5 Tenders being invited for a single lot or for a number of lots on 'lot-by-lot' basis, price quoted shall correspond to 100% of the items specified for each lot and to 100% of the quantities specified for each item of that particular lot and shall correspond to 100% of the total offered lot value, unless otherwise stated in the TDS

- 23.6 A Lot Tender not offering minimum number of items of those being priced based on percentage of the total number of items, and, the corresponding minimum value based on percentage of the total lot value, as specified in the ITT Sub-Clause 23.5 shall also be considered non-responsive.
- 23.7 Subject to ITT Sub-Clause 23.5, a Lot tender not offering a particular item which represents more than fifty percent (50%) of the estimated lot value identified by the Purchaser and specified in the TDS, even if it complies with the requirement of minimum number of items based on percentage of the total number of items as stated under ITT Sub Clause 23.5, shall be considered non-responsive.
- 23.8 The price to be quoted in Tender Submission Letter (Form PG4-1) shall be the total price of the Tender, excluding any discounts offered, only **in case of being awarded more than one lot**, by the Tenderer
- 23.9 The tenderer wishing to offer any discount shall indicate the methodology for their application in the Tender Submission Letter (Form PG4-1) **for being awarded of more than one lot**.
- 23.10 Prices shall be quoted as specified in each Price Schedule (Form PG4-3A, 3B, 3C and PG4-3D) as applicable. The disaggregation of price components is required solely for the purpose of facilitating the comparison of tenders by the Purchaser. This shall not in any way limit the Purchaser's right to contract on any of the terms offered. In quoting prices, the Tenderer shall be free to use transportation through carriers registered in any eligible Countries. Similarly, the Tenderer may obtain insurance services from any eligible country. Prices shall be entered in the following manner:
- 23.11 For Goods, manufactured within Bangladesh, the prices in the Price schedule (Form PG4-3A) shall be entered separately in the following manner:
- (a) The price of the Goods quoted EXW (ex works, ex factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and import vat and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods;
 - (b) VAT payable on account of supplier, if the contract is awarded ; and
 - (c) The price for inland transportation, insurance, and other local costs for the delivery of the Goods to their final destination (Project Site) specified in the TDS.

23.12 For Goods, manufactured outside Bangladesh, to be imported, the prices in the Price schedule (Form PG4-3B) shall be entered separately in the following manner:

- (a) the price of the Goods, quoted CIP (named place of destination, in the Bangladesh) or CIF (named port of destination, in Bangladesh) as specified in the TDS;
- (b) VAT payable on account of supplier, if the contract is awarded; and
- (c) the price for inland transportation, insurance, and other local costs for the delivery of the Goods to their final destination (Project Site) specified in the TDS;
- (d) in addition to the CIP/CIF prices specified in 23.12(a) above, the price of the Goods to be imported may be quoted in other INCOTERM and shall be governed by the rules prescribed in the current edition of INCOTERM published by the International Chamber of Commerce, Paris, if so specified in the TDS;

23.13 For Goods, manufactured outside Bangladesh, already imported, the prices in the Price schedule (Form PG4-3C) shall be entered separately in the following manner:

- (a) the price of the Goods, including the original import value of the Goods; plus any mark-up ; plus any other related local cost, and custom duties, import VAT and other import taxes already paid on the Goods already imported.
- (b) the custom duties, import VAT and other import taxes already paid (need to be supported with documentary evidence) on the Goods already imported;
- (c) the price of the Goods, obtained as the difference between (a) and (b) above;
- (d) VAT payable on account of supplier, if the contract is awarded; and
- (e) The price for inland transportation, insurance, and other local costs for the delivery of the Goods to their final destination (Project Site) specified in the TDS.

[For previously imported Goods, the quoted price shall be distinguishable from the original import value of these Goods declared to customs and shall include any rebate or mark-up of the local agent or representative and all local costs except import duties and taxes, which have been paid. For clarity the tenderers are asked to quote the price including import duties, and additionally to provide the import duties and the price net of import duties which is the difference of those values.]

23.14 for Related Services, other than inland transportation and other services required to convey the Goods to their final destination, whenever such Related Services are specified in the Schedule of Requirements, the prices in the price schedule (Form PG4-3D) shall be entered in the following manner :

- (a) The price of each item comprising the Related Services (inclusive of any applicable taxes).

**24. Tender
Currency**

- 24.1 For expenditures that will be incurred in Bangladesh, the Tenderer shall quote the prices in Bangladesh Taka.
- 24.2 Suppliers offering Goods manufactured or assembled in Bangladesh are permitted to submit their Tender in a combination of local and foreign currencies.
- 24.3 For expenditures that will be incurred outside Bangladesh, the Tenderer may quote the prices in USD or GBP or EUR or JPY as specified in TDS.

**25. Documents
Establishing the
Conformity of
the Goods and
Related
services**

- 25.1 To establish the conformity of the Goods and Related Services to the Tender Documents, the Tenderer shall furnish as part of its Tender the documentary evidence that the Goods and Related services conform to the technical specifications and standards in Section 7, Technical Specifications.
- 25.2 Documentary evidence of conformity of the Goods and services to the Tender Documents may be in the form of literature, drawings, and data, and shall consist of:
 - (a) a detailed description of the essential technical and performance characteristics of the Goods;
 - (b) if so required in TDS, tenderer shall also furnish a list giving full particulars, including available sources and current prices of spare parts, special tools, etc., necessary for the proper and continuing functioning of the Goods during the period specified in the TDS, following commencement of the use of the Goods by the Purchaser ; and
 - (c) an item-by-item commentary on the Purchaser's Technical Specifications demonstrating substantial responsiveness of the Goods and Related services to those specifications, or a statement of deviations and exceptions to the provisions of Section 7. Technical Specifications.

**26. Documents
Establishing
Qualifications
of the Tenderer**

- 26.1 The documentary evidence of the Tenderer's qualifications to perform the contract if its Tender is accepted shall establish to the Purchaser's satisfaction:
 - (a) that the Tenderer meets each of the qualification criterion specified in Sub-Section C, Qualification Criteria of the ITT;
 - (b) that, if required in the TDS, a Tenderer that does not manufacture or produce the Goods it offers to supply shall submit the Manufacturer's Authorization Letter (Form PG4-5) furnished in Section 5: Tender and Contract Forms, to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods to supply the Goods to Bangladesh.; and
 - (c) that, if required in the TDS, in case of a Tenderer not doing business within Bangladesh, the Tenderer is or will be (if awarded the contract) represented by an Agent in the country equipped and able to carry out the Supplier's maintenance.

- 27. Validity Period of Tender**
- 27.1 Tender validities shall be determined on the basis of the complexity of the Tender and the time needed for its examination, evaluation, approval of the Tender and issuance of the Notification of Award pursuant to Rule 19 and 20 of the Public Procurement Rules, 2008.
- 27.2 Tenders shall remain valid for the period specified in the TDS after the date of Tender submission deadline prescribed by the Purchaser, as stated under ITT Clause 36. A Tender valid for a period shorter than that specified will be rejected by the Purchaser as non- responsive.
- 28. Extension of Tender Validity and Tender Security**
- 28.1 In justified exceptional circumstances, prior to the expiration of the Tender validity period, the Purchaser following Rule 21 of the Public Procurement Rules,2008 may solicit, **not later than ten (10) days** before the expiry date of the Tender validity, compulsorily all the Tenderers' consent to an extension of the period of validity of their Tenders.
- 28.2 The request for extension of Tender validity period shall state the new date of the validity of the Tender.
- 28.3 The request from the Purchaser and the responses from the Tenderers will be made in writing.
- 28.4 Tenderers consenting in writing to the request made by the Purchaser under ITT Sub-Clause 28.1 shall also correspondingly extend the validity of its Tender Security for twenty-eight (28) days beyond the new date for the expiry of Tender validity.
- 28.5 Tenderers consenting in writing to the request under ITT Sub-Clause 28.1 shall not be required or permitted to modify its Tender in any circumstances.
- 28.6 If the Tenderers are not consenting in writing to the request made by the Purchaser under ITT Sub-Clause 28.1, its Tender will not be considered for subsequent evaluation.
- 29. Tender Security**
- 29.1 The Tender Security and its amount shall be determined sufficient to discourage the submission of frivolous and irresponsible tenders pursuant to Rule 22 of the Public Procurement Rule,2008 and shall be expressed as a rounded fixed amount and, shall not be stated as a precise percentage of the estimated total Contract value.
- 29.2 The Tenderer shall furnish as part of its Tender, in favour of the Purchaser or as otherwise directed on account of the Tenderer as specified in TDS.
- 29.3 Amount of the Tender security may be determined on the basis of different percentages for each lot, but the amount in fixed and currency as specified in TDS, if so indicated that the Tenders are invited on lot-by-lot basis under ITT Sub Clause 23.3

- 30. Form of Tender security**
- 30.1 The Tender Security shall be in the form of an irrevocable bank guarantee issued by an internationally reputable bank and shall require to be endorsed by its any correspondent bank located in Bangladesh, to make it enforceable, in the format (Form PG4-6) furnished in Section 5: Tender and Contract Forms;
- 30.2 be payable promptly upon written demand by the Purchaser in the case of the conditions listed in ITT Clause 33 being invoked; and
- 30.3 Remain valid for at least twenty eight (28) days beyond the expiry date of the Tender Validity in order to make a claim in due course against a Tenderer in the circumstances detailed under ITT Clause 33 and pursuant to Rule 25 of the Public Procurement Rules, 2008.
- 31. Authenticity of Tender Security**
- 31.1 The authenticity of the Tender security submitted by a Tenderer shall be examined and verified by the Purchaser in writing from the Bank issuing the security, prior to finalization of the Evaluation Report pursuant to Rule 24 of the Public Procurement Rule, 2008.
- 31.2 If a Tender Security is found to be not authentic, the Tender which it covers shall not be considered for subsequent evaluation and in such case the Purchaser shall proceed to take punitive measures against that Tenderer as stated under ITT Sub-Clause 4.6, pursuant to Rule 127 of the Public Procurement Rules, 2008 and in accordance with Section 64(5) of the Public Procurement Act, 2006.
- 31.3 Tender not accompanied by a valid Tender Security as stated under Sub-Clause 29, 30 and 31, shall be considered as non-responsive.
- 32. Return of Tender Security**
- 32.1 No Tender security shall be returned by the Tender Opening Committee (TOC) during and after the opening of the Tenders pursuant to Rule 26 of the Public Procurement Rules 2008.
- 32.2 No Tender security shall be returned to the Tenderers before contract signing, except to those who are found non-responsive.
- 32.3 Tender securities of the non-responsive Tenders shall be returned immediately after the Evaluation Report has been approved by the Purchaser.
- 32.4 Tender securities of the responsive Tenderers shall be returned only after the lowest evaluated responsive Tenderer has submitted the performance security and signed the contract , that being even before the expiration of the validity period specified in Clause 27.
- 32.5 Tender Securities of the Tenderers not consenting within the specified date in writing to the request made by the Purchaser under ITT Sub-Clause 28.1 in regard to extension of its Tender validity shall be discharged or returned forthwith.
- 33. Forfeiture of Tender Security**
- 33.1 The Tender security pursuant to Rule 25 of the Public Procurement Rules,2008 may be forfeited if a Tenderer:
- (a) withdraws its Tender after opening of Tenders but within the validity of the Tender as stated under ITT Clauses 27, and 28, pursuant to Rule 19 of the Public Procurement Rules 2008; or

- (b) refuses to accept a Notification of Award as stated under ITT Sub-Clause 62.3, pursuant to Rule 102 of the Public Procurement Rules 2008; or
- (c) fails to furnish performance security as stated under ITT Sub-Clause 63.2, pursuant to Rule 102 of the Public Procurement Rules 2008; or
- (d) refuses to sign the Contract as stated under ITT Sub-Clause 67.2 pursuant to Rule 102 of the Public Procurement Rules 2008; or
- (e) does not accept the correction of the Tender price following the correction of arithmetic errors as stated under ITT Clause 49, pursuant to Rule 98(11) of the Public Procurement Rules 2008

34. Format and Signing of Tender

- 34.1 The Tenderer shall prepare one (1) original of the documents comprising the Tender as described in ITT Clause 21 and clearly mark it "ORIGINAL". In addition, the Tenderer shall prepare the number of copies of the Tender, as specified in the TDS and clearly mark each of them "COPY". In the event of any discrepancy between the original and the copies, the original shall prevail.
- 34.2 Alternatives, if permitted under ITT Clause 22, shall be clearly marked "Alternative".
- 34.3 The original and each copy of the Tender shall be typed or written in indelible ink and shall be signed by a person duly authorised to sign on behalf of the Tenderer. This authorisation shall consist of a written authorisation and shall be attached to the Tender Submission Letter (Form PG4-1).
- 34.4 The name and position held by each person signing the authorisation must be typed or printed below the signature.
- 34.5 All pages of the original and of each copy of the Tender, except for un-amended printed literature, shall be numbered sequentially and signed or initialled by the person signing the Tender.
- 34.6 Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialled by the person(s) signing the Tender.
- 34.7 Person(s) signing the Tender shall describe his or her name, address, position.

E. Tender Submission

35. Sealing, Marking and Submission of Tender

- 35.1 The Tenderer shall enclose the original in one (1) envelope and all the copies of the Tender, including the alternative, if permitted under ITT Clause 22 in another envelope, duly marking the envelopes as "ORIGINAL" "ALTERNATIVE" (if permitted) and "COPY." These sealed envelopes will then be enclosed and sealed in one (1) single outer envelope.

- 35.2 Tenders shall be properly marked by Tenderers in order not be confused with other types of correspondence which may also be hand-delivered or posted by mail or courier service. The inner and outer envelopes shall:
- (a) bear the name and address of the Tenderer ;
 - (b) be addressed to the Purchaser as stated under ITT Sub-Clause 36.1;
 - (c) bear the specific identification of this tendering process indicated in ITT Sub-Clause 1.2 and any additional identification marks as specified in the TDS; and
 - (d) bear a statement “DO NOT OPEN BEFORE...” the time and date for Tender opening, as stated under ITT Sub-Clause 42.2
- 35.3 The Tenderer is solely and entirely responsible for pre-disclosure of Tender information if the envelope(s) are not properly sealed and marked.
- 35.4 Tenders shall be delivered by hand or by mail, including courier services to location as designated in the ITT Sub-Clause 36.1.
- 35.5 Tenders shall be submitted on the basis of this Tender Document issued by the Purchaser.
- 35.6 The Purchaser will, on request, provide the Tenderer with a receipt showing the date and time when it's Tender was received.
- 35.7 When so specified in the TDS, tenderers shall have the option of submitting their tenders electronically.
- 35.8 Tenderers submitting tenders electronically shall follow the electronic tender submission procedures specified in the TDS.
- 36. Deadline for Submission of tenders**
- 36.1 Tenders shall be delivered to the Purchaser at the address specified in the TDS and no later than the date and time specified in the TDS.
- 36.2 The Purchaser may, at its discretion on justifiably acceptable grounds duly recorded, extend the deadline for submission of Tender as stated under ITT Sub Clause 36.1, in which case all rights and obligations of the Purchaser and Tenderers previously subject to the deadline will thereafter be subject to the new deadline as extended.
- 37. Late tender**
- 37.1 Any Tender received by the Purchaser after the deadline for submission of Tenders as stated under ITT Sub-Clause 36.1, shall be declared LATE, rejected, returned unopened to the Tenderer.
- 38. Modification, Substitution or Withdrawal of Tenders**
- 38.1 A Tenderer may modify, substitute or withdraw its Tender after it has been submitted by sending a written notice duly signed by the authorised signatory properly sealed, and shall include a copy of the authorisation (the power of attorney), confirmed by an affidavit duly authenticated as stated under ITT Clause 34.3, provided that such written notice including the affidavit is received by the Purchaser prior to the deadline for submission of Tenders as stated under ITT Sub-Clause 36.1.

- 39. Tender Modification** 39.1 The Tenderer shall not be allowed to retrieve its original Tender, but shall be allowed to submit corresponding modification to its original Tender marked as “MODIFICATION”.
- 40. Tender Substitution** 40.1 The Tenderer shall not be allowed to retrieve its original Tender, but shall be allowed to submit another Tender marked as “SUBSTITUTION”.
- 41. Withdrawal of Tender** 41.1 The Tenderer shall be allowed to withdraw its Tender by a Letter of Withdrawal marked as “WITHDRAWAL”.

F. Tender Opening and Evaluation

- 42. Tender Opening** 42.1 Tenders shall be opened pursuant to Rule 97 following steps in Part D of Schedule IV of The Public Procurement Rule, 2008.
- 42.2 Tenders shall be opened in public immediately after the deadline for submission of Tenders at the place, date and time as specified in the TDS but no later than **ONE HOUR** after expiry of the submission deadline. Tender opening shall not be delayed on the plea of absence of Tenderers or his or her representatives.
- 42.3 Any specific electronic Tender opening procedures required if electronic tendering is permitted under ITT Sub-Clause 35.7, shall be as specified in the TDS.
- 42.4 Persons not associated with the Tender may not be allowed to attend the public opening of Tenders.
- 42.5 The Tenderers’ representatives shall be duly authorised by the Tenderer. Tenderers or their authorised representatives will be allowed to attend and witness the opening of Tenders, and will sign a register evidencing their attendance.
- 42.6 The authenticity of withdrawal or substitution of, or modifications to original Tender, if any made by a Tenderer in specified manner, shall be examined and verified by the Tender Opening Committee based on documents submitted under ITT Sub Clause 38.1.
- 42.7 Tenders will be opened in the following manner:
- (a) Firstly, envelopes marked “Withdrawal” shall be opened and “Withdrawal” notices read aloud and recorded, and the envelope with the corresponding Tender shall not be opened, but returned unopened to the Tenderer by the Purchaser at a later time immediately after preliminary examination by the Tender Evaluation Committee (TEC) as stated under ITT Sub-Clause 45.1. No Tender withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and in such case the Tender shall be read aloud at the Tender opening ;
 - (b) secondly, the remaining Tenders will be sorted out and those marked “substitutes” or “modified” will be linked with their corresponding “original”(O) Tender;
 - (c) Next, envelopes marked “Substitution”(S) shall be opened and read aloud and recorded, and exchanged with the

corresponding Tender being substituted, and the substituted Tender shall not be opened, but returned unopened to the Tenderer by the Purchaser at a later time immediately after preliminary examination by the Tender Evaluation Committee (TEC) as stated under ITT Sub-Clause 45.1 . No Tender substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and in such case the Tender shall be read aloud at the Tender opening.

- (d) Next envelopes marked "Modification" (M) shall be opened and read aloud with the corresponding Tender and recorded. No Tender modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and in such case the Tender shall be read aloud at the Tender opening.
- (e) thirdly, if so specified in this Tender Document, the envelopes marked " Alternative "(A) shall be opened and read aloud with the corresponding Tender and recorded.

42.8 Ensuring that only the correct (M), (S), (A),(O) envelopes are opened, details of each Tender will be dealt with as follows:

- (a) the Chairperson of the Tender Opening Committee will read aloud each Tender and record in the Tender Opening Sheet (TOS)
 - (i) the name and address of the Tenderer;
 - (ii) state if it is a withdrawn, modified, substituted , or original tender;
 - (iii) the Tender price;
 - (iv) the number of initialled corrections;
 - (v) any discounts;
 - (vi) any alternatives;
 - (vii) the presence or absence of any requisite Tender Security; and
 - (viii) Such other details as the Purchaser, at its discretion, may consider appropriate.
- (b) only discounts and alternative read aloud at the Tender opening will be considered in evaluation;
- (c) all pages of the original version of the Tender, except for un-amended printed literature, will be initialled by members of the Tender Opening Committee.

42.9 Upon completion of Tender opening, all members of the Tender Opening Committee and the Tenderers or Tenderer's duly authorised representatives attending the Tender opening shall sign by name, address, designation and their national Identification Numbers the Tender Opening Sheet, copies of which shall be issued to the Head of the Purchaser or an officer authorised by him or her and also to the members of the Tender Opening Committee and any authorised Consultants and, to the Tenderers immediately.

42.10 The omission of a Tenderer's signature on the record shall not invalidate the contents and effect of the record under ITT Sub-Clause 42.8.

- 42.11 No Tender will be rejected at the Tender opening stage except the LATE Tenders. .
- 42.12 A copy of the record shall be distributed to all Tenderers who submitted tenders in time, and posted online when electronic tendering is permitted.
- 43. Evaluation of Tenders**
- 43.1 Purchaser's Tender Evaluation Committee (TEC) shall examine, evaluate and compare Tenders that are responsive to the mandatory requirements of Tender Documents in order to identify the successful Tenderer.
- 43.2 Tenders shall be examined and evaluated only on the basis of the criteria specified in the Tender Document.
- 44. Evaluation process**
- 44.1 The TEC may consider a Tender as responsive in the Evaluation, only if it is submitted in compliance with the mandatory requirements set out in the Tender Document. The evaluation process should begin immediately after tender opening following four steps:
- (a) Preliminary Examination;
 - (b) Technical Examinations and Responsiveness;
 - (c) Financial evaluation and price comparison;
 - (d) Post-qualification of the lowest evaluated responsive Tenders.
- 45. Preliminary Examination**
- 45.1 Compliance, adequacy and authenticity of the documentary evidences for meeting the qualification criterion specified in the corresponding section of the Tender document shall have to be preliminarily examined and verified.
- 45.2 The TEC shall firstly examine the Tenders to confirm that all documentation requested in ITT Clause 21 has been provided. Examination of the compliance, adequacy and authenticity of the documentary evidence may follow the order below:
- (a) Verification of the completeness of the eligibility declaration in the Tender Submission Letter (Form PG4-1), to determine the eligibility of the tenderer as stated under ITT Sub-Clause 21(h). Any alterations to its format, filling in all blank spaces with the information requested, failing which the tender may lead to rejection of the Tender;
 - (b) verification of that the Tenderer is enrolled in the relevant professional or trade organisations as stated under ITT Clause 21(l);
 - (c) verification of the eligibility in terms of legal capacity and fulfilment of taxation obligation by the tenderer in accordance as stated under ITT Sub-Clause 21(i) and 21(k);
 - (d) verification of eligibility that the tenderer is not insolvent, in receivership, bankrupt, not in the process of bankruptcy, not temporarily barred as stated under ITT Sub-Clause 21(j);

- (e) verification of eligibility of Tenderer's country of origin as stated under ITT Sub-Clause 21(b);
- (f) verification of the written authorization confirming the signatory of the Tenderer to commit the Tender has been attached with Tender Submission Letter (Form PG4-1) as stated under ITT Sub-Clause 21(g); in order to check the authenticity of Tender and Tenderer itself ;
- (g) verification of the Tender Security as stated under ITT Sub-Clause 21(d); and
- (h) Verification of that the written notice for 'WITHDRAWAL' and 'SUBSTITUTION of' or MODIFICATION to, the corresponding Tender is proper and authentic, if the tender is "WITHDRAWN", "SUBSTITUTION" or "MODIFICATION", as stated under ITT Sub-Clause 38.1

45.3 The TEC shall confirm that the above documents and information have been provided in the Tender and the completeness of the documents and compliance of instructions given in corresponding ITT Clauses shall be verified, failing which the tender shall be considered as non-responsive.

46. Technical Examinations & Responsiveness

46.1 Only those Tenders surviving preliminary examination need to be examined in this phase.

46.2 Secondly, the TEC will examine the adequacy and authenticity of the documentary evidence which may follow the order below:

- (a) Verification of the completeness of the country of origin declaration in the Price Schedule for Goods and Related Services (Form PG4-3B, 3C and PG4-3D) as furnished in Section 5: Tender and Contract Forms to determine the eligibility of the Goods and Related Services as stated under ITT Sub Clause 21(m).
- (b) Verification and examination of the documentary evidence and completed Specification Submission Sheet (Form PG4-4) as furnished in Section 5: Tender and Contract Forms to establish the conformity of the Goods and Related Services to the Tender Documents as stated under ITT Sub Clause 21(e) and 21(n).
- (c) Verification and examination of the documentary evidence that the Tenderer's qualifications conform to the Tender Documents and the Tenderer meets each of the qualification criterion specified in Sub-Section C, Qualification Criteria as stated under ITT Sub Clause 21(o).
- (d) Verification and examination of the documentary evidence that Tenderer has met all the requirements in regards to scope of Supply as stated under Section 6, Schedule of Requirements, without any material deviation or reservation.

46.3 TEC may consider a Tender as responsive in the evaluation, only if comply with the mandatory requirements as stated under Clause 46.2.

- 46.4 The TEC's determination of a Tender's responsiveness is to be based on the documentary evidence as requested in Clause 46.2 without recourse to extrinsic evidence.
- 46.5 Information contained in a Tender, that was not requested in the Tender Document shall not be considered in evaluation of the Tender.
- 46.6 If a Tender is not responsive to the mandatory requirements set out in the Tender Document it shall be rejected by the TEC and shall not subsequently be made responsive by the Tenderer by correction of the material deviation, reservation.
- 46.7 A material deviation or reservation is one-
- (a) which affects in any substantial way the scope, quality, or performance of the Goods and Related Services and Tenderer's qualifications mentioned in the Tender Document.
 - (b) which limits in any substantial way, inconsistent with the Tender Documents, the Purchaser's rights or the Tenderer's obligations under the Contract; or
 - (c) Whose rectification would anyway affect unfairly the competitive position of other Tenderers presenting responsive Tenders.
- 46.8 During the evaluation of Tender, the following definitions apply:
- (a) "Deviation" is a departure from the requirements specified in the Tender Document;
 - (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Tender Document;
- 46.9 A TEC may regard a Tender as responsive, even if it contains-
- (a) minor or insignificant deviations, which do not meaningfully alter or depart from the technical specifications, characteristics and commercial terms and conditions or other requirements set out in the Tender Document;
 - (b) errors or oversights, which if corrected, would not alter the key aspects of the Tender.
- 47. Clarification on Tender**
- 47.1 The TEC may ask Tenderers for clarifications of their Tenders, including breakdowns of unit rates, in order to assist the examination and evaluation of the Tenders, provided that, Tender clarifications which may lead to a change in the substance of the Tender or in any of the key elements of the Tender as stated under ITT Sub-Clause 46.7, shall neither be sought nor permitted by the TEC.
- 47.2 Change in the tender price shall not be sought or permitted, except to confirm correction of arithmetical errors discovered by the Purchaser in the evaluation of the Tender, as sated under ITT Clause 49.
- 47.3 Any request for clarifications by the TEC shall not be directed towards making an apparently non-responsive Tender responsive and reciprocally the response from the concerned Tenderer shall not be articulated towards any addition, alteration or modification to its Tender.

- 47.4 If a Tenderer does not provide clarifications of its Tender by the date and time set in the TEC's written request for clarification, its Tender shall not be considered in the evaluation.
- 47.5 Requests for clarification shall be in writing and shall be signed only by the Chairperson of the TEC.
- 48. Restrictions on the Disclosure of Information Relating to the Procurement Process**
- 48.1 Following the opening of Tenders until issuance of Notification of Award no Tenderer shall, unless requested to provide clarification to its Tender or unless necessary for submission of a complaint, communicate with the concerned Purchaser pursuant to Rule 31 of the Public Procurement Rule, 2008.
- 48.2 Tenderers shall not seek to influence in anyway, the examination and evaluation of the Tenders.
- 48.3 Any effort by a Tenderer to influence a Purchaser in its decision concerning the evaluation of Tenders, Contract awards may result in the rejection of its Tender as well as further action in accordance with Section 64 (5) of the Public Procurement Act 2006.
- 48.4 All clarification requests shall remind Tenderers of the need for confidentiality and that any breach of confidentiality on the part of the Tenderer may result in their Tender being disqualified.
- 48.5 Information relating to the examination, evaluation, comparison, and post qualification of the tender or contract award, shall not be disclosed to tenderers or any other persons not officially concerned with such process.
- 49. Correction of Arithmetical Errors**
- 49.1 The TEC shall correct any arithmetic errors that are discovered during the examination of Tenders, and shall promptly notify the concerned Tenderer(s) of any such correction(s) pursuant to Rule 98(11) of the Public Procurement Rule, 2008.
- 49.2 Provided that the Tender is responsive, TEC shall correct arithmetical errors on the following basis:
- (a) If there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the TEC there is an obvious misplacement of the decimal point in the unit price, in which case the total price as quoted will govern and the unit price will be corrected;
- (b) If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected.
- 49.3 Any Tenderer that does not accept the correction of the Tender amount following correction of arithmetic errors as determined by the application of ITT Sub-Clause 49.2 shall be considered as non-responsive.
- 50. Conversion to Single Currency**
- 50.1 For evaluation and comparison purpose, TEC shall convert all Tender prices expressed in the amounts in various currencies into an amount in Bangladeshi Taka currency, using the **selling exchange rates** established by the Bangladesh Bank, on the date of **Tender opening**.

51. Domestic Preference

- 51.1 **Domestic preference** shall be followed as per rules of PPR 2008.
- 51.2 If **domestic preference shall be a tender-evaluation factor**, the Purchaser will grant a margin of fifteen percent (15%) domestic preference to Goods manufactured in Bangladesh during the evaluation of its Tender while comparing the same with those of other Tenderers under the classification set out in ITT Sub-Clause 51.3. The evaluation will be carried out in accordance with the provisions set out in ITT Clause 54.
- 51.3 Tenders will be classified in one of two groups, as follows:
- (a) **Group A:** Tender offering goods manufactured in Bangladesh, for which:
 - (i) labour, raw materials, and components from within the Bangladesh account for more than thirty (30) percent of the EXW price; and
 - (ii) the production facility in which they will be manufactured or assembled has been engaged in manufacturing or assembling such goods at least since the date of tender submission.
 - (b) **Group B:** Tenders offering Goods manufactured outside Bangladesh that have been already imported or that will be imported.
- 51.4 To facilitate this classification by the Tenderer, the Tenderer shall complete whichever Form of the Price Schedule furnished in the Tender Document is appropriate.
- 51.5 Completion of an inappropriate Form of the Price Schedule by the Tenderer shall not result in rejection of its tender, but merely in the Purchaser's reclassification of the tenderer into its appropriate tender group.

52. Financial Evaluation

- 52.1 Thirdly the TEC, pursuant to Rule 98 of the Public Procurement Rules, 2008 shall evaluate each Tender that has been determined, up to this stage of the evaluation, to be responsive to the mandatory requirements in the Tender Document.
- 52.2 To evaluate a Tender in this stage , the Purchaser shall consider the following:
- (a) Verification and examination of the Price Schedule for Goods and Related Services (Form PG4-3A, 3B, 3C and PG4-3D) as furnished by the Tenderer and checking the compliance with the instructions provided under ITT Clause 23;
 - (b) Evaluation will be done for Items or lot by lot as stated under ITT Clause 23 and the Total Tender Price as quoted in accordance with Clause 23 ;
 - (c) Adjustment for correction of arithmetical errors as stated under ITT Sub-Clause 49.2;
 - (d) Adjustment for price modification offered as stated under ITT Clause 38;

- (e) Adjustment due to discount as stated under ITT Sub-Clauses 23.8 , 23.9 and 52.3;
- (f) Adjustment due to the application of economic factors of evaluation as stated under ITT Sub-Clause 52.5 if any;
- (g) Adjustment due to the assessment of the price of unpriced items as stated under ITT Clause 53 if any;
- (h) Adjustment due to the application of a margin of preference (domestic preference), in accordance with ITT Clause 54 if applicable

52.3 If Tenders are invited for a single lot or for a number of lots as stated under ITT Sub-clauses 23.3, TEC shall evaluate only lots that that have included at least the percentage of items per lot as stated under ITT Sub-Clause 23.5 and 23.6. The TEC shall evaluate and compare the Tenders taking into account:

- (a) Lowest evaluated tender for each lot ;
- (b) The price discount/reduction per lot;
- (c) Least cost combination for the Purchaser, considering discounts and the methodology for its application as stated under ITT Sub-clauses 23.8 and 23.9 offered by the Tenderer in its Tender.

52.4 Only those spare parts and tools which are specified as a item in the List of Goods and Related Services in Section 6, Schedule of Requirement or adjustment as stated under ITT Sub-clause 52.5, shall be taken into account in the Tender evaluation. Supplier-recommended spare parts for a specified operating requirement as stated under ITT Sub-clause 25.2(b) shall not be considered in Tender evaluation.

52.5 The Purchaser's evaluation of a tender may require the consideration of other factors, in addition to the Tender Price quoted as stated under ITT Clause 23. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of tenders. The factors, methodologies and criteria to be used shall be as specified in TDS. The applicable economic factors, for the purposes of evaluation of Tenders shall be:

- (a) Adjustment for Deviations in the Delivery and Completion Schedule
- (b) Cost of major replacement components, mandatory spare parts, and service

52.6 Variations, deviations, and alternatives and other factors which are in excess of the requirements of the Tender Document or otherwise result in unsolicited benefits for the Purchaser will not be taken into account in Tender evaluation.

53. Assessing the Price of Unpriced Items

53.1 If it is so permitted under ITT Clause 23 , any Tenderer offered only eighty percent (80%) or minimum percent of the items of a lot as stated under ITT Sub-Clause 23.5, the TEC shall calculate the total lot value by adding up the average prices offered by other responsive Tenderers for the missing items to the lot value to establish the winning lot Tender. If the Tenderer offered less than the specified, the Tender shall be evaluated as sated under ITT Clause 23.

- 53.2 If the winning lot is missing some items as stated under ITT Sub Clause 53.1, comprising less than twenty percent (20%), the Purchaser may procure the missing items from the Tenderer offering the least cost for those remaining items.
- 54. Evaluation of Domestic Preference**
- 54.1 If the Tender document so specifies, the Tenderer will grant a margin preference to goods manufactured in Bangladesh as stated in ITT Clause 51 for the purpose of Tender comparison, in accordance with the procedure outlined below:
- 54.2 The Purchaser will first review the tenders to confirm the appropriateness of, and to modify as necessary, the tenderer group classification to which Tenderers assigned their tenders in preparing their Tender Forms and Price Schedules.
- 54.3 All evaluated tenders in each group will then be compared to determine the lowest evaluated tender of each group. Such lowest evaluated tenders shall be compared with each other and if as a result of this comparison a tenderer from Group A and the Tenders offering Goods manufactured in Bangladesh is the lowest, it shall be selected for the award.
- 54.4 If, as a result of the preceding comparison, the lowest evaluated tender is from Group B,
- (a) all Group B tenders will then be further compared with the lowest evaluated tender from Group A, after adding to the evaluated tender price of goods offered in the tender for Group B, for the purpose of further comparison only an amount equal to fifteen (15) percent of the CIF/CIP (named place of destination or named port of destination) tender price.
 - (b) The lowest-evaluated tender determined from this last comparison shall be selected for the award.
- 55. Price Comparison**
- 55.1 The TEC shall compare all responsive Tenders to determine the lowest-evaluated Tender, as stated under ITT Clause 54.
- 55.2 In the extremely unlikely event that there is a tie for the lowest evaluated price, the Tenderer with the superior past performance with the Purchaser shall be selected, whereby factors such as delivery period, quality of Goods delivered, complaints history and performance indicators could be taken into consideration.
- 55.3 In the event that there is a tie for the lowest price and none of the Tenderers has the record of past performance with the Purchaser, then the the Tenderer shall be selected, subject to firm confirmation through the Post-qualification process described in ITT Clause 57, after consideration as to whether the quality of Goods that is considered more advantageous by the end-users.
- 55.4 The successful Tenderer as stated under ITT Sub Clauses 55.1, 55.2 and 55.3 shall not be selected through lottery under any circumstances.
- 56. Negotiation**
- 56.1 No negotiations shall be held during the Tender evaluation or award with the lowest or any other Tenderer pursuant to Rule 99 of the Public Procurement Rules, 2008.

57. Post-qualification

- 57.1 After determining the lowest-evaluated responsive tender as sated under ITT Sub-Clause 55.1, the Purchaser's TEC pursuant to Rule 100 of the Public Procurement Rules, 2008, shall carry out the Post-Qualification of the Tenderer, using only the requirements specified in Sub-Section C, Qualification Criteria.
- 57.2 The TEC shall contact the references given by Tenderers about their previous Supply experiences to verify, if necessary, statements made by them in their Tender and to obtain the most up-to-date information concerning the Tenderers.
- 57.3 The TEC may visit the premises of the Tenderer as a part of the post-qualification process, if practical and appropriate, to verify information contained in its Tender.
- 57.4 The TEC shall determine to its satisfaction whether the Tenderer that is selected as having submitted the lowest evaluated responsive Tender is qualified to perform the Contract satisfactorily.
- 57.5 The objective of any visit under ITT Sub-Clause 57.3 shall be limited to a general and visual inspection of the Tenderer's facilities and its plant and equipment, and there shall be no discussion concerning the Tender or its evaluation with the Tenderer during such visit(s).
- 57.6 In the event that the Tenderer with lowest evaluated cost fails the post-qualification, the TEC shall make a similar determination for the Tenderer offering the next lowest evaluated cost and so on from the remaining responsive Tenders, provided that,
 - (a) such action shall only be taken if the evaluated costs of the Tenders under consideration are acceptable to the Purchaser;
 - (b) when the point is reached whereby the evaluated costs of the remaining responsive Tenders are significantly higher than that of the official estimate, or the market price, the Purchaser may take action pursuant to Rule 33 and may proceed for re-Tendering, using a revised Tender Document designed to achieve a more successful result.

58. Rejection of All Tenders

- 58.1 The Purchaser may, in the circumstances as stated under ITT Sub-Clause 58.2 and pursuant to Rule 33 of the Public Procurement Rules 2008, reject all Tenders following recommendations from the Evaluation Committee only after the approval of such recommendations by the Head of the Purchaser.
- 58.2 All Tenders can be rejected, if -
 - (a) the price of the lowest evaluated Tender exceeds the official estimate, provided the estimate is realistic; or
 - (b) there is evidence of lack of effective competition; such as non-participation by a number of potential Tenderers; or
 - (c) the Tenderers are unable to propose completion of the delivery within the stipulated time in its offer, though the stipulated time is reasonable and realistic; or
 - (d) all Tenders are non-responsive; or
 - (e) Evidence of professional misconduct, affecting seriously the Procurement process, is established pursuant to Rule 127 of the Public Procurement Rules, 2008.

- 58.3 Notwithstanding anything contained in ITT Sub-Clause 58.2 Tenders may not be rejected if the lowest evaluated price is in conformity with the market price.
- 58.4 A Purchaser may pursuant to Rule 35 of the Public Procurement Rules, 2008, on justifiable grounds, annul the Procurement proceedings prior to the deadline for the submission of Tenders.
- 58.5 All Tenders received by the Purchaser shall be returned unopened to the Tenderers in the event Procurement proceedings are annulled under ITT Sub-Clause 58.4.
- 59. Informing Reasons for Rejection**
- 59.1 Notice of the rejection, pursuant to Rule 35 of the Public Procurement Rules, 2008, will be given promptly within seven (7) days of decision taken by the Purchaser to all Tenderers and, the Purchaser will, upon receipt of a written request, communicate to any Tenderer the reason(s) for its rejection but is not required to justify those reason(s).

G. Contract Award

- 60. Award Criteria**
- 60.1 The Purchaser shall award the Contract to the Tenderer whose offer is responsive to the Tender Document and that has been determined to be the lowest evaluated Tender, provided further that the Tenderer is determined to be Post-Qualified as stated under ITT Clause 57.
- 60.2 A Tenderer shall not be required, as a condition for award of contract, to undertake obligations not stipulated in the Tender Document, to change its price, or otherwise to modify its Tender.
- 61. Purchaser's Right to Vary Quantities**
- 61.1 The Purchaser reserves the right at the time of Contract Award to increase or decrease the quantity, per item, of Goods and Related Services originally specified in Section 6: Schedule of Requirements, provided this does not exceed the percentages indicated in the TDS, and without any change in the unit prices or other terms and conditions of the Tender and the Tender Document.
- 62. Notification of Award**
- 62.1 Prior to the expiry of the Tender validity period and within seven (7) working days of receipt of the approval of the award by the Approving Authority, the Purchaser pursuant to Rule 102 of the Public procurement Rules, 2008, shall issue the Notification of Award (NOA) to the successful Tenderer
- 62.2 The Notification of Award, attaching the contract as per the sample (Form PG4-7) to be signed, shall state:
- (a) the acceptance of the Tender by the Purchaser;
 - (b) the price at which the contract is awarded;
 - (c) the amount of the Performance Security and its format;
 - (d) the date and time within which the Performance Security shall be submitted; and
 - (e) the date and time within which the contract shall be signed.
- 62.3 The Notification of Award shall be accepted in writing by the successful Tenderer within seven (7) working days from the date of issuance of NOA.
- 62.4 Until a formal contract is signed, the Notification of Award shall constitute a Contract, which shall become binding upon the furnishing of a Performance Security and the signing of the Contract by both parties.

- 62.5 The Notification of Award establishes a Contract between the Purchaser and the successful Tenderer and the existence of a Contract is confirmed through the signature of the Contract Document that includes all agreements between the Purchaser and the successful Tenderer.
- 63. Performance Security**
- 63.1 The Performance Security shall be determined sufficient to protect the performance of the Contract pursuant to Rule 27 of the Public Procurement Rules, 2008.
- 63.2 Performance Security shall be furnished by the successful Tenderer in the amount specified in the TDS and **denominated in the currencies** in which the Contract Price is payable pursuant to Rule 102 (8) of the Public Procurement Rules, 2008.
- 63.3 The proceeds of the Performance Security shall be payable to the Purchaser unconditionally upon first written demand as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- 64. Form and Time Limit for furnishing of Performance security**
- 64.1 The Performance Security shall be in the form of irrevocable Bank Guarantee in the format (Form PG4-9) as stated under ITT Clause 63, **shall be issued by an internationally reputable bank and it shall have correspondent bank located in Bangladesh, to make it enforceable** pursuant to Rule 27(4) of the Public Procurement Rules, 2008..
- 64.2 Within twenty-eight (28) days from issue of the Notification of Award, the successful Tenderer shall furnish the Performance Security for the due performance of the Contract in the amount specified under ITT Sub Clause 63.2.
- 65. Validity of Performance Security**
- 65.1 The Performance Security shall be required to be valid until a date twenty-eight (28) days beyond the date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations.
- 65.2 If under any circumstances date of completion of the Supplier's performance obligations under the Contract, including any warranty obligations is to be extended, the Performance Security shall correspondingly be extended for the extended period.
- 66. Authenticity of performance Security**
- 66.1 The Purchaser shall verify the authenticity of the Performance Security submitted by the successful Tenderer by sending a written request to the branch of the bank issuing irrevocable Bank Guarantee in specified format.
- 66.2 If the Performance Security submitted under ITT Sub Clause 63.2 is not found to be authentic, the Purchaser shall proceed to take measures against the Tenderer in accordance with Section 64 of the Act and pursuant to Rule 127 of the Public Procurement Rules, 2008.
- 67. Contract Signing**
- 67.1 At the same time as the Purchaser issues the Notification of Award, the Purchaser shall send the draft Contract Agreement and all documents forming the Contract pursuant to Rule 102 of the Public Procurement Rule, 2008, to the successful Tenderer.

- 67.2 Within twenty-eight (28) days of the issuance of Notification of Award, the successful Tenderer and the Purchaser shall sign the contract provided that the Performance Security submitted by the Tenderer is found to be genuine.
- 67.3 If the successful Tenderer fails to provide the required Performance Security, as stated under ITT Clause 63 or to sign the Contract , as stated under ITT Sub-Clause 67.2, Purchaser shall proceed to award the Contract to the next lowest evaluated Tenderer, and so on, by order of ranking pursuant to Rule 102 of the Public Procurement Rules,2008.
- 68. Publication of Notification of Award of Contract**
- 68.1 Notification of Awards for Contracts of Taka 10(ten) million and above shall be notified by the Purchaser to the Central Procurement Technical Unit within 7(seven) days of issuance of the NOA for publication in their website, and that notice shall be kept posted for not less than a month pursuant to Rule 37 of the Public Procurement Rules, 2008.
- 68.2 Notification of Award for Contracts below Taka 10(ten) million, shall be published by the Purchaser on its Notice Board and where applicable on the website of the Purchaser and that notice shall be kept posted for not less than a month pursuant to Rule 37 of the Public Procurement Rules, 2008..
- 69. Debriefing of Tenderers**
- 69.1 Debriefing of Tenderers by Purchaser shall outline the relative status and weakness only of his or her Tender requesting to be informed of the grounds for not accepting the Tender submitted by him or her pursuant to Rule 37 of the Public Procurement Rule, 2008, without disclosing information about any other Tenderer.
- 69.2 In the case of debriefing confidentiality of the evaluation process shall be maintained.
- 70. Right to Complain**
- 70.1 Any Tenderer has the right to complain if it has suffered or likely to suffer loss or damage due to a failure of a duty imposed on the Purchaser to fulfil its obligations in accordance with Section 29 of the Public Procurement Act 2006 and pursuant to Part 12 of Chapter Three of the Public Procurement Rules, 2008.
- 70.2 Circumstances in which a formal complaint may be lodged in sequence by a potential Tenderer against a Purchaser pursuant to Rule 56 of the Public Procurement Rules, 2008, and the complaints, if any, be also processed pursuant to Rule 57 of the Public Procurement Rules 2008 .
- 70.3 The potential Tenderer shall submit his or her complaint in writing within seven (7) calendar days of becoming aware of the circumstances giving rise to the complaint.
- 70.4 In the first instance, the potential Tenderer shall submit his or her complaint to the Purchaser who issued the Tender Document.
- 70.5 The place and address for the first stage in the submission of complaints to the Administrative Authority is provided in the TDS.
- 70.6 The Tenderer may appeal to a Review Panel only if the Tenderer has exhausted all his or her options of complaints to the administrative authority as stated under ITT Sub-Clause 70.2.

Section-2: Tender Data Sheet

Section-2: Tender Data Sheet

Instructions for completing the Tender Data Sheet are provided, as needed, in the notes in italics and under lined mentioned for the relevant ITT clauses.

ITT Clause	Amendments of, and Supplements to, Clauses in the Instruction to Tenderers.
A. General	
ITT 1.1	<p>The Purchaser is: Project Director, Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL, Khulna.</p> <p>The Name and identification number of Tender is :</p> <p>Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.</p> <p>Package No.: 09 (Nine)</p>
ITT 1.2	The number, identification and name of lots comprising the Tender is Single lot, the list of goods and related services are identified in Section 6: Schedule of Requirements.
ITT 3.1	The source of public fund is GoB and WZPDCL own fund.
ITT 3.3	The name of the Development Partner is :None
ITT 5.1	Tenderers from the following countries are not eligible: Israel
ITT 6.1	Goods and Related Services from the following counties are not eligible: Israel
B. Tender Document	
ITT 8.2	<p>The following are the offices of the Purchaser or authorised agents for the purpose of providing the Tender Document:</p> <ol style="list-style-type: none"> I. Project Director, Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL, Khulna. II. Office of the Divisional Commissioner, Khulna. III. Office of the Director of Purchase, BPDB, WAPDA Building (9th Floor), Motijheel C/A, Dhaka-1000.
ITT 9.1	<p>For <u>clarification of Tender purposes</u> only, the Purchaser's address is:</p> <p>Attention: Engr. Md. Shahidul Alam, Project Director, Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL, Khulna</p> <p>Address: Bidyut Bhaban, Boyra Main Road, Khulna-9000</p> <p>Telephone: +88 01711298373, Facsimile number: +88 041 731786</p> <p>Electronic mail address: smartprepayment@gmail.com</p>

ITT Clause	Amendments of, and Supplements to, Clauses in the Instruction to Tenderers.
ITT 10.1	The Pre- Tender meeting shall be held at Address: "Conference Room", 1 st floor, Biddut Bhaban, WZPDCL, Boyra Main Road, Khulna. Time & Date: 10.06.2020 at 11:00 AM (BST)
C. Qualification Criteria	
ITT 13.1	The maximum 3 (three) number of arbitration against the Tenderer over last five (5) years.
ITT 14.1(a)	The Tenderer/Manufacturer/Supplier (partner in case of JV) shall have a minimum of five (5) years of overall experience in the supply of goods and related services, including the following requirement: a) The minimum general experience of the Tenderer/ Manufacturer/ Supplier (partner in case of JV) in the Supply of IT related goods with Supply, Installation, Testing, Commissioning & Configuration Server with Network and related IT Equipment, database oriented software, hardware & software integrated & interfaced software making of at least 01 nos. in operation and or installation on turnkey basis each with a minimum value of at least BDT. 20.00 Crore in each within the last 05 years; years counting backward from the date of publication of IFT in the newspaper. b) The tenderer/ manufacturer shall have local establishment or local representative having proper establishment in Bangladesh for providing instant services as and when required.
ITT 14.1(b)	The Tenderer/ Manufacturer/ Supplier (partner in case of JV) should fulfilled the following requirements: a) The tenderer/ manufacturer (partner in case of JV) shall have updated ISO both 9001 and 27001 certification. b) The Tenderer/ Manufacturer/ Supplier shall have Satisfactory Performance Certificate from the End User (must be a Utility or Government Organization) with at least 2(Two) contracts; The Certificate(s) shall mention the name & commissioning date of Server with Network and related IT Equipment supply, tested and commissioned by Tenderer/ Manufacturer/ Supplier (partner in case of JV) and shall contain end-user's full mailing address, website address, fax number and phone number for the convenience of authentication. c) The Tenderer/ Manufacturer/Supplier (partner in case of JV) shall have minimum 01(One) nos. of Satisfactory Performance Certificate from End User for prepayment metering system software development successfully and satisfactory completed within last 05 (five) calendar years. d) The tenderer shall furnish manufacturer authorization for offered major items like server/computer, storage (SAN), router & Service Cable.

ITT Clause	Amendments of, and Supplements to, Clauses in the Instruction to Tenderers.
	<p>e) The tenderer and respective manufacturer shall fill up Specifications Submission & Compliance Sheet (PG4-4) for offered goods with appropriate data.</p> <p>f) The manufacturer/ supplier shall have supply record of major hardware items like Server, Router etc. for last 5 (five) calendar years.</p>
ITT 14.1(c)	The minimum supply and/or production capacity of Goods of Tenderer/ Manufacturer/ Supplier is/ are: 800 Nos. Server with Network and related IT Equipment/ year.
ITT 15.1(a)	The minimum amount of liquid asset or working capital or credit facility is 350 (Three Hundred and Fifty) million BDT or equivalent.
ITT 16.2	The maximum of percentage 15% of Goods allowed to be subcontracted
D. Preparation of Tender	
ITT 21.1(q)	<p>In addition to the Clause ITT 21.1 the following Documents to be submitted by the tenderer/ manufacturer :</p> <ol style="list-style-type: none"> i. Documentary evidence in accordance with ITT Clauses 28 establishing the Tenderer qualification to perform the Contract if it's Tender is accepted. [Ref.- ITT cl .no 20.1(g)]. ii. Description of work method and schedule. iii. Delivery and completion time shall be 180 days from the date qualified commitment of the letter of credit (L/C). iv. List of manufacturers, places of manufacture and testing. v. Details of key personnel. vi. Drawings, documents, catalogues and leaflets. vii. The tenderer shall have to submit the Authorization Letter from data network service provider at their letter head pad as confirmation.
ITT 22.1	Alternatives "shall not be" permitted.
ITT 23.3	Tender is invited for a single lot.
ITT 23.5	<p>Price quoted for each lot shall correspond at least to [insert figure %] of the items specified for each lot and correspond at least to [insert figure %] of the total lot value.</p> <p style="text-align: center;">N.A.</p>
ITT 23.7	<p>The following particular item represents more than fifty percent (50%) of the estimated lot value is:</p> <p style="text-align: center;">N.A.</p>
ITT 23.11(c) ITT 23.12 (c) ITT 23.13 (e)	"Final destination (Project Site)": Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area Project store, WZPDCL, Khulna.

ITT Clause	Amendments of, and Supplements to, Clauses in the Instruction to Tenderers.
ITT 23.12 (a)	Place of Destination: Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area Project store, WZPDCL, Khulna.
ITT 23.12 (d)	In addition to the CIF/CIP price specified in ITT 23.12(a), the price of the Goods manufactured outside Bangladesh shall be quoted: [insert appropriate INCOTERM, other than CIF/CIP] N.A.
ITT 24.3	Name of the foreign currency: USD
ITT 25.2(b)	Spare parts are: Under turnkey contract supply of spare parts upto the warranty period is the responsibility of the supplier. Period of time the Goods are expected to be functioning (for the purpose of spare parts): 3 (three years)
ITT 26.1(b)	Manufacturer's authorization is: Required A Manufacturer's Authorisation Letter is required for [All the items listed in Section 6: Schedule of Requirements.]
ITT 26.1(C)	After sales service is: Required for the period of 3 (Three) years from the date of commissioning or replacement of any goods and serices.
ITT 27.2	The Tender validity period shall be 120 days.
ITT 29.2	The Tender Security shall furnish in favour of Project Director, Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL, Khulna.
ITT 29.3	The amount of the Tender Security shall be Tk 70,00,000.00 (in word: Seventy Lakh BDT) or USD 82,375.00 (in word: Eighty Two Thousand Three Hundred and Seventy Five USD).
ITT 34.1	In addition to the original of the Tender, Two (02) copies shall be submitted.
E. Submission of Tender	
ITT 35.2(c)	The Tender shall be single stage two envelope. Technical and financial proposal shall be submitted in two separate envelopes with soft copy (ina CD/ pendrive) duly sealed and signed, which shall be in a single envelope duly addressed to the employer. The Technical envelope will be opened first. The Financial Proposal will be kept in safe custody. Financial Proposal of only technically responsive bids will be opened at date and time to be notified later to the respective bidder. The Financial Proposal of the technically non-responsive bidder will be returned unopened to the respective bidder. The tenderer shall enclose the original Technical Proposal and Financial Proposal in different envelope. The envelopes will be marked as Technical Proposal Original and Financial Proposal Original. Similarly copies of technical and financial proposal will be enclosed in two different envelopes and the envelope will be marked 'Copy Technical Proposal' and 'Copy Financial Proposal'. Then original Technical Proposal envelope and copy of

ITT Clause	Amendments of, and Supplements to, Clauses in the Instruction to Tenderers.
	<p>the technical proposals will be put into another envelope and the envelope will be marked as technical proposal. Similarly Original of the Financial Proposal and Copy of the Financial Proposal will put into another envelope will be marked as Financial Proposal. These two envelopes of Technical Proposal and Financial proposal shall then be enclosed one single outer envelope. All the envelopes should be duly sealed and signed by the bidder.</p> <p>Soft copy of the Technical proposal shall be submitted in a CD or Pendrive.</p>
ITT 35.7	Tenderer “shall not” have the option of submitting their tender electronically.
ITT 35.8	<p>If bidders shall have the option of submitting their bids electronically, the electronic bidding submission procedures shall be:</p> <p style="text-align: center;">N.A.</p>
ITT 36.1	<p>For <u>Tender submission purposes</u> ,the Purchaser’s address is:</p> <p>Attention: Engr. Md. Shahidul Alam, Project Director, Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL, Khulna.</p> <p>Address: Office of the Director of Purchase, BPDB WAPDA Building (9th Floor), MotijheelC/A, Dhaka-1000.</p> <p>[Note: important to avoid delays or misplacement of tenders]</p> <p>The deadline for submission of Tenders: as per tender notice.</p>
F. Opening and Evaluation of Tenders	
ITT 42.2	<p>The Tender opening shall take place at:</p> <p>Address: Office of the Director of Purchase, BPDB WAPDA Building (9th Floor), MotijheelC/A, Dhaka-1000.</p> <p>Time & Date: as per tender notice.</p>
ITT 42.3	<p>If electronic tender submission is permitted as sated under ITT sub-clause 34.8, the specific tender opening procedures shall be:</p> <p style="text-align: center;">N.A.</p>
ITT 51.1	<p>Domestic preference “shall not” be a tender evaluation factor.</p> <p style="text-align: center;">N.A.</p>
ITT 52.5	<p>The applicable economic factors, for the purposes of evaluation of Tenders shall be: N.A.</p> <p>(a) <u>Adjustment for Deviations in the Delivery and Completion Schedule</u></p> <p>“The Goods covered by this Tendering process are required to be delivered in accordance with, and completed within, the Delivery and Completion Schedule specified in Section 6, Schedule of Requirements. No credit will be given for earlier completion. Tender offering late contract performance schedules within acceptable period</p>

ITT Clause	Amendments of, and Supplements to, Clauses in the Instruction to Tenderers.
	<p>will be accepted but the tenders shall be Adjusted in the evaluation by adding to the Tender Price at the rate of [specify percentage] of the Tender Price for each day of delay. Tender offering delivery schedules beyond [specify time Limit] of the date specified in Section 6, Schedule of Requirement, shall be rejected.”</p> <p>(b) <u>Cost of major replacement components, mandatory spare parts, and service</u></p> <p>The Procuring will draw up a list of high-usage and high-value items of components and spare parts [specify (spare parts, tools, major assemblies, estimated quantities)] of usage in the initial period [specify period] of operation. The total cost of these items and quantities will be computed from spare parts unit prices submitted by the Tenderer and added to the tender price, for evaluation purposes only.</p>
G. Award of Contract	
ITT 61.1	<p>The maximum percentage by which quantities per item may be increased is 15%.</p> <p>The maximum percentage by which quantities per item may be decreased is 15%.</p>
ITT 63.2	<p>The amount of Performance Security shall be 10 percent of the Contract Price.</p>
ITT 70.5	<p>The name and address of the office where complaints to the Purchaser are to be submitted is:</p> <p>First Stage :</p> <p>Attention: Engr. Md. Shahidul Alam, Project Director, Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL, Khulna</p> <p>Address: Bidyut Bhaban, Boyra Main Road, Khulna-9000.</p> <p>Second Stage :</p> <p>Attention: Managing Director,WZPDCL, Khulna</p> <p>Address: Bidyut Bhaban, Boyra Main Road, Khulna-9000.</p>

Section-3: General Conditions of Contract

Section-3: General Conditions of Contract

1. Definitions

1.1 The following words and expressions shall have the meaning hereby assigned to them. Boldface type is used to identify the defined term:

- (a) **Completion Schedule** means the fulfilment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract;
- (b) **Contract Agreement** means the Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein, including all attachments, appendices, and all documents incorporated by reference therein;
- (c) **Contract Documents** means the documents listed in the Contract Agreement, including any amendments thereto;
- (d) **Contract Price** means the price stated in the Notification of Award and thereafter as adjusted in accordance with the provisions of the Contract; ;
- (e) **Day** means calendar days unless otherwise specified as working days;
- (f) **Delivery** means the transfer of ownership of the Goods from the Supplier to the Purchaser in accordance with the terms and conditions set forth in the Contract;
- (g) **GCC** mean the General Conditions of Contract;
- (h) **Goods** means raw materials, products and equipment and objects in solid, liquid or gaseous form, electricity, and related Services if the value of such Services does not exceed that of the Goods themselves ;
- (i) **Government** means the Government of the People's Republic of Bangladesh;
- (j) **Procuring Entity/Purchaser** means a Entity having administrative and financial powers to undertake Procurement of Goods, Works or Services using public funds, as specified in the PCC;
- (k) **Related Services** means Services linked to the supply of Goods contracts.;
- (l) **PCC** means the Particular Conditions of Contract;
- (m) **Subcontractor** means any natural person, private or government entity, or a combination of the above, to whom any part of the Goods to be supplied or execution of any part of the Related Services is subcontracted by the Supplier;
- (n) **Supplier** means a Person under contract with a Purchaser for the supply of Goods and related Services under the Act;
- (o) **Site** means the point(s) of delivery named in the PCC
- (p) **Writing** means communication written by hand or machine duly signed and includes properly authenticated messages by facsimile or electronic mail.
- (q) **Verified Report** means the report submitted by the Purchaser to the Head of the Purchaser setting forth its

findings as to the existence of grounds or causes for termination and explicitly stating its recommendation for the issuance of a Notice to Terminate.

- 2. Contract Documents**
- 2.1 Subject to the order of precedence set forth in the GCC Sub-Clause 5.1, all documents forming the Contract (and all parts thereof) are intended to be correlative, complementary, and mutually explanatory. The Contract Agreement shall be read as a whole.
- 3. Corrupt, Fraudulent, Collusive or Coercive Practices**
- 3.1 The Government requires that Purchaser, as well as Suppliers, shall observe the highest standard of ethics during the implementation of procurement proceedings and the execution of contracts under public funds.
- 3.2 The Government requires that Procuring Entities, as well as Suppliers shall, during the execution of Contracts under public funds, ensure-
- (a) strict compliance with the provisions of Section 64 of the Public Procurement Act 2006 (Act 24 of 2006);
 - (b) abiding by the code of ethics as mentioned in the Rule 127 of the Public Procurement Rules, 2008;
 - (c) that neither it nor any other member of its staff or any other agents or intermediaries working on its behalf engages in any practice as detailed in GCC Sub -Clause 3.3
- 3.3 For the purpose of GCC Sub-clause 3.2 the terms –
- (a) **corrupt practice** means offering, giving or promising to give, receiving, or soliciting, either directly or indirectly, to any officer or employee of a Purchaser or other public or private authority or individual, a gratuity in any form; employment or any other thing or service of value as an inducement with respect to an act or decision or method followed by a Purchaser in connection with a Procurement proceeding or contract execution;
 - (b) **fraudulent practice** means the misrepresentation or omission of facts in order to influence a decision to be taken in a Procurement proceeding or Contract execution;
 - (c) **collusive practice** means a scheme or arrangement between two (2) or more Persons, with or without the knowledge of the Purchaser, that is designed to arbitrarily reduce the number of Tenders submitted or fix Tender prices at artificial, noncompetitive levels, thereby denying a Purchaser the benefits of competitive price arising from genuine and open competition; or
 - (d) **coercive practice** means harming or threatening to harm, directly or indirectly, Persons or their property to influence a decision to be taken in a Procurement proceeding or the execution of a Contract, and this will include creating obstructions in the normal submission process used for Tenders.

- 3.4 Should any corrupt, fraudulent, collusive or coercive practice of any kind come to the knowledge of the Purchaser, it will, in the first place, allow the Supplier to provide an explanation and shall, take actions only when a satisfactory explanation is not received. Such exclusion and the reasons thereof, shall be recorded in the record of the procurement proceedings and promptly communicated to the Supplier concerned. Any communications between the Supplier and the Purchaser related to matters of alleged fraud or corruption shall be in writing.
- 3.5 If corrupt, fraudulent, collusive or coercive practices of any kind determined by the Purchaser against the Supplier alleged to have carried out such practices, the Purchaser shall proceed under GCC Clause 42.4
- 3.6 The Supplier shall permit the Purchaser to inspect the Supplier's accounts and records and other documents relating to the submission of the Tender and Contract performance.

4. Interpretation

- 4.1 In interpreting the GCC, singular also means plural, male also means female or neuter, and the other way around. Headings in the GCC shall not be deemed part thereof or be taken into consideration in the interpretation or construction thereof or of the Contract. Words have their normal meaning under the English language unless specifically defined.

4.2 Entire Agreement

- (a) The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract Agreement; except those stated under GCC Sub Clause 5.1(i) .

4.3 Amendment

- (a) No amendment or other variation of the Contract shall be valid unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorised representative of each party thereto.

4.4 Non-waiver

- (a) Subject to GCC Sub-Clause 4.4(b), no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, neither shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.
- (b) Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, dated, and signed by an authorised representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.5 Severability

- (a) If any provision or condition of the Contract is prohibited or rendered invalid or unenforceable, such prohibition, invalidity or unenforceability shall not affect the validity or enforceability of any other provisions and conditions of the Contract.

- 5. Documents Forming the Contract in order of precedence**
- 5.1 The following documents forming the Contract shall be in the following order of precedence, namely :
- (a) the signed Contract Agreement;
 - (b) the Notification of Award;
 - (c) The Tender and the appendices to the Tender;
 - (d) Particular Conditions of Contract;
 - (e) General Conditions of Contract;
 - (f) Technical Specifications;
 - (g) Drawings;
 - (h) Priced Schedule and schedule of requirements and ;
 - (i) Other Documents including correspondences listed in the PCC forming part of the Contract.
- 6. Eligibility**
- 6.1 The Supplier and its Subcontractors shall have the nationality of an eligible country. A Supplier or Subcontractor shall be deemed to have the nationality of a country if it is a citizen or constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country.
- 6.2 All Goods and Related Services to be supplied under the Contract shall have their origin in Eligible Countries.
- 6.3 For the purpose of the GCC Clause 6.2, origin means the country where the goods have been grown, mined, cultivated, produced, manufactured, or processed; or through manufacture, processing, or assembly, another commercially recognized article results that differs substantially in its basic characteristics from its components.
- 7. Governing Language**
- 7.1 The Contract shall be written in English language. Correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser shall be written in English .Supporting documents and printed literature that are part of the Contract may be in another language provided they are accompanied by an accurate translation of the relevant passages in English language, in which case, for purposes of interpretation of the Contract, this translation shall govern.
- 7.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation.
- 8. Governing Law**
- 8.1 The Contract shall be governed by and interpreted in accordance with the laws of the People’s Republic of Bangladesh.
- 9. No fees/ Gratuities**
- 9.1 No fees, gratuities, rebates, gifts, commissions or other payments, other than those shown in the Tender or the contract, shall be given or received in connection with the procurement process or in the contract execution.
- 10. Use of Contract Documents & Information**
- 10.1 The Supplier shall not, except for purposes of performing the obligations in this Contract, without the Purchaser’s prior written consent, disclose this Contract, or any provision thereof, or any specification, plan, drawing, pattern, sample, or information furnished by or on behalf of the Purchaser. Any such disclosure shall be made in confidence and shall extend only as far as may be necessary for purposes of such performance.

- 10.2 Any document, other than this Contract itself, enumerated in GCC Clause 10.1 shall remain the property of the Purchaser and shall be returned (all copies) to the Purchaser on completion of the Supplier's performance under this Contract if so required by the Purchaser.
- 11. Communications & Notices**
- 11.1 Communications between Parties (notice, request or consent required or permitted to be given or made by one party to the other) pursuant to the Contract shall be in writing to the addresses specified in the PCC.
- 11.2 A notice shall be effective when delivered or on the notice's effective date, whichever is later.
- 11.3 A Party may change its address for notice hereunder by giving the other Party notice of such change to the address.
- 12. Trademark, Patent and Intellectual Property Rights**
- 12.1 The Purchaser should not be liable for any infringement of intellectual property rights arising from use of the goods procured. In case there are third-party claims of such infringement of patent, trademark, or industrial design rights, the supplier must indemnify and hold the Purchaser free and harmless against such claims and shall not be in contravention of **The Trademark Act, 2009 and The Patents and Designs Act, 1911.**
- 13. Copyright**
- 13.1 The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.
- 14. Assignment**
- 14.1 The Supplier shall not assign his rights or obligations under the Contract, in whole or in part, except with the Purchaser's prior written consent.
- 15. Sub contracting**
- 15.1 Any subcontracting arrangements made during contract implementation and not disclosed at the time of the Tendering shall not be allowed.
- 15.2 Subcontracting of any portion of the Goods shall not relieve the Tenderer from any liability or obligations that may arise from its performance.
- 15.3 Supplier shall retain full responsibility for the contract and can not pass any contractual obligations to the subcontractor and under no circumstances assignment of the contract to the subcontractor be allowed.
- 15.4 Subcontractors shall comply with the provisions of GCC Clause 3 and 6.
- 16. Supplier's Responsibilities**
- 16.1 The Supplier shall supply all the Goods and Related Services specified in the Scope of Supply as stated under GCC Clause 18 and the Delivery and Completion schedule, as stated under GCC Clauses 23 and 24 in conformity with the provisions of the Contract Agreement.
- 17. Purchaser's Responsibilities**
- 17.1 Whenever the performance of the obligations in this Contract requires that the Supplier obtain permits, approvals and other license from local public authorities, the Purchaser may, if so

needed by the Supplier, make its best effort to assist the Supplier in complying with such requirements in a timely and expeditious manner. However, the supplier shall bear the costs of such permits and/or licenses. On the other hand, the Purchaser shall pay all costs involved in the performance of its responsibilities, in accordance with the contract.

17.2 The Purchaser shall pay the Supplier, in consideration of the provision of Goods and Related Services, the Contract Price under the provisions of the Contract at the times and manner prescribed in the Contract Agreement.

18. Scope of Supply

18.1 Subject to the PCC, the Goods and Related Services to be supplied shall be as specified in Section 6: Schedule of Requirements.

18.2 Unless otherwise stipulated in the Contract, the Scope of Supply shall include all such items not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Delivery and Completion of the Goods and Related Services as if such items were expressly mentioned in the Contract.

19. Amendment to Order

19.1 The Purchaser may make an amendment to Order for necessary adjustment within the general scope of the contract in any one or more of the following aspects in order to fully meet the requirement of the Contract:

- (a) Drawing, design or specifications of the goods, provided that:
 - i. The goods to be furnished are to be specifically manufactured for the government in accordance therewith;
 - ii. The change is an improvement of the goods and advantageous to the Government;
 - iii. It is done at no extra cost; and
 - iv. It is not prejudicial to the losing Tenderers in the sense that such change/s could not have been foreseen during the conduct of the tendering and would have significantly affected the other tenderer's tender;
- (b) The place of delivery;
- (c) The place of performance of the services;
- (d) Additional items needed and necessary for the protection of the goods procured, which were not included in the original contract.

19.2 Such amendment may or may not result to an increase or a decrease of the contract price, and/or an extension or reduction of the delivery period. However, the amendment should not have the result of changing the subject matter of the contract or the specifications of the goods or services, in any material aspect and to such an extent that, if introduced during the Tendering stage, may have had a significant effect on other Tenderer's tender, because this situation would actually require another tendering activity.

20. Instances When Amendment to Order May be Issued

- 20.1 The Purchaser may issue amendments order at any time during contract implementation, through a notice as stated under GCC Clause 11, provided that such adjustment is required to fully meet the requirements of the contract. Any of the following circumstances may serve as basis for such amendment/s:
- (a) Emergency cases, fortuitous events or unforeseen contingencies arising during contract implementation, and such contingencies have an impact on the procurement at hand, such as:
 - i. Changes in the conditions affecting the contract, e.g., a change in the place of delivery;
 - ii. Time is of the essence in the implementation of the contract, and any changes require immediate implementation; and
 - iii. Additional requirements have been identified as necessary for the protection of the goods procured, such as changes in the packaging of the goods, or additional items have become necessary to ensure that the goods are sufficiently protected from the elements;
 - (b) When the contract does not reflect the real intention of the parties due to mistake or accident, and the amendment is necessary to reflect the party's intention; and
 - (c) Other analogous circumstances that could affect the conditions of the procurement at hand

21. Adjustments in Contract Price and/or Delivery Schedule in Amendment to Order

- 21.1 If an amendment to order increases or decreases the cost of ,or the time required for executing any part of the delivery under the original contract, an equitable adjustment in contract price and/or delivery schedule should be mutually agreed upon between parties concerned, and the contract should be modified as stated under GCC Clause 46
- 21.2 If the amendment to order consists of additional items, the price adjustment shall be based on the unit price in the original contract for items of goods similar to those in the original contract. If the contract does not contain any rate applicable to the additional items, then suitable prices shall be mutually agreed upon between the parties, based on prevailing market prices.
- 21.3 It is required, however, that any increase in contract price must not exceed ten percent (10%) of the original contract price.

22. Packing and Documents

- 22.1 The Supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract and in accordance with existing industry standards. The packing shall be sufficient to withstand, without limitation, rough handling and exposure to extreme temperatures, salt and precipitation, and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the goods' final destination and the absence of heavy handling facilities at all points in transit.
- 22.2 The packing, marking, and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract as stated under GCC Clause 22.1, including additional requirements, if any, specified in the PCC, and in any subsequent instructions ordered by the Purchaser.

- 22.3 The outer packaging must contain a "Packing List" which must reflect the actual contents of the package.
- 23. Delivery and Documents**
- 23.1 Subject to GCC Sub-Clause 19, the Delivery of the Goods and completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Section 6: Schedule of Requirements.
- 23.2 The details of shipping and other documents to be furnished by the Supplier shall be specified in the PCC, and shall be received by the Purchaser at least one week before arrival of the Goods and, if not received the Supplier shall be responsible for consequent expenses.
- 24. Acceptance**
- 24.1 Acceptance by the Purchaser shall be completed not later than fourteen (14) days from receipt of the goods at final destination in the form of an **Acceptance Certificate**, unless any defects in the supply, any damage during transportation or any failure to meet the required performance criteria of the supply are identified and reported to the Supplier as stated under GCC Clause 31 and GCC Clause 32. In such cases the Acceptance Certificate will be issued only for those parts of the contract supplies which are accepted. The Acceptance Certificate for the remaining supplies will only be issued after the Supplier has remedied the defects and/or any non-conformity under GCC Clause 31 and GCC Clause 32.
- 24.2 The appropriate Technical Inspection and Acceptance Committee of the Purchaser must commence the inspection and acceptance process within two (2) days from delivery of the goods, and shall complete the same as soon as practicable.
- 25. Contract Price**
- 25.1 The Contract Price shall be specified in the PCC.
- 25.2 During evaluation, tender has excluded and not taken into account:
- (a) In the case of Goods manufactured in Bangladesh, VAT payable on account of Supplier, which will be payable on the goods if a contract is awarded to the Tenderer;
 - (b) in the case of Goods manufactured outside the Bangladesh, already imported or to be imported, customs duties, import VAT and other import taxes levied on the imported Good, VAT, which will be payable on the Goods if the contract is awarded to the Tenderer.
- 25.3 The Contract price will include all the costs paid or payable as stated under GCC Clause 25.2.
- 25.4 Prices charged by the Supplier for the Goods delivered and the Related Services performed under the Contract shall not vary from the price as stated under GCC Sub-Clause 25.1, with the exception of any change in price resulting from a Change Order issued under GCC Clause 19.
- 26. Transportation**
- 26.1 The Supplier is required under the Contract to transport the Goods to a specified place of destination as specified in Section 6: Schedule of Requirements, defined as the Site, transport to such place of destination, including insurance, other incidental costs, and temporary storage, if any. These costs shall be included in the Contract Price.

- 26.2 If not in accordance GCC Clause 26.1, responsibility for transportation of the Goods shall be as specified in the **INCOTERM** indicated in the Price Schedule or any other trade terms specify the responsibilities of the Purchaser and Supplier as specified in PCC.
- 27. Terms of Payment**
- 27.1 The Contract Price, including any Advance Payments, if applicable, shall be paid in the manner as specified in the PCC.
- 27.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the Goods delivered and Related Services performed, and accompanied by the documents as stated under GCC Clause 23 and 24 and upon fulfilment of any other obligations stipulated in the Contract.
- 27.3 Payments shall be made promptly by the Purchaser, but in no case later than the days indicated in the PCC after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 27.4 The currencies in which payments shall be made to the Supplier under this Contract shall be those in which the tender price is expressed.
- 27.5 In the event that the Purchaser fails to pay the Supplier any payment by its respective due date or within the period set forth in the PCC, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the PCC, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.
- 28. Insurance**
- 28.1 The Goods supplied under this Contract shall be fully insured by the Supplier in a freely convertible currency against loss or damage incidental to manufacture or acquisition, transportation, storage, and delivery. The Goods remain at the risk and title of the Supplier until their final acceptance by the Purchaser.
- 28.2 If not in accordance GCC Clause 28.1, the insurance coverage shall be as specified in the **INCOTERM** indicated in the Price Schedule or any other insurance provisions as specified in PCC.
- 29. Taxes and Duties**
- 29.1 For Goods Manufactured within Bangladesh, the Supplier shall be entirely responsible for all taxes, duties, VAT, license fees, and other such levies imposed or incurred until delivery of the contracted goods to the Purchaser.
- 29.2 For Goods manufactured outside Bangladesh, the Supplier shall be entirely responsible for all taxes, duties and other such levies imposed outside Bangladesh.
- 29.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in Bangladesh, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.
- 30. Performance Security**
- 30.1 The proceeds of the Performance Security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.

- 30.2 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than Thirty (30) days following the date of Completion of the Supplier's performance obligations under the Contract and the issuance of certification to that effect by the Purchaser, including any warranty obligations as stated under GCC Clause 33, provided that there are no claims filed against the supplier.
- 31. Specifications and Standards**
- 31.1 The Goods and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section 7, Technical Specification and in Section 8, Drawings, if any.
- 31.2 If there is no applicable standard, the goods must conform to the authoritative standards appropriate to the good's country of origin. Such standards must be the latest issued by the concerned institution.
- 31.3 Subject to the GCC Clause 19, the Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification or other document, or any modification thereof provided or designed by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Purchaser.
- 31.4 Wherever references are made in the Contract to codes and standards in accordance with which it shall be executed, the edition or the revised version of such codes and standards shall be those specified in the Technical Specification. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated under GCC Clause 19.
- 32. Inspections and Tests**
- 32.1 The Purchaser shall have the right to test the Goods to confirm their conformity to the Contract specifications. The PCC and Technical specifications shall specify what tests the Purchaser requires and where they are to be conducted. The supplier shall at its own expense and at no cost to the Purchaser, carry out all such tests of the Goods and related services as are specified in the Contract.
- 32.2 The Supplier shall provide the Purchaser with a report of the results of any such test.
- 32.3 The Purchaser may engage external agents for the purpose of conducting inspection or pre-shipment inspection of Goods, provided that the Purchaser shall bear all of its costs and expenses.
- 32.4 The Purchaser or its designated representative as specified shall be entitled to attend the tests and/or inspections under GCC Clause 32.1, provided that the Purchaser shall bear all of its own costs and expenses incurred in connection with such attendance.
- 32.5 Whenever the Supplier is ready to carry out any such test and inspection, it shall give a reasonable advance notice, including the place and time, to the Purchaser. The Supplier shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Purchaser or its designated representative to attend the test and/or inspection.

- 32.6 The Purchaser may require the Supplier to carry out any test and/or inspection not required by the Contract, but deemed necessary to verify that the characteristics and performance of the Goods comply with the technical specifications, codes and standards under the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impede the progress of manufacturing and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Delivery Dates and Completion Dates and the other obligations so affected.
- 32.7 The Purchaser may reject any Goods or any part thereof that fail to pass any test and/or inspection or do not conform to the specifications. The Supplier shall either rectify or replace such rejected Goods or parts thereof or make alterations necessary to meet the specifications at no cost to the Purchaser, and shall repeat the test and/or inspection, at no cost to the Purchaser, upon giving a notice under GCC Sub-Clause 32.5.
- 32.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report as stated under GCC Sub-Clause 32.2, shall relieve the Supplier from any warranties or other obligations under the Contract.

33. Warranty

- 33.1 The Supplier warrants that all the Goods supplied under the Contract are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, except when the design and/or material required by the Purchaser provides otherwise under GCC Clause 19.
- 33.2 The Supplier further warrants that the all Goods supplied under this Contract shall have no defect, arising from design, materials, or workmanship or from any act or omission of the Supplier that may develop under normal use of the supplied Goods in the conditions prevailing in Bangladesh.
- 33.3 In order to assure that manufacturing defects shall be corrected by the Supplier, manufacturer, or distributor, as the case may be, a warranty shall be required from the Supplier for a minimum period of three (3) months in the case of supplies, and one (1) year in the case of equipment, or other such period as may be specified in the PCC, after the Goods, or any portion thereof as the case may be, have been delivered to and accepted in the form of an **Acceptance Certificate** as indicated in the GCC Clause 24.1 at the final destination indicated in the PCC
- 33.4 The warranty periods may vary among the various items and lots. The warranty for Goods delivered ahead will lapse earlier than the succeeding deliveries.
- 33.5 The Purchaser shall promptly notify the Supplier in writing of any claims arising under this warranty.
- 33.6 Upon receipt of such notice, the Supplier shall, within the period specified in the PCC, expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.

- 33.7 If the Supplier, having been notified, fails to remedy the defect(s) within the period as stated under GCC Sub Clause 33.6, the Purchaser may proceed to call upon the Performance security without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract and under the applicable law.
- 33.8 Performance Security under GCC Clause no 30 shall only be released after the lapse of the warranty period, provided that the goods supplied are free from patent and latent defects and all the conditions imposed under the contract have been fully met.
- (a) A patent defect, which is one that is apparent to the buyer on normal observation. It is an apparent or obvious defect.
- i. For example, a ball pen that does not write is patently defective.
- (b) A latent defect, which is one that is not apparent to the buyer by reasonable observation. A latent defect is “hidden” or one that is not immediately determinable.
- i. For example, a ball pen that writes .75 kilometers instead of the expected 1.5 kilometers, has a latent defect.

34. Delays in Delivery and Extensions of Time

- 34.1 The Supplier must deliver the Goods or perform the services procured within the period prescribed by the Purchaser, as specified in the Contract.
- 34.2 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods or completion of Related Services as stated under GCC Clause 23, the Supplier shall promptly notify the Purchaser in writing. It must state therein the cause/s and duration of the expected delay. The Purchaser shall decide whether and by how much to extend the time. In all cases, the request for extension should be submitted before the lapse of the original delivery date.
- 34.3 Within twenty-one (21) days of receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may grant time extensions, if based on justifiable grounds, without liquidated damages.
- 34.4 The Procuring may extend up to twenty percent (20%) of the original contract time, above 20% of the original contract time approval of Head of Purchaser (HOPE) shall be required, in which case the extension shall be ratified by the Parties by amendment of the Contract as stated under GCC Clause 46.
- 34.5 Except in the case of Force Majeure, as provided under GCC Clause 38, a delay by the Supplier in the performance of its Delivery and Completion obligations shall render the Supplier liable to the imposition of liquidated damages as stated under GCC Clause 35, unless an extension of time is agreed upon, under GCC Sub-Clause 34.3.

35. Liquidated Damages

- 35.1 Subject to GCC Clause 34 and 38, if the , if the Supplier fails to deliver any or all of the Goods by the Date(s) of delivery and/or perform the Related Services within the period specified in the

Contract as stated under GCC Clause 23, the Purchaser shall, without prejudice to all its other remedies under the Contract, deduct from the Contract Price, as liquidated damages, a sum equivalent to the percentage specified in the PCC of the Contract price of the delayed Goods or unperformed / Related Services for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of the percentage specified in those PCC. Once the maximum is reached, the Purchaser may terminate the Contract as stated under GCC Clause 42.

36. Limitation of Liability

36.1 Except in cases of criminal negligence or wilful misconduct, and in the case of infringement of patent and intellectual property rights, if applicable, the Supplier shall not be liable to the Purchaser, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, the aggregate liability of the Supplier to the Purchaser shall not exceed the total Contract Price, provided that this limitation shall not apply, to the cost of repairing or replacing defective equipment or, to any obligation of the Supplier to pay liquidated damages to the Purchaser.

37. Change in Laws and Regulations

37.1 Unless otherwise specified in the Contract, if after the Contract, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in Bangladesh (which shall be deemed to include any change in interpretation or application by the competent authorities) that subsequently affects the Delivery Date and/or the Contract Price, then such Delivery Date and/or Contract Price shall be correspondingly increased or decreased, to the extent that the Supplier has thereby been affected in the performance of any of its obligations under the Contract.

38. Definition of Force Majeure

38.1 In this Clause, "Force Majeure" means an exceptional event or circumstance:

- (a) which is beyond a Party's control;
- (b) which such Party could not reasonably have provided against before entering into the Contract;
- (c) which, having arisen, such Party could not reasonably have avoided or overcome; and
- (d) which is not substantially attributable to the other Party.

38.2 Force Majeure may include, but is not limited to, exceptional events or circumstances of the kind listed below, so long as conditions (a) to (d) above are satisfied:

- (i) war, hostilities (whether war be declared or not), invasion, act of foreign enemies;
- (ii) rebellion, terrorism, sabotage by persons other than the Contractor's Personnel, revolution, insurrection, military or usurped power, or civil war;
- (iii) riot, commotion, disorder, strike or lockout by persons other than the Contractor's Personnel;
- (iv) munitions of war, explosive materials, ionising radiation or contamination by radio-activity, except as may be attributable to the Contractor's use of such munitions, explosives, radiation or radio-activity, and

- (v) natural catastrophes such as cyclone, hurricane, typhoon, tsunami, storm surge, floods, earthquake, landslides, fires, epidemics, quarantine restrictions, or volcanic activity;
- (vi) freight embargoes;
- (vii) acts of the Government in its sovereign capacity.

39. Notice of Force Majeure

- 39.1 If a Party is or will be prevented from performing its substantial obligations under the Contract by Force Majeure, then it shall give notice to the other Party of the event or circumstances constituting the Force Majeure and shall specify the obligations, the performance of which is or will be prevented. The notice shall be given within 14 days after the Party became aware, or should have become aware, of the relevant event or circumstance constituting Force Majeure.
- 39.2 The Party shall, having given notice, be excused performance of its obligations for so long as such Force Majeure prevents it from performing them.
- 39.3 Notwithstanding any other provision of this Clause, Force Majeure shall not apply to obligations of either Party to make payments to the other Party under the Contract.

40. Duty to Minimise Delay

- 40.1 Each Party shall at all times use all reasonable endeavours to minimise any delay in the performance of the Contract as a result of Force Majeure.
- 40.2 A Party shall give notice to the other Party when it ceases to be affected by the Force Majeure.

41. Consequences of Force Majeure

- 41.1 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.
- 41.2 The Purchaser may suspend the delivery or contract implementation, wholly or partly, by written order for a certain period of time, as it deems necessary due to force majeure as defined in the contract.
- 41.3 Delivery made either upon the lifting or the expiration of the suspension order. However, if the Purchaser terminates the contract as stated under GCC clause 42, resumption of delivery cannot be done.
- 41.4 Head of Purchaser determines the existence of a force majeure that will be basis of the issuance of suspension of order.
- 41.5 Adjustments in the delivery or contract schedule and/or contract price, including any need to modify contract under GCC Clause 46.

42. Termination for Default

- 42.1 The Purchaser shall terminate this Contract for default when any of the following conditions attends its implementation:
 - (a) Outside of force majeure, the Supplier fails to deliver or perform any or all of the GOODS within the period(s) specified in the contract, or within any extension thereof

- granted by the Purchaser pursuant to a request made by the Supplier prior to the delay;
- (b) As a result of force majeure, the Supplier is unable to deliver or perform any or all of the GOODS, amounting to at least ten percent (10%) of the contract price, for a period of not less than sixty (60) calendar days after receipt of the notice from the Purchaser stating that the circumstance of force majeure is deemed to have ceased; or
 - (c) The Supplier fails to perform any other obligation under the Contract;
 - (d) If the Supplier, in the judgment of the Purchaser has engaged in corrupt, fraudulent, collusive or coercive practices, as stated under GCC Clause 3, in competing for or in executing the Contract;
 - (e) When deductible amount due to liquidated damage reaches its maximum as stated under GCC Clause 35.
- 42.2 Termination of a contract for default is without prejudice to other remedies available to the Purchaser for breach of contract, such as payment of liquidated and other damages, if there are grounds for the latter.
- 42.3 In the event the Purchaser terminates the Contract in whole or in part, as stated under GCC Clause 42.1, the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods or Related Services similar to those undelivered or not performed, and the Supplier shall be liable to the Purchaser for any additional costs for such similar Goods or Related Services. However, the Supplier shall continue performance of the Contract to the extent not terminated.
- 42.4 In the event as stated under GCC Clause 42.1(d), the Purchaser shall,
- (a) terminate the Supplier's employment under the Contract and cancel the contract, after giving 14 days notice to the Supplier and the provisions of Clause 42 shall apply as if such expulsion had been made under Sub-Clause 42.1
 - (b) declare, at its discretion, the concerned Person to be ineligible to participate in further Procurement proceedings, either indefinitely or for a specific period of time.
- 43. Termination for insolvency** 43.1 The Purchaser shall terminate this Contract if the Supplier is declared bankrupt or insolvent as determined with finality by a court of competent jurisdiction. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy which has accrued or will accrue thereafter to the Purchaser and/or the Supplier.
- 44. Termination for Convenience** 44.1 The Purchaser, by written notice sent to the supplier, may terminate this Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that the termination is for the Purchaser's convenience, the extent to which performance of the supplier under the contract is terminated, and the date upon which such termination becomes effective.

44.2 Any of the following circumstances may constitute sufficient grounds to terminate a contract for conveniences :

- (a) If Physical and economic conditions have significantly changed so as to render the contract no longer economically, financially or technically feasible, as determined by the Head of Purchaser;
- (b) The Head of Purchaser has determined the existences of conditions that make contract implementation impractical and/or unnecessary, such as, but not limited to , fortuitous event/s, change in laws and government policies;
- (c) Funding for the contract has been withheld or reduced;
- (d) Any circumstances analogous to the foregoing.

44.3 The GOODS that have been delivered and/or performed or are ready for delivery or performance within thirty (30) calendar days after the Supplier's receipt of Notice to Terminate shall be accepted by the Purchaser at the contract terms and prices. For GOODS not yet performed and/or ready for delivery, the Purchaser may elect:

- (a) to have any portion delivered and/or performed and paid at the contract terms and prices; and/or
- (b) to cancel the remainder and pay to the Supplier an agreed amount for partially completed and/or performed goods and for materials and parts previously procured by the Supplier.

45. Procedures for Termination of Contracts

45.1 The following provisions shall govern the procedures for termination of this Contract as stated under GCC Clauses 42,43 and 44:

- (a) Upon receipt of a written report of acts or causes which may constitute ground(s) for termination as aforementioned, or upon its own initiative, the Purchaser shall, within a period of seven (7) calendar days, verify the existence of such ground(s) and cause the execution of a Verified Report, with all relevant evidence attached;
- (b) Upon recommendation by the Purchaser, the Head of the Purchaser shall terminate this Contract only by a written notice to the Supplier conveying the termination of this Contract. The notice shall state:
 - i. that this Contract is being terminated for any of the ground(s) afore-mentioned, and a statement of the acts that constitute the ground(s) constituting the same;
 - ii. the extent of termination, whether in whole or in part;
 - iii. an instruction to the Supplier to show cause as to why this Contract should not be terminated; and
 - iv. special instructions of the Purchaser, if any.
- (c) The Notice to Terminate shall be accompanied by a copy of the Verified Report;

- (d) Within a period of seven (7) calendar days from receipt of the Notice of Termination, the Supplier shall submit to the Head of the Purchaser a verified position paper stating why this Contract should not be terminated. If the Supplier fails to show cause after the lapse of the seven (7) day period, either by inaction or by default, the Head of the Purchaser shall issue an order terminating this Contract;
- (e) The Purchaser may, at any time before receipt of the Supplier's verified position paper, withdraw the Notice to Terminate if it is determined that certain items or works subject of the notice had been completed, delivered, or performed before the Supplier's receipt of the notice;
- (f) Within a non-extendible period of ten (10) calendar days from receipt of the verified position paper, the Head of the Purchaser shall decide whether or not to terminate this Contract. It shall serve a written notice to the Supplier of its decision and, unless otherwise provided, this Contract is deemed terminated from receipt of the Supplier of the notice of decision. The termination shall only be based on the ground(s) stated in the Notice to Terminate; and
- (g) The Head of the Purchaser may create a Contract Termination Review Committee (CTRC) to assist him in the discharge of this function. All decisions recommended by the CTRC shall be subject to the approval of the Head of the Purchaser.

46. Contract Amendment

- 46.1 Subject to applicable laws, no variation in or modification of the terms of this Contract shall be made except by written amendment signed by the parties.
- 46.2 The Purchaser, in accordance with their Delegation of Financial Powers, as required, may amend the Contract to reflect the changes introduced to the Original terms and Conditions of the Contract.

47. Settlement of Disputes

- 47.1 **Amicable Settlement:**
 - (a) The Purchaser and the Supplier shall use their best efforts to settle amicably all disputes arising out of or in connection with this Contract or its interpretation.
- 47.2 **Adjudication**
 - (a) If the Supplier /Purchaser believe that amicable settlement of dispute is not possible between the two parties, the dispute shall be referred to the Adjudicator within fourteen (14) days of first written correspondence on the matter of disagreement;
 - (b) The Adjudicator named in the PCC is jointly appointed by the parties. In case of disagreement between the parties,

the Appointing Authority designated in the PCC shall appoint the Adjudicator within fourteen (14) days of receipt of a request from either party;

- (c) The Adjudicator shall give its decision in writing to both parties within twenty-eight (28) days of a dispute being referred to it;
- (d) The supplier shall make all payments (fees and reimbursable expenses) to the Adjudicator, and the Purchaser shall reimburse half of these fees through the regular progress payments;
- (e) Should the Adjudicator resign or die, or should the Purchaser and the Supplier agree that the Adjudicator is not functioning in accordance with the provisions of the Contract; a new Adjudicator will be jointly appointed by the Purchaser and the Supplier. In case of disagreement between the Purchaser and the Supplier the Adjudicator shall be designated by the Appointing Authority designated in the PCC at the request of either party, within fourteen (14) days of receipt of a request from either party.

47.3 **Arbitration**

- (a) If the Parties are unable to reach a settlement under GCC Clause 47.1(a) within twenty-eight (28) days of the first written correspondence on the matter of disagreement, then either Party may give notice to the other party of its intention to commence arbitration in accordance with GCC Sub-Clause 47.3(b);
- (b) The arbitration shall be conducted in accordance with the rules of procedure specified in the PCC.

Section-4: Particular Conditions of Contract

Section-4: Particular Conditions of Contract

Instructions for completing the Particular Conditions of Contract are provided, as needed, in the notes in italics mentioned for the relevant GCC clauses.

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
GCC 1.1(j)	The Purchaser is Project Director, Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL Bidyut Bhaban, Boyra Main Road, Khulna-9000.
GCC 1.1(o)	The site(s)/ point(s) of delivery are: S&D-1, Jashore, WZPDCL. HQ, Bidyut Bhaban, Boyra Main Road, Khulna.
GCC 5.1(i)	In addition to the GCC 5.1 the following documents will also be part of the Contract: <ul style="list-style-type: none"> • Bank Guarantee for Performance Security (PG4-9) and Tender Security (PG4-6) • All written correspondances • Applicable local Law & Acts • API annexed in part-2 • All documents related to existing software, servers and networks • The Schedule of Key Personnel • Site Investigation Reports
GCC 11.1	<p>For notices, the Purchaser's contact details shall be: Attention: Engr. Md. Shahidul Alam, Project Director, Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL Address: Bidyut Bhaban, Boyra Main Road, Khulna-9000 Mobile: +88 01711 298373 Facsimile number:+88 041 731786 Electronic mail address: smartprepayment@gmail.com</p> <hr/> <p>For notices, the Supplier's contact details shall be: Attention: Address: Telephone: Facsimile number: Electronic mail address:</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract									
GCC 17.1	<p>The Engineer/ Project Director (PD) or authorised representative of purchasers shall obtain specific approval of the purchaser before taking any of the following actions:</p> <p>(a) Subcontracting of any part of the Works</p> <p>(b) Determining an extension of time</p> <p>(c) Drawings, Catalogues, Manuals etc.: The Contractor shall submit to the Purchaser for approval, within one month after the date of Commencement, such drawings, catalogues, manuals, samples, patterns and models as may be called for therein or as the Purchaser may reasonably require.</p> <p>(d) Before manufacturing of the equipment is to commence, dimensional drawings and diagrams showing all details of the equipment and materials to be used shall be submitted to the Engineer/PD for approval and to the Purchaser simultaneously. These drawings shall be submitted as soon as possible after the date of signing of the Contract and in any case in sufficient time allowance (not later than one month after the date of signing of the contract) to permit modifications to be made if such are deemed necessary and instructed by the Engineer without delaying the supply of the goods. The drawing shall be modified as necessary if instructed by the Engineer/PD and resubmitted for approval.</p> <p>(e) Besides the drawings of individual equipment and system components, the Tenderer shall provide drawings and information regarding general arrangement and layout of goods. After approval of drawings by the Engineer/PD, the Contractor shall submit the approved Drawings to the Purchaser and to the Engineer/PD. It is to be understood, however, that approval of the Drawings will not exonerate the Contractor from any responsibility in connection with the work. Number of copies of drawings to be submitted to the Purchaser and to the Engineer/PD shall be as follows:</p> <table style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>Purchaser</u></th> <th style="text-align: center;"><u>Engineer</u></th> </tr> </thead> <tbody> <tr> <td style="padding-left: 40px;">Drawings for approval</td> <td style="text-align: center;">2 copies</td> <td style="text-align: center;">2 copies</td> </tr> <tr> <td style="padding-left: 40px;">Approved drawings</td> <td style="text-align: center;">2 copies</td> <td style="text-align: center;">2 copies</td> </tr> </tbody> </table> <p>The Tenderer at his expense if required by the Purchaser shall supply further copies of particular Drawings.</p> <p>One (1) the copy of the Drawing duly approved and signed by the Purchaser or the Engineer/PD will be returned to the Tenderer within 30 days of receipt of the drawings for approval. The Purchaser or the Engineer/PD shall have the right at all reasonable time to inspect at the factory of the Contractor all drawings of any portion of the works.</p> <p>(f) All Drawings associated with the Contract are to have the title of the drawings; the Tenderer's name, the date and the scale are to be shown.</p>		<u>Purchaser</u>	<u>Engineer</u>	Drawings for approval	2 copies	2 copies	Approved drawings	2 copies	2 copies
	<u>Purchaser</u>	<u>Engineer</u>								
Drawings for approval	2 copies	2 copies								
Approved drawings	2 copies	2 copies								
GCC 18.1	<p>The scope of Supply shall be defined in Section-6: Schedule of Requirements.</p> <p>The scope of supply shall also include the goods and related services mentioned in the price schedules (From PG4-3A, 3B, 3C & 3D). If any supply required from outside the Section-6: Schedule of Requirements for the successful completion of the turn key contract, the tenderer will be responsible to delivery that goods and</p>									

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	related services.
GCC 22	<p>a) All materials used in packing are to comply with the relevant Bangladesh regulations. Adequate protection and precautions are to be taken to exclude termites or other vermin, noxious insects, larva or fungus from the packing materials or plant. All contents are to be clearly marked for easy identification against the packing list.</p> <p>b) All galvanized ferrous materials shall, in any case, not be touched with water and shall not be handled with any chemical products during transportation to prevent the corrosive effect to the galvanized surface.</p> <p>c) The Contractor shall pack and crate all goods for export to a tropical, humid climate and for ocean transport and in accordance with internationally accepted export practice and such a manner as to protect it from damage and deterioration in transit by truck, rail and sea. The contractor shall be held responsible for and make good any and all damages costs involved due to improper and inadequate packing. Each box or other unit of shipment shall be eligible and properly marked in addition to the usual contractor's marking code. Detailed instructions for marking shown are given in tender document and such marking shall be written either on the box itself or on a metallic tag for drums, steel section etc. strongly attached to the Equipment</p>
GCC 22.2	<ol style="list-style-type: none"> 1. The Supplier shall provide such packing of the goods as is required to prevent their damage or deterioration during transit to their final as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights, shall take into consideration, where appropriate, the remoteness of final destination of the supply and the absence of heavy handling facilities at all points in transit. 2. The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be expressly provided for in the Contract and in any subsequent instructions ordered by the Purchaser. 3. The supplier shall provide such crate for shipment of goods as to protect the equipment and materials. <p>The outer packing may be clearly marked on at least four slides as follows:</p> <p>Name and address of Purchaser</p> <p>Name of the Supplier</p> <p>Contract Description</p> <p>Final Destination/Delivery Point</p> <p>Gross weight</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>Package number of total number of packages</p> <p>Brief description of the content</p> <p>Any special lifting instructions</p> <p>Any special handling instructions</p> <p>[Note:The above requirements should be reviewed by a Purchaser on a case-by-case basis, with amendments being made as necessary.]</p>
GCC 23.1	<p>Delivery and Documents:</p> <p>1. Delivery of the goods shall be made by the Supplier in accordance with the terms and the goods shall remain at the risk of the Supplier until delivery has been completed. Delivery shall be considered to have been completed when the last consignment to be delivered are accepted and taken over by the Purchaser at the final destination (Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area project store, WZPDCL, Khulna). All transportation, insurance and other costs incurred in delivering the goods to Port of landing up to the final destination shall be entered in the Tenderer's price schedule.</p> <p>Incomplete Delivery:</p> <p>i) The Tenderer shall be responsible for any shortages in supply when the contents of the cases do not comply with the manifests, for which claim documents will be prepared in the English language by the Purchaser and submitted to the Tenderer for the necessary action.</p> <p>ii) In making a Tender, the Tenderer shall offer and recommend spare parts for 3 (three) years operation and maintenance in the spare parts schedule of the Tender Documents. After list of optional accessories and special tools recommended by the Tender shall also be included. The cost of these recommended optional accessories and special tools will not be taken into consideration for tender evaluation.</p> <p>iii) These spare parts and/ or accessories and special tools shall be submitted by detailed functional description and itemized prices shall be provided. Purchaser will decide which of these recommended spares optional accessories and special tools are required.</p> <p>iv) The Purchaser may order all in any of the spare so recommended. Those ordered are to be delivered to the nominated Site in accordance with the Schedules not later than the dated of receipt of the last Shipment of the associated item of plant. The price of spares shall be submitted to the same price conditions as the associated item of plant. Price Conditions as the associated item of plant.</p> <p>v) All spares are to be interchangeable with the original parts. They are to be treated and packed for long-term storage under the climatic conditions at</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>site. Each spare is to be clearly and permanently labeled on the outside of its container with its description and purpose. When several spares are packed in one case, a general description of the contents is to be given on the outside of the case. All cases, containers, or other package are liable to be opened for inspection and checking at site.</p> <p>vi) Supplier shall carry sufficient inventories to assure ex-stock supply of consumable spares. Other spare parts & component shall be supplied as promptly as possible but in any case within six months of placement of order and establishment of Letter of Credit.</p> <p>vii) <u>Compliance with specification:</u> Notwithstanding any descriptive literature, drawings or illustrations which may have been submitted with the Tender, all details other than those shown on the Schedule will be deemed to be in accordance with the Specification and the Standard specifications and codes referred to in the Specification. Apart from those shown in the Schedule any departures from the specification are to be made with prior written approval of the Engineer. The documentary evidence of the equipment's conformity to the Tender Document may be in the form of literature, drawings and date, and shall furnish. A detailed description of the equipment essential technical and performance characteristics like specification, drawings; A list, giving full particulars, including available sources and current prices, of all spare parts, special tools, etc., necessary for the proper and continuing of the equipment for a period of 10(ten) years; A clause-by-clause commentary on the specifications demonstrating the equipment's statement of deviations and exceptions to the provisions of the Specifications and Details containing the name of the manufacture of type of trade name, reference of all equipment and materials, which shall be firm. The words "equivalent" "similar" etc. for specifying equipment and materials shall not be considered acceptable.</p> <p>viii) <u>Storage of the materials:</u> After the goods under this contract arrive in Bangladesh, the contractor will store meters, the Vending Station and other equipment & materials to the store designated by the employer. The storing facilities are the responsibility of the contractor. Any damage to the equipment facility will be the responsibility of the contractor.</p> <p>ix) <u>Rejection:</u> In the event any of the Equipment supplied by the Contractor is found defective prior to the issue of delivery Certificate or otherwise not in conformity with the requirements of the Contract, the Purchaser or the Engineer shall have the right to either reject the Equipment or request the Tenderer in writing to rectify/ replace the Equipment. The Contractor shall with utmost diligence and at his own expense replace the defective equipment or rectify the defect as the case may be. If the Contractor fails to comply within 30 (Thirty) days after having been informed, the Purchaser has the option to replace or rectify such defective equipment and charge</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract						
	<p>the Tenderer the extra cost plus 15% (fifteen percent) of the total cost.</p> <p>(a) In the event the Contractor is not able to rectify or replace the rejected equipment within reasonable time, the Purchaser reserves the right to recover any money due as a result of rejection and to terminate the Contract for default as provided in the contract.</p> <p>(b) Acquire the said Goods at a reduced price considered equitable under the circumstances.</p>						
GCC 23.2	<p>Shipping Documents</p> <p>a) The Purchaser and the Engineer/PD shall receive the shipping documents described in clause GCC 23.2(1) of Particular Conditions of Contract at the latest one-week before arrival of cargos at the airport of Dhaka or any sea port of entry in Bangladesh.</p> <p>The required numbers of shipping documents shall be supplied to the follows officers of the purchaser:</p> <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> <p>1. Project Director Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL, Bidyut Bhaban, Boyra Main Road, Khulna-9000 phone: 88 041 731257 2(Two) sets</p> </td> <td style="width: 50%; vertical-align: top;"> <p>2. Executive Director (Engineering) WZPDCL, Bidyut Bhaban, Boyra Main Road, Khulna-9000 2(Two) sets</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p>3. Executive Director (Finance) WZPDCL, Bidyut Bhaban, Boyra Main Road, Khulna-9000 2(Two) sets</p> </td> <td style="vertical-align: top;"> <p>4. Deputy General Manager (Finance) WZPDCL, Bidyut Bhaban, Boyra Main Road, Khulna-9000 2(Two) sets</p> </td> </tr> <tr> <td style="vertical-align: top;"> <p>5. Deputy Manager (Accounts) Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL, Bidyut Bhaban, Boyra Main Road, Khulna-9000 2(Two) sets</p> </td> <td></td> </tr> </table> <p>No goods should be shipped or delivered without prior instruction (shipping advice) from the Purchaser.</p> <p>b) No goods should be shipped, without prior instruction from the Engineer/Purchaser. In cases, where the goods have been passed inspection but the Contractor from the Engineer/Purchaser has not received the instruction of delivery within one month of the date of inspection, the contractor may proceed with the shipment. In case of ex-factory basis delivery for domestic goods, the purchaser shall arrange to lift the goods from the specified place of the factory/warehouse within 30 (thirty) days after the date of inspection/</p>	<p>1. Project Director Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL, Bidyut Bhaban, Boyra Main Road, Khulna-9000 phone: 88 041 731257 2(Two) sets</p>	<p>2. Executive Director (Engineering) WZPDCL, Bidyut Bhaban, Boyra Main Road, Khulna-9000 2(Two) sets</p>	<p>3. Executive Director (Finance) WZPDCL, Bidyut Bhaban, Boyra Main Road, Khulna-9000 2(Two) sets</p>	<p>4. Deputy General Manager (Finance) WZPDCL, Bidyut Bhaban, Boyra Main Road, Khulna-9000 2(Two) sets</p>	<p>5. Deputy Manager (Accounts) Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area, WZPDCL, Bidyut Bhaban, Boyra Main Road, Khulna-9000 2(Two) sets</p>	
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GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>acceptance certificate issued by the Purchaser.</p> <p>c) All air cargoes destined for the site shall be landed at Hazrat Shajalal International Airport of Dhaka as specified in Tender Document.</p> <p>d) Any items liable to be damaged in transit shall be effectively protected and securely fixed in their cases. All lists of over 1(one) ton shall be marked to show where slings should be placed.</p> <p>e) The Contractor shall give complete shipping information concerning the weight, size, content of each package including any other information the Purchaser or the Engineer may require.</p> <p>f) Tenderer shall indicate the Bid delivery schedule in the Schedule of Requirements.</p> <p>1) For Imported goods:</p> <p>Upon shipment, the Supplier shall notify the Purchaser and the Insurance Company by Cable or fax or telex: the full details of the shipment including Contract number, description of Goods, quantity, the bill of landing number and date, port of loading, date of shipment, port of discharge, etc. The Supplier shall mail the following documents to the Purchaser, with a copy to the Insurance Company:</p> <p>i) 04 nos. copies of the Supplier's invoice showing goods description, quantity, unit price, total amount.</p> <p>ii) 1(one) original and 8(eight) copies of the negotiable, clean, on-board bill of lading marked freight prepaid and eight (8) copies of non-negotiable bill of lading,</p> <p>iii) 8 (Eight) copies of packing list identifying contents of each package;</p> <p>iv) Insurance certificate;</p> <p>v) Freight Memo,</p> <p>vi) Manufacturer's/supplier's guaranty certificate;</p> <p>vii) Inspection certificate, issued by the nominated inspection Engineer and the Supplier's factory inspection report; and</p> <p>viii) Certificate of origin.</p> <p>ix) Shipping advice issued by the Purchaser.</p> <p>x) The Purchaser shall receive the above documents at least one week before arrival of Goods at the port and, if not received, the Supplier will be responsible for any consequent expenses.</p> <p>xi) The negotiable sets of documents shall be originals signed by the Tenderer. The Commercial Invoice is to show material value plus freight and insurance.</p> <p>xii) Documentary evidence of accepted and taken over of the goods by the Purchaser at the final destination (i.e. Smart Pre-Payment Metering Project</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>for West Zone Power Distribution Company Ltd. (WZPDCL) Area project store, WZPDCL, Khulna) in accordance to clause GCC 22.2 of Particular Conditions of Contract.</p> <p>(2) For Goods from within the Purchaser's country as per INCOTERM EXW:</p> <p>Upon delivery of the Goods to the transporter, the Supplier shall notify the Purchaser and send the following documents to the Purchaser:</p> <ul style="list-style-type: none"> (a) 04 nos. copies of the Supplier's invoice showing the description of the Goods, quantity, unit price, and total amount; (b) delivery note, railway receipt, or truck receipt; (c) Manufacturer's or Supplier's warranty certificate; (d) inspection certificate issued by the nominated inspection agency, and the Supplier's factory inspection report; and (e) Certificate of origin. <p>The Purchaser shall receive the above documents before the arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.</p>
GCC 25.1	<p>The contract Price is:-----[in word-----]</p> <p>a) Unless specified otherwise in Purchaser's Requirements, Tenderer shall quote for the entire facilities on a "single responsibility" basis as described in TDS such that the Tender price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the tendering documents in respect of the design, manufacture, including procurement and subcontracting (if any), delivery, construction, installation and completion of the facilities. This includes all requirements under the Contractor's responsibilities for testing, pre-commissioning and commissioning of the facilities and, where so required by the bidding documents, the acquisition of all permits, approvals and licenses, etc., operation, maintenance, inspection and training services and such other items and services as may be specified in the tendering documents, all in accordance with the requirements of the Conditions of Contract. The tenderer shall complete the appropriate Price Schedules included herein, stating the unit prices, total price per item, the total amount and the expected countries of origin of the Plant to be supplied under the Contract. Prices quoted in the Price Schedules will be entered in the following manner.</p> <ul style="list-style-type: none"> i) The price of goods quoted FOB port of shipment, marine insurance and freight shall also be priced separately; and ii) The price of goods quoted CIF port of entry in the employer's country; and iii) The price of inland transportation, insurance and other local costs incidental to delivery of the goods from the port of entry to their final destination. In quoting the price, the Tenderer shall be free to use oceangoing vessels registered in any eligible source countries. Similarly, the Tenderer shall obtain insurance from Sadharan Bima Corporation of Bangladesh.

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>iv) The price of works and installation work, inclusive of all site testing and services.</p> <p>v) Cost of mandatory spare parts.</p> <p>The terms EXW, CIF, and FOB shall be governed by the rules prescribed in the current edition of INCOTERMS, published by the International chamber of commerce, Paris.</p> <p>Marine and local insurance will be paid at cost but estimated values shall be included in the price schedules. The marine and local insurance and Freight prices quoted in the Schedules shall be the maximum price. Freight charges will be paid, at cost, up to the values quoted.</p> <p>All prices for installation, testing, commissioning and local transportation & haulage in Bangladesh shall be quoted in Bangladesh Taka and payments shall be made in Bangladesh Taka.</p> <p>(b) Currency of Tender:</p> <p>Prices quoted shall be declared in the Schedules contained in the Tender Document. Prices shall be quoted in the following currencies:</p> <p>i) The prices shall be quoted in the currency of United States Dollars and Bangladesh Taka.</p> <p>ii) A tenderer expecting to incur a portion of its expenditures in the performance of the Contract in more than one currency and wishing to be paid accordingly shall so indicate in its Tender.</p> <p>iii) If some of the contract expenditures related to Works, Installation and Other Services pursuant to clause 20.2, such expenditures shall be quoted in Bangladesh Taka.</p> <p>(c) Price Variations:</p> <p>The prices quoted for the contract shall be fixed and valid until completion of the Contract performance and no price variation shall be allowed whether in the cost of Labour, materials or any other factors affecting prices of Works. A tender submitted with an adjustable price quotation will be treated as non-responsive and will be rejected.</p>
GCC 26.2	The transportation of all goods is the responsibility of the supplier. The supplier or bidder will be solely responsible for partial or fully damage of goods.
GCC 27.1	<p>Terms of Payment:</p> <p>The method and conditions of payment to be made to the Supplier under this Contract shall be as follows:</p> <p>(a) Payment for Goods supplied from abroad:</p> <p>Payment of foreign currency portion shall be made in USD in the following manner:</p> <p>1. The currency or Currencies in which payment is to be made to the Supplier under this Contract shall be specified in the subject to the following general principle: Payment will be made in the currency or currencies in which the</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>Contract price has been stated in the Supplier's Bid, as well as in other currencies in which the Supplier had indicated in its Bid that it intends to incur expenditures in the performance of the Contract and wishes to be paid. LC Charges within Bangladesh shall be paid by the Purchaser and those outside Bangladesh paid by the supplier. The payment for goods supplied from aboard to be made as follows:</p> <ol style="list-style-type: none"> <li>(i) 30% (Thirty percent) of the Contract Price for supply of material and equipment with accessories shipped shall be paid through LC on submission of shipping documents specified in clause GCC 23 of the bid document. Project Director/Engineer will certify the invoice and the payment advice will be issued by the purchaser's representative. <li>(ii) 30% (Thirty percent) of the Contract Price of goods received shall be paid through letter of credit upon submission of claim supported by the acceptance certificate issued by the Purchaser specified in GCC Clause 24. Acceptance certificate will include damage report and primary installation and testing report (the report shall clearly mention that the tenderer have successfully installed and interfaced unified prepaid metering system, Unified Interface Platform (UIP), Head-End-System, MDM System and Third party Vending System software) along with the invoice to be certified reenigne yband passed for payment by the purchaser's representative Project Director/Engineer will certify the invoice and the payment advice will be issued by the purchaser's representative. <li>(iii) 30% (Thirty percent) of the Contract Price for supply of material and equipment with accessories shall be paid through LC after installation and commissioning of the prepaid metering System, on submission of documents i.e. Provisional Acceptance Certificate and successful commission of system along with the Invoice. Project Director/Engineer will certify the invoice and the payment advice will be issued by the purchaser's representative. <li>(iv) 10% (Ten percent) of the Contract Price shall be paid through letter of credit after installation and successful commissioning of Prepaidt Metering System on submission of Final Acceptance Certificate and invoiced duly certified by engineer and passed for payment by the purchaser. Project Director/Engineer will certify the invoice and the payment advice will be issued by the purchaser's representative. <ol style="list-style-type: none"> <li>2. Payment of local currency portion shall be made in Bangladesh Taka within thirty (30) days of presentation of claim supported by a certificate from the Purchaser declaring that the Goods have been delivered and that all other contracted Related Services have been performed. <li>3. Provisional Acceptance Certificate: The purchaser shall issue a Provisional Acceptance Certificate after successful installation, testing, commissioning and handing over of System. <p>The issuance of a Provisional Acceptance Certificate in no way relieves the Tenderer of his responsibility for the satisfactory operation of the System as per</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>warranty clause.</p> <p>4. Final Acceptance Certificate: Application for the Final Acceptance Certificate may be made to the Purchaser at the end of the Period of Guarantee for the Works or any portion thereof, provided that the Tenderer has fulfilled his obligations under the Contract.</p> <p>Provided that if, by reason of the fact that it has become necessary for the Tenderer to replace or renew any portion of the work, the obligations of the Contract shall continue after the period first therein mentioned, the right of the Contractor to apply for a Final.</p> <p>Acceptance Certificate in respect of the Works or portion thereof other than the portions of the Work replaced or renewed shall not be affected by that fact, and after the Tenderer has ceased to be under any obligation under the Contract in respect of the portions supplied he may apply for a Final Acceptance Certificate in respect thereof.</p> <p>The Purchaser shall issue to the Contractor a Final Acceptance Certificate within 30 (Thirty) days after receiving an application therefore, which the Tenderer was entitled to make.</p> <p>A Final Acceptance Certificate shall, save in the case of fraud or dishonesty relating to or affecting any matter dealt within the Certificate, be conclusive evidence as to the sufficiency of the works and of the value thereof unless any proceedings arising out of the Contract whether or otherwise shall have been commenced by either party before the Final Certificate has been issued or within three months thereafter.</p> <p>i) The Purchaser shall not be liable to the Contractor for any matter or thing arising out of or in connection with the Tenderer or the works unless the Tenderer shall have made a claim in writing in respect thereof before the giving of the Final Acceptance Certificate under this Clause.</p> <p>5. Delivery Certificate:</p> <p>Upon receipt of the Goods as defined in the Schedule of Requirements, at the designated destination, and after inspections, the Purchaser will issue a Delivery Certificate in which he shall certify the date on which, the Goods has been so delivered. This certificate shall be issued within 60 (sixty) days of the receipt of the last delivery of the Equipment constituting a lot at the destination as per Contract. Should the Equipment be found defective due to faulty design or workmanship or damage due to defective packing or otherwise not in conformity with the requirements of the Contract, the Delivery Certificate shall be withheld until such time as the defects have been corrected.</p> <p>The Equipment shall be deemed to have been accepted by the Purchaser after the expiry of 60 (sixty) days from the date of receipt of the last delivery of the Equipment constituting a lot at the destination unless the Purchaser has notified to the Tenderer of the defects found in the Equipment received by them.</p> <p>The issuance of a Delivery Certificate shall in no way relieve the Tenderer of his responsibility for the satisfactory operation of the Equipment in terms of the Specification and as per Warranty.</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>(b) Payment for Goods and Services supplied from within the Bangladesh: Local Currency Payment for supply of goods, Installation, Erection, Testing, Commissioning and Inland Transportation and related service shall be made in the following manner through employer's existing payment procedures.</p> <p>(i) 30% (Thirty percent) of the Contract Price for supply of goods, installation, testing and commissioning shall be paid upon submission of claim supported by the acceptance certificate issued by the Purchaser specified in GCC Clause 24. Acceptance certificate will include damage report along with the invoice to be certified reengineer yband passed for payment by the purchaser's representative Project Director/Engineer will certify the invoice and the payment advice will be issued by the purchaser's representative.</p> <p>(ii) 30% (Thirty percent) of the contract price for supply of goods, installation, testing and commissioning shall be paid on submission of primary installation and testing report (the report shall clearly mention that the tenderer have successfully installed and interfaced unified prepaid metering system, Unified Interface Platform (UIP), Head-End-System, MDM System and Third party Vending System software) along with the invoice on monthly progress duly certified by engineer and passed for payment by employers representative. This milestone will be completed not less than 4(four) installments of payments. All payment advice will be issued by the purchaser's representative.</p> <p>(iii) 30% (Thirty percent) of the contract price for supply of goods, installation, testing and commissioning after hand over shall be paid after installation, testing and commissioning of pre-payment metering system on submission of documents ie provisional reports of completion and successful commissioning of pre-payment metering system along with the invoiced duly certified by engineer. All payment advice will be issued by the purchaser's representative.</p> <p>(iv) Final 10% (Ten percent) of the Contract Price for supply of goods, installation, testing and commissioning Pre-payment Metering System package received shall be paid within 45 (Forty Five) days after submission of claim supported by an invoice to be certified by engineer and passed for payment by the purchaser's representative supported by the final acceptance certificate (FAC), R&I and post landing inspection and acceptance of testing & commissioning report. The letter of credit opener shall issue the payment advice. All payment advice issued by the purchaser's representative.</p> <p>(c) Payment for supply of Software & Network: Payment for supply of software and newtwork shall be made in the following manner through purchaser's existing payment procedures.</p> <p>(i) 30% (thirty percent) of the contract price of only for the software and Network portion shall be paid based on installation of all softwares(developed/to be developed) and networks certified by the engineer. All payment advice will be issued by the purchaser's representative.</p> <p>(ii) 30% (thirty percent) of the contract price of only for the software and Network portion of installation, testing and commissioning of software and Network after hand over shall be paid after installation, testing and commissioning of system</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>on submission of documents ie provisional reports of completion and successful commissioning of Pre-Paid metering system along with the invoice. All payment advice will be issued by the purchaser's representative.</p> <p>(iii) 30% (thirty percent) of the contract price of only for the software and network portion shall be paid based on monitoring on the over all field operation for 6 months and will certify the performance by the engineer after the date of commissioning of the Pre-paid metering System. All payment advice will be issued by the purchaser's representative.</p> <p>(iv) Final 10% (Ten percent) of the Contract Price of only for the software and Network portion of installation, testing and commissioning System package received shall be paid within 45 (Forty Five) days after hand over, on submission of claim supported by an invoice to be certified and passed for payment by the purchaser's representative supported by the final acceptance certificate (FAC), R&I and post landing inspection and acceptance of testing & commissioning report. The letter of credit opener shall issue the payment advice. All payment advice will be issued by the purchaser's representative.</p> <p>Banking Charges:</p> <p>a) Letter of Credit opening and other charges including amendment charges within Bangladesh shall be borne by WZPDCL and those outside Bangladesh shall be borne by the supplier.</p> <p>b) The supplier shall have to bear all such charges both inside and outside Bangladesh in case of time extension of L/C if done at the request of the supplier.</p>
GCC 27.3	Payments shall be made in no case later than the 45 days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
GCC 28.2	<p>The minimum insurance cover shall be 110% (Hundred Ten). The insurance policy would be furnished from Bangladesh Sadharan Bima Corporation.</p> <p>(a) The maximum deductible for insurance of the Works and of Plant and Materials and Marine and Inland Transportation and All risk erection is Tk ----- [amount] [the Contractor shall provide this amount at the time of Contract signing].</p> <p>(b) The minimum cover for insurance of the Works and of Plant and Materials in respect of the Contractor's faulty design is Tk.20 (Twenty) million.</p> <p>(c) The maximum deductible for insurance of Equipment is Tk -----[amount]. [the Contractor shall provide this amount at the time of Contract signing].</p> <p>(d) The minimum cover for loss or damage to Equipment is Tk. 20 (Twenty) million.</p> <p>(e) The maximum deductible for insurance of other property is Tk----- [amount]. [the Contractor shall provide this amount at the time of Contract signing].</p> <p>(f) The minimum cover for insurance of other property is Tk.5 (Five) million.</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>(g) The minimum cover for personal injury or death insurance:</p> <p>(i) for the Contractor's employees is as per the law and common practice in Bangladesh.</p> <p>(ii) and for third parties is as per the law and common practice in Bangladesh.</p>
GCC 29.2	<p>a) Bangladesh Income Tax and VAT for Income Earned in Bangladesh</p> <p>i) The Supplier/Contractor shall be entirely liable to pay Income Tax at prevailing rule of the Government of Bangladesh for payments of foreign currency (i.e. CIF/CIP price & service cost in foreign currency) & local currency portion under the contract. Income Tax shall be deducted at source during payment of bills/invoice for onward deposition of the same into Government Treasury.</p> <p>ii) The Supplier/Contractor shall not be responsible for payment of applicable Value Added Tax (VAT) on the imported materials and equipments of the Contract price. WZPDCL will pay the same VAT during clearing stage at the port. But the applicable VAT on service portion (both local and foreign currency) and Materials & Equipments cost without CIF/CIP price of the contract value shall be paid by the contractor which will deducted at source from the contractor's invoice/bill during payment.</p> <p>b) Foreign country Taxes and Permits</p> <p>The Supplier shall pay all sales, income and other taxes and duties, tariffs and imports that can be lawfully assessed against the supplier by the Government or any lawful authority of any country other than the people's Republic of Bangladesh which has jurisdiction over the Supplier in connection with this contract and shall pay for all licenses permits and inspection required for the supply including the cost or securing all export licenses and permits for materials, equipment, supplies and personnel exported from that country to Bangladesh.</p> <p>c) Import related duties, taxes, VAT, levies</p> <p>WZPDCL will be responsible for the payment of import related duties, taxes, VAT, levies and all sort of charges etc. to be liable by the port as well as other Govt. agencies inside Bangladesh for the goods to be imported in accordance with the specification. But WZPDCL shall not pay the same on any replacement/ additional items.</p>
GCC 32.1	<p>The inspections and tests shall be as follows:</p> <p>Orientation Training and Factory Performance Tests & Acceptance:</p> <p>i. The Purchaser shall be entitled to inspect at all reasonable items during manufacturing to witness the factory performance acceptance test on the Contractor's premises of the materials and workmanship of all equipment to be supplied under the Contract, and if part of the said Equipment is being manufactured on other's premises, the Contractor shall obtain for the Purchaser permission to inspect, examine and test as if the said Equipment were being</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>manufactured on the Contractor's premises.</p> <p>An Engineering Team (nominated by the Purchaser) will participate on the quality acceptance test (QAT) for the offered equipment at the manufacturer's plant and confirm their quality as per specification. The Purchaser's nominated "Engineering Team" consists of at least 03 (Three) Engineers in each team shall have the witness of the QAT of the goods on the manufacturer's premises.</p> <p>Such inspection examination or testing if made shall not release the Contract from any obligation under the Contract. The Contractor shall give to the Purchaser 30 (thirty) days notice in writing of the date and on the place at which any equipment will be ready to witness the factory performance acceptance test on the Contractor's premises of the materials and workmanship of all equipment to be supplied under the Contract.</p> <p>Tests shall be performed in accordance with the relevant SANS/IEC standards and as per contract shall be complied with offered technical particulars and guarantees. All expenses for such tests shall be borne by the bidder</p> <p>ii. Before testing and inspection five copies of the test schedule showing the standards applied, number of samples, guaranteed values, test methods and other relevant information shall be submitted for approval by the Engineer/Purchaser.</p> <p>The manufacturer/ Supplier shall furnish the following to the 'Engineering Team':</p> <ol style="list-style-type: none"> a) Approved specification, Guaranteed technical particulars and Drawings of the goods. b) The test schedule showing the standards applied, test methods and other relevant information. c) Factory test report of all the goods as per relevant standard. <p>iii. Where the Contract provides for tests on the premises of the Tenderer, the Supplier/ Manufacturer shall provide all reasonable facilities and assistance viz. labour, materials, electricity, fuel, stores, apparatus, instruments etc. as may be required and as may be reasonably demanded to carry out such tests efficiently at no charge to the purchaser.</p> <p>All the cost regarding QAT witness by the Purchaser's 'Engineering Team' i.e. the cost of Air Ticket from Dhaka to the place of training & return, internal transportation, Phone, Fax, E-mail, Health insurance, Hotel accommodation, Food etc. and pocket money per day per (as per GOB/Compnay rules)for the period excluding journey time shall be borne by the Supplier and the cost shall be included with the equipment quoted price.</p> <p>iv. The Tenderer/ manufacturer/ supplier shall invite consignee to nominate representatives for witnessing such factory performance acceptance test of the goods/equipment and inspection of factory production line.</p> <p>v. Where no specific tests are specified then the equipment shall be tested in accordance with the appropriate standards or alternative standard accepted by the Purchaser. Where no appropriate standard is available, tests shall be carried out in accordance with the Manufacturer's standard practice, which shall</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>meet with the approval of the Engineer/Purchaser.</p> <p>Test shall be performed in accordance with the relevant standards supplemented by the specification requirements and as per contract. Where no specific tests are specified then the equipment shall be tested in accordance with the appropriate standards or alternative standard accepted by the Purchaser.</p> <p>Purchaser's 'Engineering Team' shall select samples from the goods to be supplied on random basis for testing. The selected samples shall be tested according to the relevant standards at the manufacturer premises in presence of Purchaser's 'Engineering Team'. In case of absence of requisite testing facilities in the manufacturer premises, the samples shall be tested in the testing laboratory accepted by the Purchaser/ Purchaser 'Engineering Team'.</p> <p>vi. As and when any Equipment shall have passed the tests referred to in this Clause the Engineer or the Purchaser's representative shall furnish to the Contractor a witness / Quality Certificate.</p> <p>The supplier shall provide test reports to the purchaser duly countersigned by the witnessing team within 10 (ten) days after completion of QAT. The purchaser will issue written instruction to the supplier to deliver the goods to the purchaser's designated stores against satisfactory test report.</p> <p>vii. If as a result of such witness the factory performance acceptance test of the equipment, (other than "Tests on Completion") the Engineer or the Purchaser's representatives shall decide that such equipment is defective or not in accordance with the contract, he shall notify the contractor accordingly stating in writing his objection and reason therefore. The Contractor shall, with all speed, make good the defect or ensure that the equipment complies with the Contract. Thereafter, if required by the Engineer, the tests shall be repeated under the same terms and conditions at the Contractor expense and all reasonable expenses to which the Purchaser may be put by the repetition of the tests shall be deducted from the Contract Price.</p> <p>No equipment shall be packed, prepared for shipment or dismantled for the purpose of packing unless it has been tested and approved or tests have been waived and written instruction have been received from the Purchaser.</p> <p>If any dissimilarity is observed during post delivery inspection on receive goods in respect to pre-inspected goods, the purchaser has to right, not to receive the goods in the purchaser's store.</p> <p>viii. The Contractor shall provide 12 (twelve) copies of reports for Proejct Director & 10 (Ten) copies to the Purchaser of all witness the factory performance acceptance test within 30 (thirty) days after completion Factory Performance Tests and Acceptance.</p> <p>ix. No goods shall be packed, prepared for shipment or ready for the purpose of packing unless it has been inspected and approved (or inspection has been waived) and written instructions for shipment.</p> <p>Post Landing Inspection: The inspection and tests may be conducted on the</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
	<p>premises of the Supplier or its Sub-Contractor at point of delivery and/or at the goods' final destination Where conducted on the premises of the Supplier or its Sub-Contractor all reasonable facilities and assistance including access to drawings and production data shall be furnished to the inspectors at no charge to the Purchaser.</p> <ol style="list-style-type: none"> 1. Should any inspected or tested goods fail to conform to the Specifications, the Purchaser may reject them and the Supplier shall either replace the rejected goods or make all alterations necessary to meet the specification, requirements free of cost to the Purchaser. 2. The Purchaser's right to inspect, test and where necessary, reject the goods after the goods arrival in the Purchaser's country shall in no way be limited or waived by reason of the goods having previously been inspected, tested and passed by the Purchaser or its representative prior to the goods shipment from the country of Origin. 3. Nothing in any Clause shall in any way release the Supplier from any warranty or other obligations under this Contract.
GCC 33.3	<p>The Period of Validity of the warranty shall be 3 years from the date of completion of works including testing & commissioning and handing over to the employer and the place of final destination shall be project site(s). The following condition shall also be applicable for Warranty and Guarantee of Goods:</p> <ol style="list-style-type: none"> 1. Guarantee of Goods and Guaranty period as used in this document will mean warranty and period of guarantee respectively. Warranty/ Guarantee period is 3 years from the date of completion of works including testing & commissioning and handing over to the employer. 2. Goods or portion thereof, if replaced under this clause, will come under fresh warranty/ Guarantee for a further period of 3 (three) years from the date of replacement. 3. The Supplier warrants that the goods supplied under the Contract are new, unused, of the most recent or current models and incorporate all recent improvements in design and materials unless provided otherwise in the Contract. 4. The Supplier further warrants that all goods supplied under this Contract shall have no defect arising from design, materials or workmanship (except in so far as the design or material is required by the Purchaser's Specifications) or from any act or omission of the Supplier, that may develop under normal use of the Supplied Goods in the conditions obtaining in the country of final destination.
GCC 33.6	The Supplier shall correct any defects covered by the Warranty 30 (thirty) days of being notified by the Purchaser of the occurrence of such defects.
GCC 35.1	<p>The applicable rate for liquidated damages for delay shall be : 0.5 percent of the Contract Price of the delayed Goods or unperformed Related services for each week of delay until actual delivery or performance</p> <p>The maximum amount of liquidated damages shall be: Ten (10%) percent of the Contract Price.</p>

GCC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
GCC 47.2(b)	The name of the Adjudicator: Managing Director, WZPDCL, Khulna.
GCC 47.3(b)	The rules of procedure for arbitration proceedings shall be as follows: a) If the parties are unable to reach a settlement as per GCC Clause 47.1(a) within twenty eight (28) days of the first written correspondence on the matter of disagreement, then either party may give notice to the other party of its intention to commence arbitration in accordance with GCC Sub-clause 47.3(b). b) The arbitration shall be conducted in accordance with the Arbitration Act (Act No. 1 of 2001) of Bangladesh as at present in force and in the place shown in the PCC.

Section-5: Tender and Contract Forms

Section-5: Tender and Contract Forms

Form	Title
Tender Forms	
PG4 – 1	Tender Submission Letter
PG4 – 2	Tenderer Information Sheet
PG4 – 3A,3B & 3C	Price Schedule for Goods
PG4 – 3D	Price Schedule for Related Services
PG4 – 4	Specifications Submission and Compliance Sheet
PG4 – 5	Manufacturer's Authorisation Letter
PG4 – 6	Bank Guarantee for Tender Security
Contract Forms	
PG4 – 7	Notification of Award
PG4 – 8	Contract Agreement
PG4 – 9	Bank Guarantee for Performance Security
PG4 – 10	Bank Guarantee for Advance Payment

Forms PG4-1 to PG4-6 comprises part of the Tender and should be completed as stated in ITT Clause 21.

Forms PG4-7 to PG4-10 comprises part of the Contract as stated in GCC Clause 5.

Tender Submission Letter (Form PG4 – 1)

[This letter shall be completed and signed by the Authorised Signatory preferably on the Letter-Head pad of the Tenderer].

To: [Contact Person] [Name of Purchaser] [Address of Purchaser]	Date:
Invitation for Tender No:	[indicate IFT No]
Tender Package No:	[indicate Package No]
Lot No:	[indicate number of Lots]

We, the undersigned, offer to supply in conformity with the Tender Document the following Goods and related Services:

In accordance with ITT Clauses 22 and 23, the following prices and discounts apply to our Tender:

The Tender Price is: (ITT Sub-Clause 23.1)	Taka [state amount in figures] and Taka[state amount in words]
Mandatory Spare parts Price (If economic Factor is applicable) (ITT Sub-Clause 52.2 (f) & 52.5 (b))	Taka [state amount in figures] and Taka[state amount in words]
The unconditional discount for being awarded more than one lot in this package is: (ITT Sub-Clause 23.8)	Taka [state amount in figures] and Taka[state amount in words]
The methodology for Application of the discount is: (ITT Sub-Clause 23.9)	[state the methodology]
The advance payment is: (GCC Sub-Clause 27.1)	[state the amount based on percentage of the Tender Price]

and we shall accordingly submit an Advance Payment Guarantee in the format shown in Form PG4 - 10.

In signing this letter, and in submitting our Tender, we also confirm that:

- a) our Tender shall be valid for the period stated in the Tender Data Sheet (ITT Sub-Clause 27.2) and it shall remain binding upon us and may be accepted at any time before the expiration of that period;

- b) a Tender Security is attached in the form of a bank guarantee] in the amount stated in the Tender Data Sheet (ITT Clause 29) and valid for a period of 28 days beyond the Tender validity date;
- c) if our Tender is accepted, we commit to furnishing a Performance Security in the amount stated in the Tender Data Sheet (ITT Sub-Clause 63.2) in the form stated in Tender Data Sheet (ITT Sub-Clause 64.1) and valid for a period of 28 days beyond the date of completion of our performance obligations;
- d) we have examined and have no reservations to the Tender Document, issued by you on [insert date];
including Addendum to Tender Documents No(s) [state numbers] ,issued in accordance with the Instructions to Tenderers (ITT Clause 11). [insert the number and issuing date of each addendum; or delete this sentence if no Addendum have been issued];
- e) we, including as applicable, subcontractor for any part of the contract resulting from this Tender process, have nationalities from eligible countries, in accordance with ITT Sub-Clause 5.1;
- f) we are submitting this Tender as a sole Tenderer
- g) we are not a Government owned entity as defined in ITT Sub-Clause 5.3
or
we are a Government owned entity, and we meet the requirements of ITT Sub-Clause 5.3];
(delete one of the above as appropriate)
- h) we, declare that we are not associated, nor have been associated in the past, directly or indirectly, with a consultant or any other entity that has prepared the design, specifications and other documents, in accordance with ITT Sub-Clause 5.5;
- i) we, including as applicable subcontractor have not been declared ineligible by the Government of Bangladesh on charges of engaging in corrupt, fraudulent, collusive or coercive practices, in accordance with ITT Sub-Clause 5.6;
- j) furthermore, we are aware of ITT Sub Clause 4.3 concerning such practices and pledge not to indulge in such practices in competing for or in executing the Contract;
- k) we intend to subcontract an activity or part of the Supply, in accordance with ITT Sub-Clause 16.1 to the following Subcontractor(s);

Nature of the Supply or related service	Name and address of Subcontractor

- l) we, confirm that we do not have a record of poor performance, such as abandoning the Supply, not properly completing contracts, inordinate delays, or financial failure as stated in ITT Sub-Clause 5.8, and that we do not have, or have had, any litigation against us, other than that stated in the Tenderer Information Sheet(Form PG4-2);

- m) we are not participating as Tenderers in more than one Tender in this Tendering process. We understand that your written Notification of Award shall become a binding Contract between us, until a formal Contract is prepared and executed;
- n) we understand that you reserve the right to accept or reject any Tender, to cancel the Tender proceedings, or to reject all Tenders, without incurring any liability to Tenderers, in accordance with ITT Clause 58.1.

Signature:

[insert signature of authorised representative of the Tenderer]

Name:

[insert full name of signatory with National ID]
--

In the capacity of:

[insert designation of signatory]

Duly authorised to sign the Tender for and on behalf of the Tenderer

[If there is more than one (1) signatory add other boxes and sign accordingly].

Attachment-1: Written confirmation authorising the above signatory(ies) to commit the Tenderer, in accordance with ITT Sub-Clause 34.3;

Tenderer Information Sheet (Form PG4-2)

[The Tenderer shall fill in this Form in accordance with the instructions indicated below. No alterations to its format shall be permitted and no substitutions shall be accepted]

Invitation for Tender No: [Indicate IFT No] Date [Insert date of Tender Submission]
 Tender Package No: [Indicate Package No]

A. Individual Tenderers

1.	Eligibility Information of the Tenderer [ITT Clauses 5 & 21]	
1.1	Tenderer's Legal Name:	
1.2	Tenderer's legal address in Country of Registration	
1.4	Tenderer's Year of Registration	
1.5	Tenderer's Authorised Representative Information	
	Name	
	National ID number	
	Address	
	Telephone / Fax Numbers	
	e-mail address	
1.6	Attached are copies of original documents of : [check box(es) of the attached original documents]	
	<input type="checkbox"/> Articles of Incorporation or Registration of firm named in 1.1, in accordance with ITT sub-Clause 5.1 and 5.2]	
	<input type="checkbox"/> In case of government owned entity, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITT Sub-Clause 5.3	
	<input type="checkbox"/> An affidavit confirming the legal capacity stating that there are no existing orders of any judicial court that prevents either the tenderer or employees of a tenderer entering into or signing a Contract with the Purchaser in accordance with ITT clause 5	
	<input type="checkbox"/> An affidavit confirming that the tenderer is not insolvent, in receivership or not bankrupt or not in the process of bankruptcy, not temporarily barred from undertaking their business for financial reasons and shall not be the subject of legal proceedings for any of the foregoing in accordance with ITT Clause 5.	
	<input type="checkbox"/> A certificate issued by the competent authority of Bangladesh stating that the Tenderer is a Tax payer having valid Tax identification Number (TIN) and VAT registration number or in lieu any other document acceptable to the Purchaser demonstrating that the Tenderer is a genuine Tax payer and has a VAT registration number as a proof of fulfillment of taxation obligations in accordance with ITT Clause 5 .	
	<input type="checkbox"/> Documentary evidence demonstrating that they are enrolled in the relevant professional or trade organizations registered in Bangladesh in accordance with ITT Clause 5.	

2. Litigation History: [Number of arbitration awards against the tenderer over the period in accordance the ITT Clause 13.1] if no [state "None"]	
3. Qualification Information of the Tenderer:	
3.1	Number of years of overall experience of the Tenderer in the supply of goods and related services as stated under ITT Sub-Clause 14.1(a):
3.2	Number of completed supply contracts in the supply of similar goods and related services of required value within the period mentioned in TDS as stated under ITT Sub-Clause 14.1(b): <ul style="list-style-type: none"> ▪ Number of Contracts: ▪ Value of the Contracts: ▪ Period of the Contract:
3.3	The supply and/or production capacity of Goods, if applicable, as stated under ITT Sub-Clause 14.(c)
3.4	Available liquid assets or working capital or credit facility in accordance with ITT Clause 15.1(a)

B. Individual Members of a Joint Venture (If applicable)

4.1	Each Member of a JVCA shall provide all the information requested in the form above, Sections 1-3.
4.2	Attach a power of attorney for each of the authorising signatories of the Tender on behalf of the JVCA.
4.3	Attach the Agreement among all Members of the JVCA (and which is legally binding on all Members), which shows that: <ul style="list-style-type: none"> (a) all Members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms; (b) one of the Members will be nominated as being in charge, authorised to incur liabilities, and receive instructions for and on behalf of any and all Members of the joint venture; and (c) the execution of the entire Contract, including payment, shall be done exclusively with the Member in charge
Note: The above represents the minimum requirements. These may be added to buy the Purchaser on a case-by-case basis, as necessary.	

Price Schedule for Goods (Form PG4-3A)
[Group A Tenders: Goods Manufactured/ Offered in Bangladesh]

Invitation for Tender No:	27.22.4785.905.50.040.20/48	Date:	05/03/2020
Tender Package No:	9	Package Description:	Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.
Tender Lot No:		Lot Description:	[enter description as specified in Section 6]

1	2	3	4	5	6	7	8	9	10
Line Item No.	Description of Item	Unit of Measurement	Quantity	Unit price EXW [Taka.]	EXW price per Line Item (Col. 4 x 5) [Taka.]	Inland transportation, insurance and other local costs for the delivery of the Goods to their final destination [Taka.]	Cost of local labour, raw materials and components from with origin in Bangladesh [Taka.]	VAT Payable on account of Supplier if the Contract is awarded [Taka.]	Total Price per line item (Col. 6+7) Taka
		[Insert name of the Unit]	[Insert number of Unit to be supplied]	[Insert EXW unit price, also indicate Currency]	[Insert total EXW price per line item]	[Insert corresponding price per line item]	[Insert cost of local labour, raw material and components as a% of the Col 5]	[Insert Supplier's VAT if Contract is awarded]	[Insert total price per line item]
1.0	Server for Unified Prepaid Metering System								
1.1	Application Server	Nos.	2						
1.2	Accounting Server	Nos.	3						
1.3	SMS Server	Nos.	2						
1.4	Backup Server	Nos.	2						
1.5	Database Server	Nos.	4						
1.6	Reporting Server	Nos.	2						
1.7	TEST Server	Nos.	2						
	Sub-total (A)								
2.0	Server for Smart Metering System								
2.1	Agent Management System (AMS) Server	Nos.	2						
2.2	Head-End-System (HES) Server	Nos.	2						
2.3	Meter Data Management System (MDMS) Server	Nos.	2						
	Sub-total (B)								




[Handwritten signatures and initials]

Standard Tender Document

1	2	3	4	5	6	7	8	9	10
Line Item No.	Description of Item	Unit of Measurement	Quantity	Unit price EXW [Taka.]	EXW price per Line Item (Col. 4 x 5) [Taka.]	Inland transportation, insurance and other local costs for the delivery of the Goods to their final destination [Taka.]	Cost of local labour, raw materials and components from with origin in Bangladesh [Taka.]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item (Col. 6+7) Taka
3.0	Common Storage and SAN Switch for DRC								
3.1	Production Storage	Nos.	2						
3.2	Back Storage	Nos.	1						
3.3	SAN Switch	Nos.	4						
	Sub-Total (C)								
4.0	Network Equipment for DRC								
4.1	WAN Switch	Nos.	2						
4.2	Core Router	Nos.	2						
4.3	Core Firewall	Nos.	2						
4.4	DMZ Switch	Nos.	2						
4.5	Core Switch	Nos.	2						
4.6	Server Farm Switch	Nos.	2						
4.7	Server Management Switch	Nos.	1						
	Sub-Total (D)								
5.0	Security Solution for DRC								
5.1	NMS System	Nos.	1						
5.2	NMS Server	Nos.	1						
5.3	Security Appliance (Sandbox/ AntiDDoS)	Nos.	1						
5.4	IPS Firewall	Nos.	1						
	Sub-Total (E)								
6.0	Accessories of DRC								
6.1	DRC Passive Infrastructure (Modular Data Center)	Nos.	2						
6.2	50 KVA 3-Phase Diesel Generator (Country of Origin: USA/UK/EU) with Canopy, ATS, Silencer pipe and proper earthing	Nos.	1						

[Handwritten signatures and initials]

1	2	3	4	5	6	7	8	9	10
Line Item No.	Description of Item	Unit of Measurement	Quantity	Unit price EXW [Taka.]	EXW price per Line Item (Col. 4 x 5) [Taka.]	Inland transportation, insurance and other local costs for the delivery of the Goods to their final destination [Taka]	Cost of local labour, raw materials and components from with origin in Bangladesh [Taka.]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item (Col. 6+7) Taka
6.3	Network Establishment from DRC to UVS /UCC/ POS/ Meters, DC Passive Civil & Electrical works/ execution (including Proper Earthing and Installation of Surge Protector and Standard Cabling & wiring to AC, UPS, Generator using Ladder, connector, Industrial Socket, circuit breaker, distribution board and other materials as and when required to complete the work)	Lot	1						
	Sub-Total (F)								
7.0	Oracle Database with Licence								
7.1	Oracle Database Enterprise Standard Edition With Licence for Users/Servers	Nos.	8						
	Sub-Total (G)								
8.0	Others								
8.1	i) Supply of Agent Management System (with Source code) and Unified Interface Platform (UIP) (with source code) for integration of existing system and other system and Synchronizing the whole newly installed system with the WZPDC's Existing Unified and smart pre-paid metering system Software, Hardware and Network. ii) Installation, Testing, commissioning of Hardware, Network and required software (e.g. Unified vending system Software, Head End System, MDM system, Smart Vending System and third party vending Platform for all existing unified prepayment meters).	Lot	1						
8.2	Operational support services for Hardware,	Lot	1						

Standard Tender Document

1	2	3	4	5	6	7	8	9	10
Line Item NO.	Description of Item	Unit of Measurement	Quantity	Unit price EXW [Taka.]	EXW price per Line Item (Col. 4 x 5) [Taka.]	Inland transportation, insurance and other local costs for the delivery of the Goods to their final destination [Taka]	Cost of local labour, raw materials and components from with origin in Bangladesh [Taka.]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item (Col. 6+7) Taka
	Software and Networking System for Minimum 03 Years.								
8.3	Manpower Training (Local)	Man-Month	2						
8.4	Manpower Training (Foreign)	Man-Month	3.5						
	Sub-total (H)								
Note : Price offered in Bangladesh Taka							Total Price for Lot		
Point of Delivery as per Schedule of Requirement: Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area Project store, WZPDCL, Khuina.					Period of Delivery and Completion as per Schedule of Requirement: Delivery and completion time shall be 180 days from the date qualified commitment of the letter of credit (L/C).				

Name:	[insert full name of signatory]	Signature with Date and Seal
In the capacity of:	[insert designation of signatory]	[Sign]
Duly authorised to sign the Tender for and on behalf of the Tenderer		







Price Schedule for Goods (Form PG4-3B)
[Group B Tenders: Goods Manufactured outside Bangladesh, to be imported]

Invitation for Tender No:	27.22.4785.905.50.040.20/48	Date:	05/03/2020
Tender Package No:	9	Package Description:	Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.
Tender Lot No:		Lot Description:	[enter description as specified in Section 6]

1	2	3	4	5	6	7	8	9	10	
									FC	Taka
Line Item No.	Description of item	Country of Origin	Unit of Measure	Quantity	Unit price CIF[insert place of destination] Or CIF[insert port of destination] [FC]	CIF/CIP price per Line Item (Col. 5 x 6) [FC]	Inland transportation, insurance and other local costs for the delivery of the Goods to their final destination [Taka]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item (Col. 7+ Col. 8)	
		[insert country of origin of the Good]	[insert name of the Unit]	[Insert number of Unit to be supplied]	[Insert unit price in CIF or CIP, also indicate currency]	[Insert total price per line item]	[Insert corresponding price per line item]	[Insert Supplier's VAT if Contract is awarded] (if applicable as per VAT Act)	[Insert total price per line item]	
1.0	Server for Unified Prepaid Metering System									
1.1	Application Server		Nos.	2						
1.2	Accounting Server		Nos.	3						
1.3	SMS Server		Nos.	2						
1.4	Backup Server		Nos.	2						
1.5	Database Server		Nos.	4						
1.6	Reporting Server		Nos.	2						
1.7	TEST Server		Nos.	2						
	Sub-total (A)									
2.0	Server for Smart Metering System									





Standard Tender Document

1	2	3	4	5	6	7	8	9	10
Line Item No.	Description of Item	Country of Origin	Unit of Measure	Quantity	Unit price CIP[insert place of destination] Or CIF[insert port of destination] [FC]	CIF/CIP price per Line Item (Col. 5 x 6) [FC]	Inland transportation, insurance and other local costs for the delivery of the Goods to their final destination [Taka]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item (Col. 7+ Col. 8)
									FC Taka
2.1	Agent Management System (AMS) Server		Nos.	2					
2.2	Head-End-System (HES) Server		Nos.	2					
2.3	Meter Data Management System (MDMS) Server		Nos.	2					
	Sub-total (B)								
3.0	Common Storage and SAN Switch for DR								
3.1	Production Storage		Nos.	2					
3.2	Back Storage		Nos.	1					
3.3	SAN Switch		Nos.	4					
	Sub-Total (C)								
4.0	Network Equipment for DR								
4.1	WAN Switch		Nos.	2					
4.2	Core Router		Nos.	2					
4.3	Core Firewall		Nos.	2					
4.4	DMZ Switch		Nos.	2					
4.5	Core Switch		Nos.	2					
4.6	Server Farm Switch		Nos.	2					
4.7	Server Management Switch		Nos.	1					
	Sub-Total (D)								
5.0	Security Solution for DR								
5.1	NMS System		Nos.	1					
5.2	NMS Server		Nos.	1					
5.3	Security Appliance (Sandbox/ AntiDDoS)		Nos.	1					
5.4	IPS Firewall		Nos.	1					
	Sub-Total (E)								

Handwritten signatures and initials

Standard Tender Document

1	2	3	4	5	6	7	8	9	10
Line Item No.	Description of Item	Country of Origin	Unit of Measurement	Quantity	Unit price CIP[insert place of destination] Or CIF[insert port of destination] [FC]	CIF/CIP price per Line Item (Col. 5 x 6) [FC]	Inland transportation, insurance and other local costs for the delivery of the Goods to their final destination [Taka]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item (Col. 7+ Col. 8)
									FC Taka
6.0	Accessories of DRC								
6.1	DRC Passive Infrastructure (Modular Data Center)		Nos.	2					
6.2	50 KVA 3-Phase Diesel Generator (Country of Origin: USA/UK/EU) with Canopy, ATS, Silencer pipe and proper earthing		Nos.	1					
6.3	Network Establishment from DRC to UVS /UCC/ POS/ Meters, DC Passive Civil & Electrical works/ execution (including Proper Earthing and Installation of Surge Protector and Standard Cabling & wiring to AC, UPS, Generator using Ladder, connector, Industrial Socket, circuit breaker, distribution board and other materials as and when required to complete the work)		Lot	1					
	Sub-Total (F)								
7.0	Oracle Database with Licence								
7.1	Oracle Database Enterprise Standard Edition With License for Users/Servers		Nos.	8					
	Sub-Total (G)								
8.0	Others								





Standard Tender Document





1	2	3	4	5	6	7	8	9	10
Line Item No.	Description of Item	Country of Origin	Unit of Measure	Quantity	Unit price CIP[inset place of destination] Or CIF[inset port of destination] [FC]	CIF/CIP price per Line Item (Col. 5 x 6) [FC]	Inland transportation, Insurance and other local costs for the delivery of the Goods to their final destination [Taka]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item (Col. 7+ Col. 8)
									FC Taka
8.1	i) Supply of Agent Management System (with Source code) and Unified Interface Platform (UIP) (with source code) for integration of existing system and other system and Synchronizing the whole newly Installed system with the WZPDCL's Existing Unified and smart pre-paid metering system Software, Hardware and Network. ii) Installation, Testing, commissioning of Hardware, Network and required software (e.g. Unified vending system Software, Head End System, MDM system, Smart Vending System and third party vending Platform for all existing unified prepayment meters).		Lot	1					
8.2	Operational support services for Hardware, Software and Networking System for Minimum 03 Years.		Lot	1					
8.3	Manpower Training (Local)		Man-Month	2					
8.4	Manpower Training (Foreign)		Man-Month	3.5					
	Sub-total (H)								
Note : Price offered in foreign currency (FC) & Bangladesh Taka									Total Price for Lot
Point of Delivery as per Schedule of Requirement: Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area Project store, WZPDCL, Khulna.					Period of Delivery and Completion as per Schedule of Requirement: Delivery and completion time shall be 180 days from the date qualified commitment of the letter of credit (L/C).				

Name: [insert full name of signatory] Signature with Date and Seal

In the capacity of: [insert designation of signatory] [Sign]

Duly authorised to sign the Tender for and on behalf of the Tenderer

[Note: The Purchaser may also use other INCOTERMS, if deemed necessary. In such case Form PG4-3B, will require to be customized by the Purchaser]

Price Schedule for Goods (Form PG4-3C)

[Group B Tenders: Goods Manufactured outside Bangladesh, already imported]

Invitation for Tender No:	27.22.4785.905.50.040.20/48	Date:	05/03/2020
Tender No:	9	Package Description:	Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.
Tender Lot No:		Lot Description:	[enter description as specified in Section 6]

1	2	3	3	3	4	5	6	7	8	9	10	11
Line Item No.	Description of Item	Country of Origin	Unit of Measure	Quantity	Unit price Including Custom Duties, import VAT & other import taxes already paid [Taka]	Custom Duties, import VAT & other import taxes already paid per unit [Taka]	Unit Price per line item net of Custom Duties, import VAT & other import taxes already paid [Taka] (Col. 5 - Col.6)	Price per line item net of Custom Duties, import VAT & other import taxes already paid [Taka] (Col. 4X Col. 7)	Inland transportation, Insurance and other local costs for the delivery of the Goods to their final destination [Taka]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item (Col.8+ Col.9) [Taka]	
1.0	Server for Unified Prepaid Metering System											
1.1	Application Server		Nos.	2	[insert unit price including CD & all import taxes]	[insert CD, VAT & import taxes paid per unit] to be supported by documents	[insert unit price net of CD, VAT and import taxes]	[insert price per line item net of CD, VAT and import taxes]	[insert corresponding price per line item]	[insert Supplier's VAT if Contract is awarded]	[insert total price per line item]	
1.2	Accounting Server		Nos.	3								
1.3	SMS Server		Nos.	2								
1.4	Backup Server		Nos.	2								
1.5	Database Server		Nos.	4								
1.6	Reporting Server		Nos.	2								
1.7	TEST Server		Nos.	2								
	Sub-total (A)											
2.0	Server for Smart Metering System											
2.1	Agent Management System (AMS) Server		Nos.	2								
2.2	Head-End-System (HES) Server		Nos.	2								

[Handwritten signatures and initials]

Standard Tender Document

1	2	3	3	4	5	6	7	8	9	10	11
Line Item No.	Description of Item	Country of Origin	Unit of Measure	Quantity	Unit price Including Custom Duties, import VAT & other import taxes already paid [Taka]	Custom Duties, import VAT & other import taxes already paid per unit [Taka]	Unit Price per line item net of Custom Duties, import VAT & other import taxes already paid [Taka] (Col. 5 - Col.6)	Price per line item net of Custom Duties, import VAT & other import taxes already paid [Taka] (Col. 4X Col. 7)	Inland transportation, Insurance and other local costs for the delivery of the Goods to their final destination [Taka]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item (Col.8+ Col.9) [Taka]
2.3	Meter Data Management System (MDMS) Server		Nos.	2							
	Sub-total (B)										
3.0	Common Storage and SAN Switch for DRC										
3.1	Production Storage		Nos.	2							
3.2	Back Storage		Nos.	1							
3.3	SAN Switch		Nos.	4							
	Sub-Total (C)										
4.0	Network Equipment for DRC										
4.1	WAN Switch		Nos.	2							
4.2	Core Router		Nos.	2							
4.3	Core Firewall		Nos.	2							
4.4	DMZ Switch		Nos.	2							
4.5	Core Switch		Nos.	2							
4.6	Server Farm Switch		Nos.	2							
4.7	Server Management Switch		Nos.	1							
	Sub-Total (D)										
5.0	Security Solution for DRC										
5.1	NMS System		Nos.	1							
5.2	NMS Server		Nos.	1							
5.3	Security Appliance (Sandbox/ AntiDDoS)		Nos.	1							
5.4	IPS Firewall		Nos.	1							
	Sub-Total (E)										
6.0	Accessories of DRC										







Standard Tender Document

1	2	3	3	4	5	6	7	8	9	10	11
Line Item No.	Description of item	Country of Origin	Unit of Measurement	Quantity	Unit price Including Custom Duties, import VAT & other import taxes already paid [Taka]	Custom Duties, import VAT & other import taxes already paid per unit [Taka]	Unit Price per line item net of Custom Duties, import VAT & other import taxes already paid [Taka] (Col. 5 - Col.6)	Price per line item net of Custom Duties, import VAT & other import taxes already paid [Taka] (Col. 4X Col. 7)	Inland transportation, Insurance and other local costs for the delivery of the Goods to their final destination [Taka]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item (Col.8+ Col.9) [Taka]
6.1	DRC Passive infrastructure (Modular Data Center)		Nos.	2							
6.2	50 KVA 3-Phase Diesel Generator (Country of Origin: USA/UK/EU) with Canopy, ATS, Silencer pipe and proper earthing		Nos.	1							
6.3	Network Establishment from DRC to UVS /UCC/ POS/ Meters, DC Passive Civil & Electrical works/ execution (including Proper Earthing and Installation of Surge Protector and Standard Cabling & wiring to AC, UPS, Generator using Ladder, connector, Industrial Socket, circuit breaker, distribution board and other materials as and when required to complete the work)		Lot	1							
	Sub-Total (F)										
7.0	Oracle Database with Licence										
7.1	Oracle Database Enterprise Standard Edition With License for Users/Servers		Nos.	8							
	Sub-Total (G)										
8.0	Others										

(Handwritten signatures and initials)

Standard Tender Document

1	2	3	3	4	5	6	7	8	9	10	11
Line Item No.	Description of Item	Country of Origin	Unit of Measurement	Quantity	Unit price including Custom Duties, import VAT & other import taxes already paid [Taka]	Custom Duties, import VAT & other import taxes already paid per unit [Taka]	Unit Price per line item net of Custom Duties, import VAT & other import taxes already paid [Taka] (Col. 5 – Col.6)	Price per line item net of Custom Duties, import VAT & other import taxes already paid [Taka] (Col. 4X Col. 7)	Inland transportation, Insurance and other local costs for the delivery of the Goods to their final destination [Taka]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item (Col.8+ Col.9) [Taka]
8.1	i) Supply of Agent Management System (with Source code) and Unified Interface Platform (UIP) (with source code) for integration of existing system and other system and Synchronizing the whole newly Installed system with the WZPDCL's Existing Unified and smart pre-paid metering system Software, Hardware and Network. ii) Installation, Testing, commissioning of Hardware, Network and required software (e.g. Unified vending system Software, Head End System, MDM system, Smart Vending System and third party vending Platform for all existing unified prepayment meters).		Lot	1							
8.2	Operational support services for Hardware, Software and Networking System for Minimum 03 Years.		Lot	1							
8.3	Manpower Training (Local)		Man-Month	2							
8.4	Manpower Training (Foreign)		Man-Month	3.5							
				Sub-total (H)							
<p>Note : Price offered in Bangladesh Taka</p> <p>Period of Delivery and Completion as per Schedule of Requirement: Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area Project store, WZPDCL, Khulna (LC)</p> <p>Completion time shall be 180 days from the date qualified commitment of the letter of credit</p> <p style="text-align: right;">Total Price for Lot</p>											

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Standard Tender Document

Name:	[Insert full name of signatory]	Signature with Date and Seal
In the capacity of:	[Insert designation of signatory]	[Sign]
Duly authorised to sign the Tender for and on behalf of the Tenderer		

[Handwritten signature] *[Handwritten signature]* *[Handwritten signature]* *[Handwritten signature]*

Price and Completion Schedule - Related Services (Form PG4-3D)

Invitation for Tender No:	27.22.4785.905.50.040.20/48	Date:	05/03/2020
Tender Package No:	9	Package Description:	Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.
Tender Lot No:		Lot Description:	[enter description as specified in Section 6]

1 Service No.	2 Description of Services (excludes inland transportation and other services required in Bangladesh to convey the goods to their final destination)	3 Country of Origin	4 Unit of Measurement	5 Quantity	6 Unit price of service [FC] or [Taka]	7 Price per line item of service (Col. 5 X Col. 6) [FC] or [Taka]	8 VAT Payable on account of Supplier if the Contract is awarded [Taka]	9 Total Price per line item of service (Col. 7)	
								FC	Taka
1.0	Server for Unified Prepaid Metering System								
1.1	Application Server		Nos.	2					
1.2	Accounting Server		Nos.	3					
1.3	SMS Server		Nos.	2					
1.4	Backup Server		Nos.	2					
1.5	Database Server		Nos.	4					
1.6	Reporting Server		Nos.	2					
1.7	TEST Server		Nos.	2					
	Sub-total (A)								
2.0	Server for Smart Metering System								
2.1	Agent Management System (AMS) Server		Nos.	2					
2.2	Head-End-System (HES) Server		Nos.	2					
2.3	Meter Data Management System (MDMS) Server		Nos.	2					
	Sub-total (B)								
3.0	Common Storage and SAN Switch for DRC								
3.1	Production Storage		Nos.	2					
3.2	Back Storage		Nos.	1					







1 Service No.	2 Description of Services (excludes inland transportation and other services required in Bangladesh to convey the goods to their final destination)	3 Country of Origin	4 Unit of Measure	5 Quantity	6 Unit price of service [FC] or [Taka]	7 Price per line item of service (Col. 5 X Col. 6) [FC] or [Taka]	8 VAT Payable on account of Supplier if the Contract is awarded [Taka]	9 Total Price per line item of service (Col. 7)	
								FC	Taka
3.3	SAN Switch		Nos.	4					
	Sub-Total (C)								
4.0	Network Equipment for DRC								
4.1	WAN Switch		Nos.	2					
4.2	Core Router		Nos.	2					
4.3	Core Firewall		Nos.	2					
4.4	DMZ Switch		Nos.	2					
4.5	Core Switch		Nos.	2					
4.6	Server Farm Switch		Nos.	2					
4.7	Server Management Switch		Nos.	1					
	Sub-Total (D)								
5.0	Security Solution for DRC								
5.1	NMS System		Nos.	1					
5.2	NMS Server		Nos.	1					
5.3	Security Appliance (Sandbox/ AntiDDoS)		Nos.	1					
5.4	IPS Firewall		Nos.	1					
	Sub-Total (E)								
6.0	Accessories of DRC								
6.1	DRC Passive Infrastructure (Modular Data Center)		Nos.	2					
6.2	50 KVA 3-Phase Diesel Generator (Country of Origin: USA/UK/EU) with Canopy, ATS, Silencer pipe and proper earthing		Nos.	1					

(Handwritten signatures and initials)

(Handwritten signature)

Standard Tender Document

1	2	3	4	5	6	7	8	9	
Service No.	Description of Services (excludes inland transportation and other services required in Bangladesh to convey the goods to their final destination)	Country of Origin	Unit of Measurement	Quantity	Unit price of service [FC] or [Taka]	Price per line item of service (Col. 5 X Col. 6) [FC] or [Taka]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item of service (Col. 7)	
								FC	Taka
6.3	Network Establishment from DRC to UVS /UCC/ POS/ Meters. DC Passive Civil & Electrical works/ execution (including Proper Earthing and Installation of Surge Protector and Standard Cabling & wiring to AC, UPS, Generator using Ladder, connector, Industrial Socket, circuit breaker, distribution board and other materials as and when required to complete the work)		Lot	1					
	Sub-Total (F)								
7.0	Oracle Database with Licence								
7.1	Oracle Database Enterprise Standard Edition With License for Users/Servers		Nos.	8					
	Sub-Total (G)								
8.0	Others								
8.1	i) Supply of Agent Management System (with Source code) and Unified Interface Platform (UIP) (with source code) for integration of existing system and other system and Synchronizing the whole newly Installed system with the WZPDCL's Existing Unified and smart pre-paid metering system Software, Hardware and Network. ii) Installation, Testing, commissioning of Hardware, Network and required software (e.g. Unified vending system Software, Head End System, MDM system, Smart Vending System and third party vending Platform for all existing unified prepayment meters.)		Lot	1					
8.2	Operational support services for Hardware, Software and Networking System for Minimum 03 Years.		Lot	1					

[Handwritten signatures and initials]

Standard Tender Document

1	2	3	4	5	6	7	8	9	
Service No.	Description of Services (excludes inland transportation and other services required in Bangladesh to convey the goods to their final destination)	Country of Origin	Unit of Measurement	Quantity	Unit price [FC] or [Taka]	Price per line item of service (Col. 5 X Col. 6) [FC] or [Taka]	VAT Payable on account of Supplier if the Contract is awarded [Taka]	Total Price per line item of service (Col. 7)	
								FC	Taka
8.3	Manpower Training (Local)		Man-Month	2					
8.4	Manpower Training (Foreign)		Man-Month	3.5					
	Sub-total (H)								
Note Price offered in foreign currency (FC) & Bangladesh Taka						Total Price for Lot			
Point of Delivery as per Schedule of Requirement: Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area Project store, WZPDCL, Khulna.						Period of Delivery and Completion as per Schedule of Requirement: Delivery and completion time shall be 180 days from the date qualified commitment of the letter of credit (L/C).			

Total (From PG4-3A+3B+3C+3D) =

Name:	[insert full name of signatory]	Signature with Date and Seal
In the capacity of:	[insert designation of signatory]	[Sign]
Duly authorised to sign the Tender for and on behalf of the Tenderer		







Manufacturer's Authorisation Letter (Form PG4 - 5)

[The Tenderer shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Tenderer shall include it in its tender, if so indicated in the **TDS as stated under ITT Sub-Clause 26.1(b)**]

Invitation for Tender No:	Date:
Tender Package No:	
Tender Lot No:	
To: Name and address of Purchaser]	

WHEREAS

We [insert complete name of Manufacturer],

who are official manufacturers of [insert type of goods manufactured], having factories at [insert full address of Manufacturer's factories], do hereby

authorize [insert complete name of Tenderer] to supply the following Goods, manufactured by us [insert name and or brief description of the Goods].

We hereby extend our full guarantee and warranty as stated under GCC Clause 33 of the General Conditions of Contract, with respect to the Goods offered by the above Tenderer.

Signed: [insert signature(s) of authorized representative(s) of the Manufacturer]

Name: [insert complete name(s) of authorized representative(s) of the Manufacturer]

Address: [insert full address including Fax and e-mail]

Title: [insert title]

Date: [insert date of signing]

Bank Guarantee for Tender Security (Form PG4 – 6)

[This is the format for the Tender Security to be issued by a scheduled bank of Bangladesh as stated under ITT Clauses 29 and 30]

Invitation for Tender No:

Date:

Tender Package No:

Tender Lot No:

To:

[Name and address of Purchaser]

TENDER GUARANTEE No:

We have been informed that [insert name of Tenderer] (hereinafter called “the Tenderer”) intends to submit to you its Tender dated [insert date of Tender] (hereinafter called “the Tender”) for the supply of [description of goods and related services] under the above Invitation for Tenders (hereinafter called “the IFT”).

Furthermore, we understand that, according to your conditions, Tenders must be supported by a Bank Guarantee for Tender Security.

At the request of the Tenderer, we [insert name of bank] hereby irrevocably undertake to pay you, without cavil or argument, any sum or sums not exceeding in total an amount of Tk [insert amount in figures and in words] upon receipt by us of your first written demand accompanied by a written statement that the Tenderer is in breach of its obligation(s) under the Tender conditions, because the Tenderer:

- a. has withdrawn its Tender after opening of Tenders but within the validity of the Tender Security ; or
- b. refused to accept the Notification of Award (NOA) within the period as stated under Instructions to Tenderers (ITT) ; or
- c. failed to furnish Performance Security within the period as stipulated in the NOA; or
- d. refused to sign the Contract Agreement by the time specified in the NOA; or
- e. did not accept the correction of the Tender price following the correction of the arithmetic errors in accordance with the ITT; or

This guarantee will expire:

- (a) if the Tenderer is the successful Tenderer, upon our receipt of a copies of the contract signed by the Tenderer and the Performance Security issued to you in accordance with the ITT; or
- (b) if the Tenderer is not the successful Tenderer, twenty eight (28) days after the expiration of the Tenderer’s Tender validity period, being [date of expiration of the Tender validity plus twenty eight(28) days]

Consequently, we must receive at the above-mentioned office any demand for payment under this guarantee on or before that date.

Signature

Seal

Notification of Award (Form PG4 - 7)

Contract No:

Date:

To:

[Name of Contractor]

This is to notify you that your Tender dated [insert date] for the supply of Goods and related Services for [name of contract] for the Contract Price of Tk [state amount in figures and in words] as corrected and modified in accordance with the Instructions to Tenderers, has been approved by [name of Purchaser].

You are thus requested to take following actions:

- i. accept in writing the Notification of Award within seven (7) working days of its issuance pursuant to ITT Sub-Clause 62.3
- ii. furnish a Performance Security in the specified format and in the amount of Tk [state amount in figures and words] ,within Twenty-eight (28) days from issue of this Notification of Award but not later than (specify date), in accordance with ITT Clause 64.2
- iii. sign the Contract within twenty eight (28) days of issuance of this Notification of Award but not later than (specify date), in accordance with ITT Clause 67.2

You may proceed with the execution of the supply of Goods and related Services only upon completion of the above tasks. You may also please note that this Notification of Award shall constitute the formation of this Contract, which shall become binding upon you.

We attach the draft Contract and all other documents for your perusal and signature.

Signed

Duly authorised to sign for and on behalf of
[name of Purchaser]

Date:

Contract Agreement (Form PG4 - 8)

THIS AGREEMENT made the [day] day of [month] [year] between [name and address of Purchaser] (hereinafter called "the Purchaser") of the one part and [name and address of Supplier] (hereinafter called "the Supplier") of the other part:

WHEREAS the Purchaser invited Tenders for certain goods and related services, viz, [brief description of goods and related services] and has accepted a Tender by the Supplier for the supply of those goods and related services in the sum of Taka [Contract Price in figures and in words] (hereinafter called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the General Conditions of Contract hereafter referred to.
2. The following documents forming the Contract shall be in the following order of precedence, namely :
 - (a) the signed Form of Contract Agreement;
 - (b) the Notification of Award
 - (c) The Tender and the appendices to the Tender
 - (d) Particular Conditions of Contract;
 - (e) General Conditions of Contract;
 - (f) Technical Specifications;
 - (g) Drawings;
 - (h) Price Schedules and Schedule of Requirements and;
 - (i) Other document including correspondences listed in the PCC forming part of the Contract
3. In consideration of the payments to be made by the Purchaser to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the Purchaser to provide the goods and related services and to remedy any defects therein in conformity in all respects with the provisions of the Contract.
4. The Purchaser hereby covenants to pay the Supplier in consideration of the provision of the goods and related services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of Bangladesh on the day, month and year first written above.

For the Purchaser:

For the Supplier:

Signature

Print Name

Title

In the presence of Name

Address

Bank Guarantee for Performance Security (Form PG4 – 9)

[This is the format for the Performance Security to be issued by **an internationally reputable bank and it shall have correspondent bank located in Bangladesh, to make it enforceable** in accordance with ITT Sub-Clause 64.1 pursuant to Rule 27(4) of the Public Procurement Rules, 2008.]

Contract No:

Date:

To:

[Name and address of Purchaser]

PERFORMANCE GUARANTEE No: [insert Performance Guarantee number]

We have been informed that [name of supplier] (hereinafter called “the Supplier”) has undertaken, pursuant to Contract No [reference number of Contract] dated [date of Contract] (hereinafter called “the Contract”) for the supply of [description of goods and related services] under the Contract.

Furthermore, we understand that, according to your conditions, Contracts must be supported by a performance guarantee.

At the request of the Supplier, we [name of bank] hereby irrevocably undertake to pay you, without cavil or argument, any sum or sums not exceeding in total an amount of Tk [insert amount in figures and in words] upon receipt by us of your first written demand accompanied by a written statement that the Supplier is in breach of its obligation(s) under the Contract conditions, without you needing to prove or show grounds or reasons for your demand of the sum specified therein.

This guarantee is valid until [date of validity of guarantee], consequently, we must receive at the above-mentioned office any demand for payment under this guarantee on or before that date.

[Signatures of authorized representatives of the bank]

Signature

Seal

Bank Guarantee for Advance Payment (Form PG4 – 10)

N.A.

[this is the format for the Advance Payment Security to be issued by an internationally reputable bank and it shall have correspondent bank located in Bangladesh, to make it enforceable in accordance with GCC Clause 27.1]

Contract No:

Date:

To:

[Name and address of Purchaser]

ADVANCE PAYMENT GUARANTEE No:

We have been informed that [name of supplier] (hereinafter called “the Supplier”) has undertaken, pursuant to Contract No [reference number of Contract] dated [date of Contract] (hereinafter called “the Contract”) for the supply of [description of goods and related services] under the Contract.

Furthermore, we understand that, according to your Particular Conditions of Contract Clause 26.1, Advance Payment(s) on Contracts must be supported by a bank guarantee.

At the request of the Supplier, we [name of bank] hereby irrevocably undertake to pay you, without cavil or argument, any sum or sums not exceeding in total an amount of Tk [insert amount in figures and in words] upon receipt by us of your first written demand accompanied by a written statement that the Supplier is in breach of its obligation(s) under the Contract conditions, without you needing to prove or show grounds or reasons for your demand of the sum specified therein.

We further agree that no change, addition or other modification of the terms of the Contract to be performed, or of any of the Contract documents which may be made between the Purchaser and the Supplier, shall in any way release us from any liability under this guarantee, and we hereby waive notice of any such change, addition or modification.

This guarantee is valid until [date of validity of guarantee], consequently, we must receive at the above-mentioned office any demand for payment under this guarantee on or before that date.

[Signatures of authorized representatives of the bank]

Signature

Seal

Section-6: Schedule of Requirements

Section-6: Schedule of Requirements

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020

Tender Package No: 09 (Nine)

Notes on Schedule of Requirements

Objectives

The objectives of the Schedule of Requirements are

- (a) To provide sufficient information on the quantities of Works to be performed to enable Tenders to be prepared efficiently and accurately; and
- (b) When a Contract has been entered into, to provide a priced (Schedule of Requirement) for use in the periodic valuation of Works executed.

In order to attain these objectives, Works should be itemized in the (Schedule of Requirement) in sufficient detail to distinguish between the different classes of Works, or between Works of the same nature carried out in different locations or in other circumstances which may give rise to different considerations of cost. Consistent with these requirements, the layout and content of the (Schedule of Requirement) should be as simple and brief as possible.

Day work Schedule

A Day work Schedule should be included only if the probability of unforeseen work, outside the items included in the (Schedule of Requirement), is high. To facilitate checking by the Employer of the realism of rates quoted by the Tenderers, the Daywork Schedule should normally comprise the following:

- (a) a list of the various classes of labour, materials, and construction plant for which basic Daywork rates or prices are to be inserted by the Tenderer, together with a statement of the conditions under which the Contractor will be paid for work executed on a Daywork basis.
- (b) nominal quantities for each item of Daywork, to be priced by each Tenderer at Daywork rates as Tender. The rate to be entered by the Tenderer against each basic Daywork item should include the Contractor's profit, overheads, supervision, and other charges.

Provisional Sums

A general provision for physical contingencies (quantity overruns) may be made by including a provisional sum in the Summary Schedule of Requirement. Similarly, a contingency allowance for possible price increases should be provided as a provisional sum in the Summary Schedule of Requirement. The inclusion of such provisional sums often facilitates budgetary approval by avoiding the need to request periodic supplementary approvals as the future need arise. Where such provisional sums or contingency allowances are used, the PCC should state the manner in which they will be used, and under whose authority (usually the Engineer's).

The estimated cost of specialized work to be carried out, or of special goods to be supplied, by other Contractors should be indicated in the relevant part of the Schedule of Requirement as a particular provisional sum with an appropriate brief description. A separate procurement procedure is normally carried out by the Employer to select such specialized Contractors.

To provide an element of competition among the Tenderers in respect of any facilities, amenities, facilities, attendance, etc., to be provided by the successful Tenderer as prime Contractor for the use and convenience of the specialist Contractors, each related provisional sum should be followed by an item in the Schedule of Requirement inviting the Tenderer to quote a sum for such amenities, facilities, attendance, etc.

Correction of Errors

If in preparing its Tender, the Tenderer has made errors in the unit price or the total price, and wishes to correct such errors prior to submission of its Tender, it may do so, but shall ensure that each correction is suitable initialled by the authorised person of the Tenderer and that a statement shall be made as to the total number of corrections made, at the end of the priced Schedule of Requirement.

The overall works of prepayment e-metering system divided into following 4 major areas:

- A. Software development for the system and maintenance service.
- B. Hardware Procurement, Installation and Commissioning
- C. Establishment of country wide secure and dedicated data-network service.
- D. Procurement, Installation, Testing and Commissioning of Data Center and Smart Prepayment Metering System.

A. Software development and maintenance service:

The software play major role for the system operation and management. The tenderer will develop a Unified Interface Platform (UIP) software for integration of existing system and other system and Synchronizing the whole Installed system with the WZPDCL's Existing Unified and smart pre-paid metering system Software. The success of the project fully depends on dynamic and adaptable software. Unified Prepaid Software has been developed and installed which have ability to operate any kind of prepayment meter. The software included (i) MIC management (ii) Vending management (iii) Tariff Management (iv) Load management (v) POS management (vi) Customization service management (vii) Log & Alert management (viii) Backup (ix) Accounting information system management (x) SMS management (xi) CDC Management and (xii) Meter Management (xiii) Smart meter communication Management. Data security is one of the major concerns of the system so that the tender shall ensure high level security to develop the software. The system is able to handles more than one crore meters in the whole country including the employer's distribution areas. The employer has the source code of software system.

B. Hardware Procurement, Installation and Commissioning

The tenderer shall provide related hardware regarding to establish Data Center. The warranty period of hardware will be 3 years. Supplied hardware shall have local support service from manufacture. The tenderer shall install and commission all hardware at utility mentioned sites.

C. Establishment/arrangement of wide secure and dedicated data-network service

The tenderer shall be responsible for wide secure, dedicate and redundant data-network service for the prepayment e-metering system. Data link cover (i) MIC/DRC to Data-network service provider (ii) DRC/MIC to Vending Station (ii) Data-network service provider to POS/UVS/UCC (iv) DRC/MIC to CDC (v)DRC/ MIC to Meters.

D. Procurement, Installation and Commissioning of Data Center

The tenderer shall be responsible for delivery, storage, installation and maintenance of the equipment for the duration of operational support service.

A. List of Goods and Delivery Schedule

When completing Form PG4-3A, 3B & 3C the Tenderer shall quote prices and contract delivery dates for each lot separately, as specified in the List of Goods and Delivery Schedule.

Sl. No.	Description of Items	Unit of Measurement	Quantity	Point of Delivery [Final (Project Site) Destination as specified in TDS]	Delivery Date Required (in weeks)	
					Earliest Delivery Date	Latest Delivery Date
1	Design, Manufacture, Supply, Installation, Testing & Commissioning of Smart Pre- paid metering Networks	Lot	1			
2	Design, Manufacture, Supply, Installation, Testing & Commissioning of servers for Data Center (DC+DR).	Nos.	23			
3	Design, Manufacture, Supply, Installation, Testing & Commissioning of storage, network equipment and security solution for Data Center (DC+DR).	Lot	1			
4	DRC Passive Infrastructure (Modular Data Center)	Nos.	2			
5	DC Passive Civil & Electrical works/ execution (including Proper Earthing and Installation of Surge Protector and Standard Cabling & wiring to AC, UPS, Generator using Ladder, connector, Industrial Socket, circuit breaker, distribution board and other materials as and when required to complete the work)	Lot	1			
6	50 KVA 3-Phase Diesel Generator (Country of Origin: USA/UK/EU) with Canopy, ATS, Silencer pipe and proper earthing	Nos.	1			
7	Oracle Database Enterprise Standard Edition With License for Users/Servers	Nos.	8			
8	Installation, Testing, commissioning of Hardware, Network and required software (e.g. Unified vending system Software, Head End System, MDM system, Smart Vending System and third party vending Platform for all existing unfied prepayment meters).	Lot	1			
9	i) Supply of Agent Management System (with Source code) ii) Supply of Unified Interface Platform (UIP) (with source code) for integration of existing system and other system and Synchronizing the whole Installed system with the WZPDCL's Existing Unified and smart pre-paid metering system Software, Harddware and Network.	Lot	1			
	Operational support services for Hardware, Software and Networking System for Minimum 03 Years.	Lot	1			
10	Manpower Training (Local & Foreign)	Man-Mionth	5.5			

Network

The MIC, the CDC and the DRS will be assigned with real IP address.

Sl. No.	Description of Items	Description of the Network	Unit of Measurement	Quantity
01	<p>Network 3:</p> <ul style="list-style-type: none"> • The DRC/MIC to the UVS/UCC. • This is a physical connection via fibre optical line 	<ul style="list-style-type: none"> • Dedicate leased fibre line(like DDN) • @minimum 2mbps • A secured & separate APN • Alive network for 24x7 round the clock • A fixed static IP scheme • Bi-directional(Full Duplex) • @minimum 1Gbps twisted pair (RJ45) • Different Locations (in WZPDCL area). • Chosen Data Service Network Provider so the every other operated on air mobile operators will be available for necessary communication amongst them and that has to be ensured. • A secured & separate APN. • A fixed static IP scheme. • Bi-directional (Full Duplex). 	Nos.	7
02	<p>Network 6:</p> <ul style="list-style-type: none"> • The DRC/MIC to Online 1-phase and 3phase meters. • This is a Wireless connection. 	<ul style="list-style-type: none"> • GPRS/EDGE/EVDO or other. • Different Locations (in WZPDCL area). • Chosen Data Service Network Provider so the every other operated on air mobile operators will be available for necessary communication amongst them and that has to be ensured. • A secured & separate APN. • A fixed static IP scheme. • Bi-directional (Full Duplex). 	lot	1
03	<p>Network 5(a):</p> <ul style="list-style-type: none"> • DRC/MIC to the DCU/ECG and DCU/ECG to the related Meters. 	<ul style="list-style-type: none"> • To be mentioned 	lot	1

Point of Delivery (Location and address)	Smart Pre-Payment Metering Project for West Zone Power Distribution Company Ltd. (WZPDCL) Area Project store, WZPDCL, Khulna.
Delivery Date: (a) Earliest Delivery Date (b) Latest Delivery Date	

- The Tenderer will be responsible for all kinds of required network installation, connection setup and establishment.

Manpower Training (Local)

Sl. No.	Description of Manpower/ Qualification criteria	Quantity	Training Location	Description of training contents/ materials
1	Software Engineer, Network & Hardware Engineer, Electrical Engineer	2.0 Man-Month	To be mentioned by Tenderer	<p>SQL/JAVA, Indepth operations and source code analysis of Unified System, HES, MDM and AMS system with related areas as required.</p> <p>Interfacing with conventional network and Meters focusing at major on PLC, DCU/ECG, VPN with related AMI server and related areas as required.</p> <p>On the electrical parts of the system as well as the customization of the meter and related areas as required.</p> <p>Windows and Linux Server Administration.</p> <p>Router and Firewall configuration.</p> <p>Training on Cyber Security: Encryption and Dycryption Methodology with latest algorithm.</p>

Manpower Training (Foreign)

Sl. No.	Description of Manpower/ Qualification criteria	Quantity	Training Location	Description of training contents/ materials
1	Software Engineer, Network & Hardware Engineer, Electrical Engineer	3.5 Man-Month	To be mentioned by Tenderer	<p>Linux operating System, API Details, DLL, Indepth operations and source code analysis of HES and MDM system with related areas as required.</p> <p>Every piece of Software supported Hardware that is involved in the system and on interfacing with conventional network and Meters focusing at major on PLC, DCU/ECG, VPN with related AMI server and related areas as required.</p> <p>On the electrical parts of the system as well as the customization of the meter and related areas as required.</p>

Address of location	
<u>Date:</u>	
(a) Earliest Delivery Date	
(b) Latest Delivery Date	

The tenderer will provide required local training as well as Foreign training in the manufacturers/ suppliers country(s) or in the above mentioned locations. So, that the trainees can operate and maintain the system smoothly after handover of the turn key project. The training programs will cover Software Engineer, Network & Hardware Engineer & Electrical Engineer. At least 12 (Twelve) numbers of officers and staff will be trained before completion of contract.

Section-7: Technical Specifications

Section-7: General Specification

The Principle

For a stable and efficient electricity distribution system and an effective and trust worthy revenue collection system a country wide Smart Pre-Paid Metering System is evident. As the technology advancement reaches at its peak for peace to help the utility companies to manage a well-organized electricity distribution system, the utility companies no need to rely on conventional metering system. An adaptation of Smart Pre-Paid Metering System can change the needs and the requirements of better solution for the utility companies that make the whole distribution system more dynamic and digitally enhanced. By introducing the features and advantages of the Smart Pre-Paid Metering System that will not only provide freedom of the consumers but also generate a pace in collection strategy of the utility companies in comfort eliminating all kinds of confusion and havoc of corruption.

Digital Metering System brings a quantum leap in energy calculation in accuracy. But eventually most of the energy meters are analog devices. Conventionally mostly installed the analog meters are not only a less-in-accuracy but also it creates and follows to maintain a human hauled operational system that is a bit costly and rather slow. On the contrary the digital metering systems are quick and free from all the demerits of the running aged old electricity distribution system.

Let's have a quick through of National Unified Smart Pre-Paid Metering System. In prepaid model, an electricity consumer has to buy credit (Unit/Currency) from the utility company and to enjoy the limited bought electricity credit into the meter before he can use the electricity. This amount is slowly credited as the consumer uses electricity. One can refill one's necessary credit at any nearest Point of Sale for electricity. As it is clear that the consumer is solely responsible for the pre-buying energy credit and accommodating the purchased energy for optimal use, the utility company requires no resources and personnel for billing purposes and that surely will help to improve customer care services. In a sense it is a direct and practical procedure to help the consumers to be optimal in one's uses to reduce down the system loss and averaging the incremental collection of the revenue. By the National Unified Smart Pre-Paid Meter System. The Load Demand will be aligned as the consumer can meet the facility of monitoring one's installed credit initials.

But this model also introduces a chance of fraud if there is a complete lack of meter usage supervision. This is easily corrected by introducing data exchange mechanism within the energy meters that are able to report usage statistics, load profile, power failures, tamper data and other relevant information. Building this data exchange mechanism within a keycode meter will require additional hardware like power line communication or mobile communication chips. But as more and more manufactures enter the market it will become difficult to maintain the success of the model if they do not follow a single standard. It will be difficult for the utilities to run a successful business if they cannot replace an existing meter from a particular manufactures with another meter from another manufactures. So it is undoubtedly a present time demand to have standardized single uniform platform of distribution system for a nation.

This is only possible when all manufactures follow a single guideline and standards. These standards include meter data and history, data exchange format and software specification for all related software. This document proposes such a system which not only includes practical lessons learned from the field but also introduces new features and components that are necessary for utility companies to manage new generation of prepaid meters with tariff management. A complete breakdown of the overall system is specified first with diagram, then it is described in detail, network architecture is explained next and the hardware and software specification defined. A complete and exhaustive specification like this can only ensure the success of all future meter requirements of Bangladesh but can also act as a model for other countries to follow.

There are already existing single phase meters deployed and used in the field. Some of the mode of media of these works with a smartcard and others with keypad. The proposed solution builds on the existing model by providing standardized data exchange mechanism. The data exchange media will be the smartcard or keycode tokens. This will carry both tariff and recharge amount data from utility to meter and carry usage data from meter to utility (i.e. bidirectional data transfer). And for the keypad process a standard key mechanism also been introduced and adopted. A standardized data format for the smartcard has been adopted. Since many manufactures use different encoding and security within their meter, the data exchange mechanism also has provision for manufacturer encoded data that can

be only decoded by the meter. The manufacturer will provide API to create this encoded data from raw data to the utility.

In Bangladesh, the electricity is being running on traiff beneficiary approach. So the revenue collection must have been counted and calculated at the meter side for a real time calculation and have to generate a real customer data pattern that will definately enhance the data exchange to reveal the energy generation as well as the load management.

The overall network system of the Smart Pre-Paid metering system:

7.1 The Technical Specification on the Network and the Software of the Smart Pre-Paid Metering System has mainly two parts.

- **The Master Information Center (MIC):** All the servers, the routers, the switches, the billing software located centrally in the utility premises are defined together as The **Master Information Center**.
- **The Data Network Service Provider (Mobile Network Companies):** The Data Network Service Provider companies are responsible for providing both SIM/ RIM card data circuit for data network service having a stable bandwidth capacity. Short Message Service (PUSH-PULL SMS) also is available and defined for the short text messaging system activated in the mobile network companies.

7.2 The System

The system as shown in the diagram are containing several continuous areas each performing different particular roles.

7.2.1 Master Information Center (MIC):

The core area of the system is the Master Information Center (MIC). This is where all the running communication processes and the running business processes are installed and located residing in the utility company premises. **There is only one Master Information Center (MIC) at WZPDCL premises in Khulna.**

The Master Information Center (MIC) is comprise of

- **The Database Servers (RDBMS):** The Multiple database servers provide reliable data storage and delivery.
- **The Routers and the Firewalls:** The Routers are connected through the system master station to The Data Network Service Provider round the clock. All the network connections have gone through the firewall for maximum security reasons.
- **The Application Server:** This is a request processing side. There should be at least two application servers at this end as to make the system a little flexible. These servers lonely will be responsible for processes of all the requests from the Point of Sales (POS) terminals and vending stations.

The functions of these servers are:

- ✓ To provide a real time and relentless connectivity in between the database and POS/Utility Vending Station,
- ✓ To provide secure authentication service to POS/ Utility Vending Station,
- ✓ To process unit charge/bill pay request from POS/ Utility Vending Station,
- ✓ To ensure required encrypt data quickly,
- ✓ To transfer results and status of the data to POS/Utility Vending Station for hardcopy receipt to a consumer,

- **The Short Message Server (PUSH-PULL SMS):** This server will process PUSH-PULL SMS requests arriving from the various consumers through The Data Network Service Provider.
- **The Accounting and Billing Server:** This server will keep and produce the various billing and transaction reports for all the vendors, mobile operators and consumers.
- **The Agent Management Server:** This server will process the integration and services of any third party vending system.
- **The HES and MDM Server:** This server will handle the smart metering communication and other related purposes.

7.2.2 The Data Network Service Provider (Mobile Operators): The Data Network Service Provider actually it refers to the mobile operators will provide the following services:

- Provide data network service through GPRS/EDGE/EVDO/HSPA network,
- Provide PUSH-PULL SMS service to utility companies and their consumers through mobile phones.

Every Data Network Service Provider will be connected to each utility only one Master Information Centre through a dedicate fiber or leased fiber line.

7.2.3 Point of Sales (POS):

The POS is where the utility consumers will come most of the time to recharge their credits. The Consumers will deliver their meter information and pay the vendor his preferred and demanded amount. Each POS will be equipped with a laptop or desktop, smartcard reader/writer, a slip printer, a network modem and the POS software. The vendor will enter these consumer details into the POS software and issue a request to process the transaction. The POS software will use the data network service to connect to the application server at Master Information Center and initiate a fund transfer request. Before getting the fund transfer he should have a fund collection from the respective vending station of the respective utilities. The process will first check whether there are enough funds available in the vendor's account for this transaction. If 'No' then a message is sent back to the POS informing regarding the insufficiency fund status. If there is enough fund, then the application server initiates a transfer fund request from the vendor account. If the transfer is successful, then the server checks the database to find the type of meter installed at the consumer premises. If it is a keypad meter then the server will generate the 'n' digit keypad number necessary to recharge the meter. If it is a smartcard based meter then an encrypted data is generated that contains instruction to update the smartcard. This number or the encrypted message along with a success recharge message is sent back to the POS software along with the kept data of the smart card of the respective meters (as it is a two way communication system). The POS software then depending on the meter either prints the keypad code or writes into the consumer meter smart card through the smart card reader. In both cases, the software will print a receipt containing the amount paid instantly. The POS software will keep the till next vended amount in accordance with it's purchased amount as well as the system master station will also follow the log of transaction for future use.

In case of the three phase meters, the SMS server will send back the success message to the POS software and the software will print the acknowledgement receipt for the consumer.

7.2.4 Utility Vending Stations 24x7:

This performs the same function as POS but this will be managed by the utility companies itself round the clock. It is the wing from the utility companies to the POS vendors and the consumers also. It will be established for multi purposes as well. The consumer will get necessary services regarding the meters during stipulated office hours and the complains will be attended from here. So a customization center must integrate here to give the consumer a prompt, better and reliable service to shorten down the power cut. The POS vendors will come here to collect the required energy during the official time table. The vending stations will deposit the collected amount to the Bank. Again for the consumers the late hour collected amount will be kept and deposited to the bank after certain time maintaining the friendly hours.

Since it will be managed by the utility company. A 'n' digit code can be generated or smart card written directly taking cash from the consumer. The vending stations along with the customization center will be

connected to The Master Information Center through a secured dedicated leased line or where possibly through the mobile data network where leased line is not available or not feasible.

7.2.5 Utility Consumers: Consumers can check their assigned load status and other information by sending PUSH-PULL SMS by a predefined format using their mobile phones. Each utility company will have its own short-code (example: BPAY or 2729) which will be valid for all mobile operators. When a PUSH-PULL SMS is sent, the data network service provider will send it directly to the Master Information Center's PUSH-PULL SMS server through the connected network. The PUSH-PULL SMS server will process the PUSH-PULL SMS request, generate the appropriate response and send the response back to the requesting mobile phone containing the requested information. This will work as PUSH-PULL SMS service.

7.2.6 On-Line Prepayment meters: Both the Single Phase and Three phase meters will have on-line vending facility. Each meter will be fitted built-in GSM (GPRS 3G/4G)/ G3-PLC (FCC)/ BROADBAND PLC/RF modem through which the information can directly be communicated to and from the meter as well as the meters should communicate with server through G3-PLC (FCC)/ BROADBAND PLC/RF using DC/DCU.

7.2.7 Customization Center: Mostly located at utility premises, this center will integrate with the system master station to create new consumer, assign/change meter of consumer and perform all administrative tasks to maintain consumer data integrity in the Master Information Center. This customization center also will be integrated at each vending stations of the respective utilities.

7.2.8 Data Service Network: The backbone of the proposed Smart Pre-Paid eMetering System will be established on already erected and developed network by a recognized data service network provider. The only one system master station of each utility company will be connected with their network through a firewall. The data service network provider actually the mobile operators will be connected through this data service network. Similarly the vending stations of the utility organizations may also be connected through the same data service network as required.

7.3 The Network Specification of the Smart Pre-Paid Metering System

The Pre-Paid Metering System will require the following basic network connections to work seamlessly that will online 24x7. These networks are defined below:

- **Network 1:** The Master Information Center/ Data Center to the Data Service Network Provider (the Mobile Operator Network).
- **Network 2:** The Data Service Network Provider (The Mobile Operator) to the POS Network.
- **Network 3:** The Master Information Center/ Data Center to the Utility Vending Station Network.
- **Network 4:** The Master Information Center/ Data Center to the meters

7.3.1 Network 1: The Master Information Center/ Data Center to the Data Service Network Provider (the Mobile Operator Network)

This Data Service Network Provider will connect The Master Information Center/ Data Center to all the mobile networks available. The connection in between of those two will most likely be either dedicated fiber or leased fiber line. Each link speed should be minimum of 4Mbps. A single link (in case of leased line) will terminate at the system master station and the other end will be one for the Data Service Network Provider. The termination points will be 1Gbps twisted pair (RJ45). This network will carry:

- All the data traffic from the POSs at each a single span of real time.
- All PUSH-PULL SMS message traffic from users at each a single span of real time.
- All the utility vending station data traffic where applicable at each a single span of real time.
- All the Monetary Transactions from The Master Information Center to the Data Service Network Provider (the mobile network) accounting and billing server.

SSL/PKI can be applied to make the all sorts of communications ensured. The network should be made redundant if taken through a vendor (multipath, multilink or wireless).

7.3.2 Network 2: The Data Service Network Provider (The Mobile Operator) to the POS Network.

The POSs, that is eventually located at different areas, will be connected round the clock to The Master Information Center by using Data Service Network (mobile network). These can be GPRS, EDGE, EVDO or any other proven and convenient wireless network technology. An arrangement must be made by the utility companies with the chosen Data Service Network Provider so that every other operated on air mobile operators will be available for necessary communication amongst them and that has to be ensured that the network will be a separate VLAN and data from this network will not mix with other data networks of the mobile operators. Also a fixed static IP scheme should be agreed upon. All data communication must be bi-directional(Full Duplex). It should be noted that although this will use existing GPRS/EGDE/EVDO networks, this will be a separate data service network and will not have any kind of foreign access like the internet. All data will be switched and logged managed by the chosen Data Service Network (from the mobile operator network directly) to The Master Information Center through firewall protected routers.

7.3.3 Network 3: The Master Information Center/ Data Center to the Utility Vending Station Network

This will connect The Master Information Center to the Utility Vending stations. This should also be a dedicated or leased fiber line. This network can also be based on leased DDN line from BTCL where appropriate. A 4 Mbps link per Utility Vending Station is recommended. This link must be established secured by VPN. There should be redundancy in the network. Whenever possible and feasible a leased fiber or DDN line should be used to connect the vending stations to The Master Information Center. Rather on an alternate the chosen Data Service Network (the mobile network) will be used.

Rather the described 03 networks above the connection in between the MIC and the DC and The DC to the DR will be maintained through the chosen established Data Network Service round the clock.

7.4 System Integration, Installation, Operation and Maintenance

In WZPDCL smart pre-paid metering system is already running and doing operations successfully. The smart prepaid metering system includes Unified Pre-paid Metering System and Head-End-System (HES) and Agent Management System. The Tenderer will be responsible for design, manufacture, supply, installation, testing & commissioning the above described smart pre-paid metering system with related service on turn key basis, which will include to the operation of the system and interfacing of offered meters with purchasers existing software and interfacing of third party vendors to the supplied Agent Management System. The whole system will be integrated so that all parts run smoothly. These responsibilities include but are not limited to:

- Work with utility to test and finalize all input and output.
- Deploy software at each required locations.
- Ensure interoperability of each software module.
- Install a secure software installation method.
- Arrange for SMS message short codes from mobile operators.
- Work with the data service network provider (mobile operators) and with the purchasers' to setup the required network communication for both wireless and physical connections.
- Work with the data service network provider (mobile operators) representation to setup SMS message server and communication.
- Work with utility, pos vendors and all concerned to test software for bugs and if required fix bugs or incorporate improvements and suggestions.
- Work to provide vending service to the smart prepaid metering consumer of the respective utilities through Mobile SMS, mobile Apps, POS, ATM/Bank booth, web service etc.
- Work with meter manufactures to make sure all software and hardware meters communicate properly.
- Work with utility to make sure that all software follows the defined standards, agree on change with all partners if required.

- Development of various Mobile APPs that is required to provide better services to the consumer as per requirements of the utility.

etc. and more as required.

7.5 Establishment of Network

The tenderer who will implement will be responsible for establishment of the network for the entire system. These include but are not limited to:

- Network connecting POS to MIC/DC & DR
- Network connecting UVS & UCC and utility POS to MIC/DC & DR if/when required
- Network connecting Data Network Service Provider (mobile operators) to MIC/DC & DR
- Arrange contract with Data Network Service Provider (mobile operators) for a secure private data network and provide data network SIM/RIM to POS operators.
- Ensure security of the network. Setup APN where required
- Ensure uptime of network
- Manage network, test performance, throughput and bottleneck of network
- Maintain automated network failure detection and failover. Develop a failure notification service model
- Follow network address scheme as defined below:

Specifications for Data Center Items

Goods and Related Services shall comply with following Technical Specifications.

7.6 General

Where a Manufacturer's Standard or a national Standard equal to or better than the appropriate specified standard has been issued and is acceptable to the Purchaser, any material or equipment supplied shall be manufactured, installed and tested in accordance with the latest revision of the relevant standard unless otherwise specified.

Where any Standard referred to in this Specification has been superseded by a new standard prior to the date of the letter or invitation to tender, the reference shall be deemed to be to such superseding standard.

Deviations from this Specification or standards referred to above shall be given in the Tender and shall be accepted by the Purchaser before contract placement.

The works shall be designed to ensure continuity of service under all working condition at the site as the first consideration and to facilitate inspection, maintenance and repairs. All reasonable precautions shall be taken in the design of equipment and of the works, to ensure the safety of personnel concerned with the operation and maintenance of the works.

All equipment supplied shall be designed and be of such quality as to require the minimum of maintenance during service.

No welding, plugging or filling or defective parts shall be carried out without the prior sanction in writing of the Purchaser.

Corresponding parts of similar equipment, and equipment liable to renewal, shall be fully interchangeable and the Contractor will be required to demonstrate this feature to the Purchaser's satisfaction.

All equipment shall operate without under vibration and with the least practical amount of noise.

All equipment shall be designed to minimize corona or other electrical discharges.

All electrical components shall be adequately rated for their most onerous duty and the specified ambient temperature. When equipment is mounted in panels, cubicles etc., due account shall be taken of any heat generated by the equipment therein and the components shall be appropriately selected, rated or de-rated as necessary to suit the most onerous operating temperatures within the enclosure.

7.6.1 Reference Standard :

Design, Manufacture, Testing and performance of all items shall comply with the current issues of IEC, BDS or equivalent to any internationally acceptable standard.

7.6.2 Climatic Condition

The offered goods/material must be suitable for working in the climate conditions of Bangladesh as described below:

Maximum ambient temperature	:	50°C
Minimum ambient temperature	:	5°C
Humidity	:	40-100%
Mean annual rainfall	:	1500-3000 mm
No. of annual rainy days	:	80-120 days
Average isokeraunic level	:	80 days/year
Pollution of ambient air	:	dust, salt, chemical

Equipment as specified will be installed in tropical locations and in a hot humid environment with presence of the insects and vermin. The information is given as a guide for tenderer and no responsibility for its accuracy will be accepted nor will any claim based on the above be entertained.

7.6.3 Technical Specification:

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020
 Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis. Tender 9
Package No:

1. Specifications of Rack Server for Application Node

(To be filled up and signed by the Tenderer & Manufacturer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Any internationally reputed brand to be mentioned by the bidder	
2	Model	To be mentioned by the bidder	
3	Country of origin	To be mentioned by the bidder	
4	Form factor	2U rack server	
5	CPU	Provide 2 x Intel Xeon Gold 6234(3.3GHz/8-Core/24.75MB/130W) Processor with heat sink	
6	PCIe	The server supports minimum 10 PCIe Slots	
7	Memory	Provide minimum 8 x 32GB,DDR4 RDIMM Memory, 2666MT/s,2Rank(2G*4bit),1.2V,ECC Support minimum number of DIMMs: 24	
8	Storage	Provide minimum 3 x 480GB Mixed used SSD Provide RAID controller card supports RAID 0, 1, 5, 6, 10, 50 and 60 with super capacitance. Cache capacity should be minimum 2 GB	
9	Internal storage	Support Two M.2 SATA SSD	
10	Port	Provide minimum 2 x 1Gb Electrical Interface Provide minimum 4 x10GE Optical Interface (with 4x Multi-mode Optical Transceiver) Provide minimum 1 x Dual Port 16Gb FC HBA Card (with 2x Multi-mode Optical Transceiver)	
11	Certification	CE, UL, FCC, CCC, and RoHS	
12	Integrated video card	Integrated video card for standard configuration 32 MB display memory with the resolution 1920 x 1200	
13	PSU	Redundant hot-swappable PSUs in full configuration Power cables provided with the server. Provide minimum 900W Enhanced Platinum AC Power Module	
14	Fan module	Redundant fan modules in full configuration, allowing one-fan failures	
15	Operating temperature	Long-term operating temperature: 5°C to 45°C (41°F to 113°F)	
16	Manageability	Manageability and maintainability: 1. Supports integrated system management: - Automatically restarts servers - Monitors and controls fan modules, power supplies, and temperature - Starts and shuts down servers - Restarts servers in sequence - Updates local firmware	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		<ul style="list-style-type: none"> - Records error logs - Provides a visualization tool <p>2. Provides GUIs for management and other advanced management functions.</p> <p>3. Provides independent remote management and control ports and GUIs for remote monitoring to implement remote full control over servers independent of OSs. Remote full control includes remote startup, shutdown, and reset, and virtual floppy and DVD-ROM drives.</p> <p>The bidding product supports out-of-band fault detection, does not rely on the OS, and can detect and generate pre warnings against hardware faults such as CPU, I2C and IPMB bus, memory, PCIe device, and hard drive faults; and can analyze and locate faults for system crash, black screen, blue screen, and abnormal reboot. A white paper or official website proof materials is required.</p> <p>Bandwidth management port (GE)</p> <p>Supports the black box function.</p> <p>Last-screen information</p> <p>Touch-screen LCD</p>	
17	Security	<ul style="list-style-type: none"> • Power-on password • Administrator password • Trusted Platform Module (TPM) • Front bezel 	
18	Installation service	Provide hardware installation service	
19	Compatibility	<p>Supports mainstream operation system:</p> <ul style="list-style-type: none"> • Microsoft Windows Server • Red Hat Enterprise Linux • SUSE Linux Enterprise Server • CentOS • Citrix XenServer • VMware ESXi 	
20	Design and Implementation Scope	<p>Respective OEM to also ensure that the final deployment is done basis the OEM specified and validated design standards and best practices</p> <p>Bidder should submit BOQ of proposed device including the details part numbers and manufacturer's warranty part number</p> <p>Bidder should submit the required performance document and compliance reference document for the proposed device.</p>	
21	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
22	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

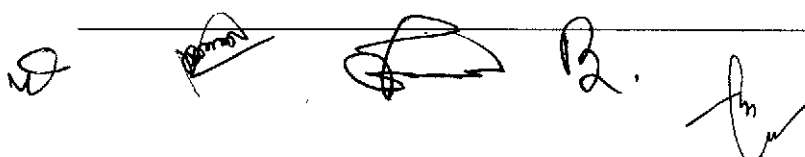
Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer



Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing & Commissioning of 1,05,000 nos. Smart Pre-Payment Meter with related services on Turn-key Basis. Tender Package No: 9

2. Specifications of Rack Server for ACC Node

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Any internationally reputed brand to be mentioned by the bidder	
2	Model	To be mentioned by the bidder	
3	Country of origin	To be mentioned by the bidder	
4	Form factor	2U rack server	
5	CPU	Provide 2 x Intel Xeon Gold 6234(3.3GHz/8-Core/24.75MB/130W) Processor with heat sink	
6	PCIe	The server supports minimum 10 PCIe Slots	
7	Memory	Provide minimum 8 x 32GB,DDR4 RDIMM Memory, 2666MT/s,2Rank(2G*4bit),1.2V,ECC	
		Support minimum number of DIMMs: 24	
8	Storage	Provide minimum 3 x 480GB Mixed used SSD	
		Provide RAID controller card supports RAID 0, 1, 5, 6, 10, 50 and 60 with super capacitance. Cache capacity should be minimum 2 GB	
9	Internal storage	Support Two M.2 SATA SSD	
10	Port	Provide minimum 2 x 1Gb Electrical Interface	
		Provide minimum 4 x10GE Optical Interface(with 4 x Multi-mode Optical Transceiver)	
		Provide minimum 1 x Dual Port 16Gb FC HBA Card (with 2 x Multi-mode Optical Transceiver)	
11	Certification	CE, UL, FCC, CCC, and RoHS	
12	Integrated video card	Integrated video card for standard configuration	
		32 MB display memory with the resolution 1920 x 1200	
13	PSU	Redundant hot-swappable PSUs in full configuration	
		Power cables provided with the server.	
		Provide minimum 900W Enhanced Platinum AC Power Module	
14	Fan module	Redundant fan modules in full configuration, allowing one-fan failures	
15	Operating temperature	Long-term operating temperature: 5°C to 45°C (41°F to 113°F)	
16	Manageability	Manageability and maintainability:	
		1. Supports integrated system management:	
		- Automatically restarts servers	
		- Monitors and controls fan modules, power supplies, and temperature	
		- Starts and shuts down servers	
		- Restarts servers in sequence	
		- Updates local firmware	
- Records error logs			

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		- Provides a visualization tool	
		2. Provides GUIs for management and other advanced management functions.	
		3. Provides independent remote management and control ports and GUIs for remote monitoring to implement remote full control over servers independent of OSs. Remote full control includes remote startup, shutdown, and reset, and virtual floppy and DVD-ROM drives.	
		The bidding product supports out-of-band fault detection, does not rely on the OS, and can detect and generate pre warnings against hardware faults such as CPU, I2C and IPMB bus, memory, PCIe device, and hard drive faults; and can analyze and locate faults for system crash, black screen, blue screen, and abnormal reboot. A white paper or official website proof materials is required.	
		Bandwidth management port (GE)	
		Supports the black box function.	
		Last-screen information	
		Touch-screen LCD	
17	Security	<ul style="list-style-type: none"> • Power-on password • Administrator password • Trusted Platform Module (TPM) • Front bezel 	
18	Installation service	Provide hardware installation service	
19	Compatibility	Supports mainstream operation system: <ul style="list-style-type: none"> • Microsoft Windows Server • Red Hat Enterprise Linux • SUSE Linux Enterprise Server • CentOS • Citrix XenServer • VMware ESXi 	
20	Design and Implementation Scope	Respective OEM to also ensure that the final deployment is done basis the OEM specified and validated design standards and best practices Bidder should submit BOQ of proposed device including the details part numbers and manufacturer's warranty part number Bidder should submit the required performance document and compliance reference document for the proposed device.	
21	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
22	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturef

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis. Tender Package No: 9

3. Specifications of Rack Server for SMS Node

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Any internationally reputed brand to be mentioned by the bidder	
2	Model	To be mentioned by the bidder	
3	Country of origin	To be mentioned by the bidder	
4	Form factor	2U rack server	
5	CPU	Provide 2 x Intel Xeon Gold 6234(3.3GHz/8-Core/24.75MB/130W) Processor with heat sink	
6	PCIe	The server supports minimum 10 PCIe Slots	
7	Memory	Provide minimum 8 x 32GB,DDR4 RDIMM Memory, 2666MT/s,2Rank(2G*4bit),1.2V,ECC Support minimum number of DIMMs: 24	
8	Storage	Provide minimum 3 x 480GB Mixed used SSD Provide RAID controller card supports RAID 0, 1, 5, 6, 10, 50 and 60 with super capacitance. Cache capacity should be minimum 2 GB	
9	Internal storage	Support Two M.2 SATA SSD	
10	Port	Provide minimum 2 x 1Gb Electrical Interface Provide minimum 4 x10GE Optical Interface(with 4 x Multi-mode Optical Transceiver) Provide minimum 1 x Dual Port 16Gb FC HBA Card (with 2 x Multi-mode Optical Transceiver)	
11	Certification	CE, UL, FCC, CCC, and RoHS	
12	Integrated video card	Integrated video card for standard configuration 32 MB display memory with the resolution 1920 x 1200	
13	PSU	Redundant hot-swappable PSUs in full configuration Power cables provided with the server. Provide minimum 900W Enhanced Platinum AC Power Module	
14	Fan module	Redundant fan modules in full configuration, allowing one-fan failures	
15	Operating temperature	Long-term operating temperature: 5°C to 45°C (41°F to 113°F)	
16	Manageability	Manageability and maintainability: 1. Supports integrated system management: - Automatically restarts servers - Monitors and controls fan modules, power supplies, and temperature - Starts and shuts down servers - Restarts servers in sequence - Updates local firmware - Records error logs	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		- Provides a visualization tool	
		2. Provides GUIs for management and other advanced management functions.	
		3. Provides independent remote management and control ports and GUIs for remote monitoring to implement remote full control over servers independent of OSs. Remote full control includes remote startup, shutdown, and reset, and virtual floppy and DVD-ROM drives.	
		The bidding product supports out-of-band fault detection, does not rely on the OS, and can detect and generate pre warnings against hardware faults such as CPU, I2C and IPMB bus, memory, PCIe device, and hard drive faults; and can analyze and locate faults for system crash, black screen, blue screen, and abnormal reboot. A white paper or official website proof materials is required.	
		Bandwidth management port (GE)	
		Supports the black box function.	
		Last-screen information	
		Touch-screen LCD	
17	Security	<ul style="list-style-type: none"> • Power-on password • Administrator password • Trusted Platform Module (TPM) • Front bezel 	
18	Installation service	Provide hardware installation service	
19	Compatibility	Supports mainstream operation system: <ul style="list-style-type: none"> • Microsoft Windows Server • Red Hat Enterprise Linux • SUSE Linux Enterprise Server • CentOS • Citrix XenServer • VMware ESXi 	
20	Design and Implementation Scope	Respective OEM to also ensure that the final deployment is done basis the OEM specified and validated design standards and best practices Bidder should submit BOQ of proposed device including the details part numbers and manufacturer's warranty part number Bidder should submit the required performance document and compliance reference document for the proposed device.	
21	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
22	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis. Tender Package No: 9

4. Specifications of Rack Server for Backup Node

(To be filled up and signed by the Tenderer & Manufacturer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Must be an internationally reputed brand to be mentioned by the tender	
2	Model	To be mentioned by the bidder	
3	Country of origin	To be mentioned by the bidder	
4	Form factor	2U rack server	
5	CPU	Provide 2 x Intel Xeon Gold 5215(2.5GHz/10-Core/13.75MB/85W) Processor with heat sink	
6	PCIe	The server supports maximum 10 PCIe Slots	
7	Memory	Provide minimum 8 x 32GB,DDR4 RDIMM Memory, 2666MT/s,2Rank(2G*4bit),1.2V,ECC Support maximum number of DIMMs: 24	
8	Storage	Provide minimum 3 x 480GB Mixed used SSD Provide RAID controller card supports RAID 0, 1, 5, 6, 10, 50 and 60 with super capacitance. Cache capacity should be minimum 2 GB	
9	Internal storage	Support Two M.2 SATA SSD	
10	Port	Provide minimum 2 x 1Gb Electrical Interface	
		Provide minimum 2x10GE Optical Interface(with 2x Multi-mode Optical Transceiver)	
		Provide minimum Dual Port 16Gb FC HBA Card (with 2x Multi-mode Optical Transceiver)	
11	Certification	CE, UL, FCC, CCC, and RoHS	
12	Integrated video card	Integrated video card for standard configuration 32 MB display memory with the resolution 1920 x 1200	
13	PSU	Redundant hot-swappable PSUs in full configuration	
		Power cables provided with the server.	
		Provide minimum 900W Enhanced Platinum AC Power Module	
14	Fan module	Redundant fan modules in full configuration, allowing one-fan failures	
15	Operating temperature	Long-term operating temperature: 5°C to 45°C (41°F to 113°F)	
16	Manageability	Manageability and maintainability:	
		1. Supports integrated system management:	
		- Automatically restarts servers	
		- Monitors and controls fan modules, power supplies, and temperature	
		- Starts and shuts down servers	
		- Restarts servers in sequence	
- Updates local firmware			

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		- Records error logs	
		- Provides a visualization tool	
		2. Provides GUIs for management and other advanced management functions.	
		3. Provides independent remote management and control ports and GUIs for remote monitoring to implement remote full control over servers independent of OSs. Remote full control includes remote startup, shutdown, and reset, and virtual floppy and DVD-ROM drives.	
		The bidding product supports out-of-band fault detection, does not rely on the OS, and can detect and generate pre warnings against hardware faults such as CPU, I2C and IPMB bus, memory, PCIe device, and hard drive faults; and can analyze and locate faults for system crash, black screen, blue screen, and abnormal reboot. A white paper or official website proof materials is required.	
		Bandwidth management port (GE)	
		Supports the black box function.	
		Last-screen information	
		Touch-screen LCD	
17	Security	• Power-on password	
		• Administrator password	
		• Trusted Platform Module (TPM)	
		• Front bezel	
18	Installation service	Provide hardware installation service	
19	Compatibility	Supports mainstream operation system:	
		• Microsoft Windows Server	
		• Red Hat Enterprise Linux	
		• SUSE Linux Enterprise Server	
		• CentOS	
		• Citrix XenServer	
		• VMware ESXi	
20	Design and Implementation Scope	Respective OEM to also ensure that the final deployment is done basis the OEM specified and validated design standards and best practices	
		Bidder should submit BOQ of proposed device including the details part numbers and manufacturer's warranty part number	
		Bidder should submit the required performance document and compliance reference document for the proposed device.	
21	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
22	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

Package Description:

Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9

Package No:

5. Specifications of Rack Server for Database Node

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Any internationally reputed brand to be mentioned by the bidder	
2	Model	To be mentioned by the bidder	
3	Country of origin	To be mentioned by the bidder	
4	Form factor	2U rack server	
5	CPU	Provide 2 x Intel Xeon Gold 6234(3.3GHz/8-Core/24.75MB/130W) Processor with heat sink	
6	PCIe	The server supports minimum 10 PCIe Slots	
7	Memory	Provide minimum 8 x 32GB,DDR4 RDIMM Memory, 2666MT/s,2Rank(2G*4bit),1.2V,ECC Support minimum number of DIMMs: 24	
8	Storage	Provide minimum 3 x 480GB Mixed used SSD Provide RAID controller card supports RAID 0, 1, 5, 6, 10, 50 and 60 with super capacitance. Cache capacity should be minimum 2 GB	
9	Internal storage	Support Two M.2 SATA SSD	
10	Port	Provide minimum 2 x 1Gb Electrical Interface Provide minimum 4x10GE Optical Interface(with 4 x Multi-mode Optical Transceiver) Provide minimum 1xDual Port 16Gb FC HBA Card (with 2 x Multi-mode Optical Transceiver)	
11	Certification	CE, UL, FCC, CCC, and RoHS	
12	Integrated video card	Integrated video card for standard configuration 32 MB display memory with the resolution 1920 x 1200	
13	PSU	Redundant hot-swappable PSUs in full configuration Power cables provided with the server. Provide minimum 900W Enhanced Platinum AC Power Module	
14	Fan module	Redundant fan modules in full configuration, allowing one-fan failures	
15	Operating temperature	Long-term operating temperature: 5°C to 45°C (41°F to 113°F)	
16	Manageability	Manageability and maintainability: 1. Supports integrated system management: - Automatically restarts servers - Monitors and controls fan modules, power supplies, and temperature - Starts and shuts down servers - Restarts servers in sequence - Updates local firmware	

Standard Tender Document

Sl. No.	Name of item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		- Records error logs	
		- Provides a visualization tool	
		2. Provides GUIs for management and other advanced management functions.	
		3. Provides independent remote management and control ports and GUIs for remote monitoring to implement remote full control over servers independent of OSs. Remote full control includes remote startup, shutdown, and reset, and virtual floppy and DVD-ROM drives.	
		The bidding product supports out-of-band fault detection, does not rely on the OS, and can detect and generate pre warnings against hardware faults such as CPU, I2C and IPMB bus, memory, PCIe device, and hard drive faults; and can analyze and locate faults for system crash, black screen, blue screen, and abnormal reboot. A white paper or official website proof materials is required.	
		Bandwidth management port (GE)	
		Supports the black box function.	
		Last-screen information	
		Touch-screen LCD	
17	Security	<ul style="list-style-type: none"> • Power-on password • Administrator password • Trusted Platform Module (TPM) • Front bezel 	
18	Installation service	Provide hardware installation service	
19	Compatibility	Supports mainstream operation system: <ul style="list-style-type: none"> • Microsoft Windows Server • Red Hat Enterprise Linux • SUSE Linux Enterprise Server • CentOS • Citrix XenServer • VMware ESXi 	
20	Design and Implementation Scope	Respective OEM to also ensure that the final deployment is done basis the OEM specified and validated design standards and best practices Bidder should submit BOQ of proposed device including the details part numbers and manufacturer's warranty part number Bidder should submit the required performance document and compliance reference document for the proposed device.	
21	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
22	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

(Handwritten signatures and initials)

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020
 Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis. Tender 9 Package No:

6. Specifications of Rack Server for Reporting Node

[The Tenderer should complete all the columns as required]

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Any internationally reputed brand to be mentioned by the bidder	
2	Model	To be mentioned by the bidder	
3	Country of origin	To be mentioned by the bidder	
4	Form factor	2U rack server	
5	CPU	Provide 2 x Intel Xeon Silver 4208(2.1GHz/8-Core/11MB/85W) Processor with heat sink	
6	PCIe	The server supports minimum 10 PCIe Slots	
7	Memory	Provide minimum 4 x 16GB,DDR4 RDIMM Memory, 2666MT/s,2Rank(2G*4bit),1.2V,ECC Support minimum number of DIMMs: 24	
8	Storage	Provide minimum 3 x 480GB Mixed used SSD Provide RAID controller card supports RAID 0, 1, 5, 6, 10, 50 and 60 with super capacitance. Cache capacity should be minimum 2 GB	
9	Internal storage	Support Two M.2 SATA SSD	
10	Port	Provide minimum 2 x 1Gb Electrical Interface Provide minimum 4 x10GE Optical Interface(with 4 x Multi-mode Optical Transceiver) Provide minimum 1 x Dual Port 16Gb FC HBA Card (with 2 x Multi-mode Optical Transceiver)	
11	Certification	CE, UL, FCC, CCC, and RoHS	
12	Integrated video card	Integrated video card for standard configuration 32 MB display memory with the resolution 1920 x 1200	
13	PSU	Redundant hot-swappable PSUs in full configuration Power cables provided with the server. Provide minimum 900W Enhanced Platinum AC Power Module	
14	Fan module	Redundant fan modules in full configuration, allowing one-fan failures	
15	Operating temperature	Long-term operating temperature: 5°C to 45°C (41°F to 113°F)	
16	Manageability	Manageability and maintainability: 1. Supports integrated system management: - Automatically restarts servers - Monitors and controls fan modules, power supplies, and temperature - Starts and shuts down servers - Restarts servers in sequence - Updates local firmware - Records error logs	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		- Provides a visualization tool	
		2. Provides GUIs for management and other advanced management functions.	
		3. Provides independent remote management and control ports and GUIs for remote monitoring to implement remote full control over servers independent of OSs. Remote full control includes remote startup, shutdown, and reset, and virtual floppy and DVD-ROM drives.	
		The bidding product supports out-of-band fault detection, does not rely on the OS, and can detect and generate pre warnings against hardware faults such as CPU, I2C and IPMB bus, memory, PCIe device, and hard drive faults; and can analyze and locate faults for system crash, black screen, blue screen, and abnormal reboot. A white paper or official website proof materials is required.	
		Bandwidth management port (GE)	
		Supports the black box function.	
		Last-screen information	
		Touch-screen LCD	
17	Security	<ul style="list-style-type: none"> • Power-on password • Administrator password • Trusted Platform Module (TPM) • Front bezel 	
18	Installation service	Provide hardware installation service	
19	Compatibility	Supports mainstream operation system: <ul style="list-style-type: none"> • Microsoft Windows Server • Red Hat Enterprise Linux • SUSE Linux Enterprise Server • CentOS • Citrix XenServer • VMware ESXi 	
20	Design and Implementation Scope	Respective OEM to also ensure that the final deployment is done basis the OEM specified and validated design standards and best practices Bidder should submit BOQ of proposed device including the details part numbers and manufacturer's warranty part number Bidder should submit the required performance document and compliance reference document for the proposed device.	
21	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
22	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis. Tender 9
Package No:

7. Specifications of Rack Server for Test Node

(To be filled up and signed by the Tenderer & Manufacturer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Any internationally reputed brand to be mentioned by the bidder	
2	Model	To be mentioned by the bidder	
3	Country of origin	To be mentioned by the bidder	
4	Form factor	2U rack server	
5	CPU	Provide 2 x Intel Xeon Gold 6234(3.3GHz/8-Core/24.75MB/130W) Processor with heat sink	
6	PCIe	The server supports minimum 10 PCIe Slots	
7	Memory	Provide minimum 8 x 32GB,DDR4 RDIMM Memory, 2666MT/s,2Rank(2G*4bit),1.2V,ECC Support minimum number of DIMMs: 24	
8	Storage	Provide minimum 3 x 480GB Mixed used SSD Provide RAID controller card supports RAID 0, 1, 5, 6, 10, 50 and 60 with super capacitance. Cache capacity should be minimum 2 GB	
9	Internal storage	Support Two M.2 SATA SSD	
10	Port	Provide minimum 2 x 1Gb Electrical Interface Provide minimum 4 x10GE Optical Interface (with 4x Multi-mode Optical Transceiver) Provide minimum 1 x Dual Port 16Gb FC HBA Card (with 2x Multi-mode Optical Transceiver)	
11	Certification	CE, UL, FCC, CCC, and RoHS	
12	Integrated video card	Integrated video card for standard configuration 32 MB display memory with the resolution 1920 x 1200	
13	PSU	Redundant hot-swappable PSUs in full configuration Power cables provided with the server. Provide minimum 900W Enhanced Platinum AC Power Module	
14	Fan module	Redundant fan modules in full configuration, allowing one-fan failures	
15	Operating temperature	Long-term operating temperature: 5°C to 45°C (41°F to 113°F)	
16	Manageability	Manageability and maintainability: 1. Supports integrated system management: - Automatically restarts servers - Monitors and controls fan modules, power supplies, and temperature - Starts and shuts down servers - Restarts servers in sequence - Updates local firmware - Records error logs	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		<p>- Provides a visualization tool</p> <p>2. Provides GUIs for management and other advanced management functions.</p> <p>3. Provides independent remote management and control ports and GUIs for remote monitoring to implement remote full control over servers independent of OSs. Remote full control includes remote startup, shutdown, and reset, and virtual floppy and DVD-ROM drives.</p> <p>The bidding product supports out-of-band fault detection, does not rely on the OS, and can detect and generate pre warnings against hardware faults such as CPU, I2C and IPMB bus, memory, PCIe device, and hard drive faults; and can analyze and locate faults for system crash, black screen, blue screen, and abnormal reboot. A white paper or official website proof materials is required.</p> <p>Bandwidth management port (GE)</p> <p>Supports the black box function.</p> <p>Last-screen information</p> <p>Touch-screen LCD</p>	
17	Security	<ul style="list-style-type: none"> • Power-on password • Administrator password • Trusted Platform Module (TPM) • Front bezel 	
18	Installation service	Provide hardware installation service	
19	Compatibility	<p>Supports mainstream operation system:</p> <ul style="list-style-type: none"> • Microsoft Windows Server • Red Hat Enterprise Linux • SUSE Linux Enterprise Server • CentOS • Citrix XenServer • VMware ESXi 	
20	Design and Implementation Scope	<p>Respective OEM to also ensure that the final deployment is done basis the OEM specified and validated design standards and best practices</p> <p>Bidder should submit BOQ of proposed device including the details part numbers and manufacturer's warranty part number</p> <p>Bidder should submit the required performance document and compliance reference document for the proposed device.</p>	
21	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
22	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]




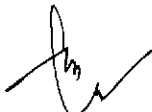
Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

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Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis. Tender Package No: 9

8. Specifications of Rack Server for AMS Node

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Any internationally reputed brand to be mentioned by the bidder	
2	Model	To be mentioned by the bidder	
3	Country of origin	To be mentioned by the bidder	
4	Form factor	2U rack server	
5	CPU	Provide 2 x Intel Xeon Gold 5220(2.2GHz/18-Core/24.75MB/125W) Processor with heat sink	
6	PCIe	The server supports minimum 10 PCIe Slots	
7	Memory	Provide minimum 8 x 32GB,DDR4 RDIMM Memory, 2666MT/s,2Rank(2G*4bit),1.2V,ECC Support minimum number of DIMMs: 24	
8	Storage	Provide minimum 5 x 480GB Mixed used SSD Provide RAID controller card supports RAID 0, 1, 5, 6, 10, 50 and 60 with super capacitance. Cache capacity should be minimum 2 GB	
9	Internal storage	Support Two M.2 SATA SSD	
10	Port	Provide minimum 2 x 1Gb Electrical Interface Provide minimum 4 x10GE Optical Interface(with 4 x Multi-mode Optical Transceiver) Provide minimum 1 x Dual Port 16Gb FC HBA Card (with 2 x Multi-mode Optical Transceiver)	
11	Certification	CE, UL, FCC, CCC, and RoHS	
12	Integrated video card	Integrated video card for standard configuration 32 MB display memory with the resolution 1920 x 1200	
13	PSU	Redundant hot-swappable PSUs in full configuration Power cables provided with the server. Provide minimum 900W Enhanced Platinum AC Power Module	
14	Fan module	Redundant fan modules in full configuration, allowing one-fan failures	
15	Operating temperature	Long-term operating temperature: 5°C to 45°C (41°F to 113°F)	
16	Manageability	Manageability and maintainability: 1. Supports integrated system management: - Automatically restarts servers - Monitors and controls fan modules, power supplies, and temperature - Starts and shuts down servers - Restarts servers in sequence - Updates local firmware - Records error logs	

Standard Tender Document

Sl. No.	Name of item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		- Provides a visualization tool	
		2. Provides GUIs for management and other advanced management functions.	
		3. Provides independent remote management and control ports and GUIs for remote monitoring to implement remote full control over servers independent of OSs. Remote full control includes remote startup, shutdown, and reset, and virtual floppy and DVD-ROM drives.	
		The bidding product supports out-of-band fault detection, does not rely on the OS, and can detect and generate pre warnings against hardware faults such as CPU, I2C and IPMB bus, memory, PCIe device, and hard drive faults; and can analyze and locate faults for system crash, black screen, blue screen, and abnormal reboot. A white paper or official website proof materials is required.	
		Bandwidth management port (GE)	
		Supports the black box function.	
		Last-screen information	
		Touch-screen LCD	
17	Security	<ul style="list-style-type: none"> • Power-on password • Administrator password • Trusted Platform Module (TPM) • Front bezel 	
18	Installation service	Provide hardware installation service	
19	Compatibility	Supports mainstream operation system: <ul style="list-style-type: none"> • Microsoft Windows Server • Red Hat Enterprise Linux • SUSE Linux Enterprise Server • CentOS • Citrix XenServer • VMware ESXi 	
20	Design and Implementation Scope	Respective OEM to also ensure that the final deployment is done basis the OEM specified and validated design standards and best practices Bidder should submit BOQ of proposed device including the details part numbers and manufacturer's warranty part number Bidder should submit the required performance document and compliance reference document for the proposed device.	
21	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
22	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

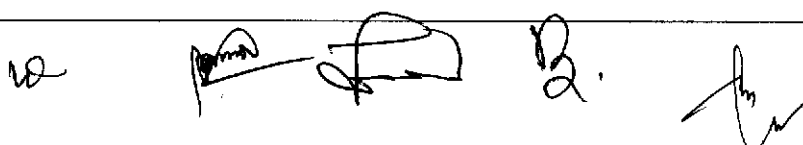
Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer



Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9

Package No:

9. Specifications of Rack Server for HES Node

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Must be an internationally reputed brand to be mentioned by the tender	
2	Model	To be mentioned by the bidder	
3	Country of origin	To be mentioned by the bidder	
4	Form factor	2U rack server	
5	CPU	Provide 2 x Intel Xeon Gold 5220(2.2GHz/18-Core/24.75MB/125W) Processor with heat sink	
6	PCIe	The server supports minimum 10 PCIe Slots	
7	Memory	Provide minimum 8 x 32GB,DDR4 RDIMM Memory, 2666MT/s,2Rank(2G*4bit),1.2V,ECC	
		Support minimum number of DIMMs: 24	
8	Storage	Provide minimum 5 x 480GB Mixed used SSD	
		Provide RAID controller card supports RAID 0, 1, 5, 6, 10, 50 and 60 with super capacitance. Cache capacity should be minimum 2 GB	
9	Internal storage	Support Two M.2 SATA SSD	
10	Port	Provide minimum 2 x 1Gb Electrical Interface	
		Provide minimum 4x10GE Optical Interface(with 4 x Multi-mode Optical Transceiver)	
		Provide minimum 1 x Dual Port 16Gb FC HBA Card (with 2 x Multi-mode Optical Transceiver)	
11	Certification	CE, UL, FCC, CCC, and RoHS	
12	Integrated video card	Integrated video card for standard configuration	
		32 MB display memory with the resolution 1920 x 1200	
13	PSU	Redundant hot-swappable PSUs in full configuration	
		Power cables provided with the server.	
		Provide minimum 900W Enhanced Platinum AC Power Module	
14	Fan module	Redundant fan modules in full configuration, allowing one-fan failures	
15	Operating temperature	Long-term operating temperature: 5°C to 45°C (41°F to 113°F)	
16	Manageability	Manageability and maintainability:	
		1. Supports integrated system management:	
		- Automatically restarts servers	
		- Monitors and controls fan modules, power supplies, and temperature	
		- Starts and shuts down servers	
		- Restarts servers in sequence	
- Updates local firmware			
- Records error logs			

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		- Provides a visualization tool	
		2. Provides GUIs for management and other advanced management functions.	
		3. Provides independent remote management and control ports and GUIs for remote monitoring to implement remote full control over servers independent of OSs. Remote full control includes remote startup, shutdown, and reset, and virtual floppy and DVD-ROM drives.	
		The bidding product supports out-of-band fault detection, does not rely on the OS, and can detect and generate pre warnings against hardware faults such as CPU, I2C and IPMB bus, memory, PCIe device, and hard drive faults; and can analyze and locate faults for system crash, black screen, blue screen, and abnormal reboot. A white paper or official website proof materials is required.	
		Bandwidth management port (GE)	
		Supports the black box function.	
		Last-screen information	
		Touch-screen LCD	
17	Security	<ul style="list-style-type: none"> • Power-on password • Administrator password • Trusted Platform Module (TPM) • Front bezel 	
18	Installation service	Provide hardware installation service	
19	Compatibility	Supports mainstream operation system: <ul style="list-style-type: none"> • Microsoft Windows Server • Red Hat Enterprise Linux • SUSE Linux Enterprise Server • CentOS • Citrix XenServer • VMware ESXi 	
20	Design and Implementation Scope	Respective OEM to also ensure that the final deployment is done basis the OEM specified and validated design standards and best practices Bidder should submit BOQ of proposed device including the details part numbers and manufacturer's warranty part number Bidder should submit the required performance document and compliance reference document for the proposed device.	
21	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
22	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis. Tender Package No: 9

10. Specifications of Rack Server for MDMS Node

(To be filled up and signed by the Manufacturer & Tenderer, otherwise the offer will not be acceptable)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Any internationally reputed brand to be mentioned by the bidder	
2	Model	To be mentioned by the bidder	
3	Country of origin	To be mentioned by the bidder	
4	Form factor	2U rack server	
5	CPU	Provide 2 x Intel Xeon Gold 5220(2.2GHz/18-Core/24.75MB/125W) Processor with heat sink	
6	PCIe	The server supports minimum 10 PCIe Slots	
7	Memory	Provide minimum 8 x 32GB,DDR4 RDIMM Memory, 2666MT/s,2Rank(2G*4bit),1.2V,ECC Support minimum number of DIMMs: 24	
8	Storage	Provide minimum 5 x 480GB Mixed used SSD Provide RAID controller card supports RAID 0, 1, 5, 6, 10, 50 and 60 with super capacitance. Cache capacity should be minimum 2 GB	
9	Internal storage	Support Two M.2 SATA SSD	
10	Port	Provide minimum 2 x 1Gb Electrical Interface Provide minimum 4 x10GE Optical Interface(with 4x Multi-mode Optical Transceiver) Provide minimum 1x Dual Port 16Gb FC HBA Card (with 2x Multi-mode Optical Transceiver)	
11	Certification	CE, UL, FCC, CCC, and RoHS	
12	Integrated video card	Integrated video card for standard configuration 32 MB display memory with the resolution 1920 x 1200	
13	PSU	Redundant hot-swappable PSUs in full configuration Power cables provided with the server. Provide minimum 900W Enhanced Platinum AC Power Module	
14	Fan module	Redundant fan modules in full configuration, allowing one-fan failures	
15	Operating temperature	Long-term operating temperature: 5°C to 45°C (41°F to 113°F)	
16	Manageability	Manageability and maintainability: 1. Supports integrated system management: - Automatically restarts servers - Monitors and controls fan modules, power supplies, and temperature - Starts and shuts down servers - Restarts servers in sequence - Updates local firmware - Records error logs	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		- Provides a visualization tool	
		2. Provides GUIs for management and other advanced management functions.	
		3. Provides independent remote management and control ports and GUIs for remote monitoring to implement remote full control over servers independent of OSs. Remote full control includes remote startup, shutdown, and reset, and virtual floppy and DVD-ROM drives.	
		The bidding product supports out-of-band fault detection, does not rely on the OS, and can detect and generate pre warnings against hardware faults such as CPU, I2C and IPMB bus, memory, PCIe device, and hard drive faults; and can analyze and locate faults for system crash, black screen, blue screen, and abnormal reboot. A white paper or official website proof materials is required.	
		Bandwidth management port (GE)	
		Supports the black box function.	
		Last-screen information	
		Touch-screen LCD	
17	Security	<ul style="list-style-type: none"> • Power-on password • Administrator password • Trusted Platform Module (TPM) • Front bezel 	
18	Installation service	Provide hardware installation service	
19	Compatibility	Supports mainstream operation system: <ul style="list-style-type: none"> • Microsoft Windows Server • Red Hat Enterprise Linux • SUSE Linux Enterprise Server • CentOS • Citrix XenServer • VMware ESXi 	
20	Design and Implementation Scope	Respective OEM to also ensure that the final deployment is done basis the OEM specified and validated design standards and best practices Bidder should submit BOQ of proposed device including the details part numbers and manufacturer's warranty part number Bidder should submit the required performance document and compliance reference document for the proposed device.	
21	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
22	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:
Name & Designation of tenderer
Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature
Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis. Tender 9
Package No:

11. Specifications of Production storage

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Must be internationally reputed brand and recognized as Leader in Gartner's Magic Quadrant.	
2	Model	To be mentioned by the bidder	
3	Country of origin	To be mentioned by the bidder	
4	Manufacturing Country	To be mentioned by the bidder	
5	Node Type	Rack Mountable unified Storage	
		Provide SAN and NAS protocol from day 1	
6	System architecture	Storage should be configured with minimum two Controllers, each controller should have minimum 128GB cache.	
		Controller enclosure uses the dual controller redundancy architecture.	
		Offered Storage array should be provided with Active/Active Controllers for redundancy.	
		Must Support for hosts to access any LUN or file system using the front-end ports of any controller.	
7	Expansion	The storage system components are in 1+1 redundancy and work in active-active mode. Normally, every two components are working simultaneously and share loads. If one component fails or goes offline, the other one takes over all loads and speeds up to compensate.	
		Controller enclosure must have built in 8 x 1Gb Ethernet port, 8 x 10G Ethernet port and 4 x 12 Gb SAS port.	
8	Capacity Requirements	Supports up to 1000 disks	
		Supports scale-out to minimum 8 controllers.	
9	Front End Ports	Provide minimum 32 x 2.4TB 10K RPM SAS Disk	
		Provide minimum 10 x 3.84TB SSD SAS Disk Unit	
10	Minimum number of hotswappable I/O interface modules per controller	3	
11	Storage Controller	Offered Storage Array shall be given with minimum of 128GB cache per controller, and provide 256GB cache for the whole system. (excluding performance acceleration modules, NAS cache, FlashCache, PAM, or SSD Cache)	
12	RAID	Offered storage system shall support RAID 1, RAID 3, RAID 10, RAID 50, RAID 5 and RAID 6.	
13	Security	Must provide LUN data destruction feature	
14	Cache acceleration	Provide the function to use a small number of SSDs to expand shared cache with full capacity software license. Hotspot data are automatically identified and migrated to the SSDs, accelerating services running on storage systems, so that can improving performance several times.	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
15	QoS	Provide intelligent quality of service function with full capacity software license based on volumes or ports that uses traffic control to ensure core service quality and allocates resources for top-priority services.	
16	Tier automatic migration	The storage system should provide auto tiering function with full capacity software license. It can provide three tiering with SSD, SAS and NL-SAS. The graphic automatic tiering policy adjustment tool is provided to adjust time and tiering method of data tiering and to improve utilization efficiency of storage resources.	
17	Cache Data Backup in Power Failure	In case of power failure, system should ensure that there is no loss of data and battery backup for cache should be provided. Also the data should be de-staged to internal flash or disk drives for higher protection of data	
18	Snapshots	Should be provided with point in time snapshots function with full capacity software license.	
19	Clone	Should be provided with clone feature with full capacity software license that data is synchronized from the primary LUN (logical unit number) to the secondary LUN by default, and can be recover the latest data once the primary LUN fault. All software license required should be ready from day one.	
20	Reliability	Provides redundant power modules, fan modules, controllers, and caches under the power failure protection. It should support hot plugging and hot swapping of critical components with minimal disruption.	
21	Replication	Provide remote replication function with full capacity software license, provides Fibre Channel- and IP-based replication, and offers a GUI-based management page to allow users to customize intervals for remote, asynchronous data transfer (the interval must not be longer than 5 seconds).	
22	Compatibility	It should support all industry leading operating systems including Windows 2003, 2008, 2012 server, Sun Solaris, IBM AIX, HP-UX, VMware, Citrix Xen, Hyper-V, Oracle Linux, Redhat, SUSE, Apple Mac OS.	
23	Manageability	Provide standard storage device management software via GUI/Web-based and CLI (Include volume management, resource allocation, host access control, data security etc.)	
24	Online upgrade	Supports the online upgrade function that automatically upgrades the version without any manual intervention after the upgrade package is manually imported.	
25	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
26	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9
Package No:

12. Specifications of Backup Storage

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Must be internationally reputed brand	
2	Country of Origin	To be mentioned by the bidder	
3	Country of Manufacture	To be mentioned by the bidder	
4	Brand Name	To be mentioned by the bidder	
5	Model	To be mentioned by the bidder	
6	Backup system function	Backup and recovery system must support scheduled backup protection, continuous data protection, copy data management, and remote disaster recovery.	
7	System architecture	Software and hardware integrated architecture, which incorporates backup management software, backup server, and backup storage. No independent backup server or external backup storage is required.	
8	Backup software authorization	The backup software is loaded with 45TB back-end capacity license	
9	CPU	Minimum 2 x 2.3Ghz CPU	
10	Memory	Minimum 256GB	
11	Primary Storage Media	12 x 8TB, SATA 6Gb/s, 7.2K rpm	
12	System Disk	Two enterprise-grade HDDs or SSDs with 10,000 or higher RPM are configured as independent system disks. RAID is used for mirror and redundancy protection. The capacity of a single disk is ≥ 480 GB.	
13	Network Interface	Minimum 4 x 1GE and 4 x 10GE	
14	Database and application protection	Supports online backup protection for databases such as Oracle, SQL Server, DB2, MySQL, SAP HANA, and Gbase. The backup task configuration process is graphical and no script needs to be compiled.	
		Supports online backup protection for databases such as Informix, GaussDB, Dameng, Kingbase, and Shentong.	
15	File system backup	Supports backup and restoration of file systems running on Windows, Red Hat, SUSE, CentOS, Ubuntu, AIX, Solaris, HPUX, Red Flag, NeoKylin, and Kylin.	
16	Operating system backup	Supports online backup and bare metal restore for Windows and Linux OSs.	
17	Volume-level backup	Supports volume-level backup of file systems on Windows and Linux platforms. Data is backed up by volume, improving backup efficiency of massive amounts of small files.	
18	Virtualization backup	Supports VM backup of mainstream virtualization systems, such as VMware, Hyper-V, XenServer, FusionCompute, and CAS. No agent needs to be installed on VMs that need to be backed up.	
		Supports automatic VM discovery. It automatically adds new VMs in resource pools or clusters to backup jobs and protects the VMs according to existing protection policies. No manual intervention is required.	

Standard Tender Document

19	Cloud platform backup	Supports agent-free backup of cloud hosts on the OpenStack cloud platform in version K/L/M/N/O/P. Supports automatic discovery and backup of cloud hosts.	
20	Data backup of the big data platform	Supports multi-node, parallel backup of the Hadoop Distributed File System (HDFS). The principle description and function snapshots of the parallel backup are provided.	
21	Backup of mail systems	Supports the backup of the Exchange mail system.	
22	Data deduplication	Supports source-based deduplication, dynamic variable-length deduplication, and global deduplication.	
23	Data security	Supports encrypted transmission and storage of backup data using the AES256 encryption algorithm.	
24	Permanent incremental backup	Supports permanent incremental backup. Full backup is performed for all data during the initial backup, and incremental backup is performed for only the newly added or modified data after the initial backup. Data copies of each incremental backup are automatically combined into a full copy.	
25	Bandwidth limit	Supports local backup traffic control.	
26	Remote replication	The local backup data of the backup appliance can be remotely replicated to the remote backup appliance. Data can be restored through the remote backup appliance.	
		Supports multiple remote replication modes, such as one-to-one, one-to-many, many-to-one, and cascaded replication; post-deduplication replication also applies.	
27	Continuous backup	Supports continuous data backup of Windows and Linux volumes, I/O-level backup, and restoration to any point in time.	
28	Continuous replication	Supports DR for Windows volumes, Linux volumes, and Oracle databases. It replicates production data to the DR site in real time or periodically to implement quick DR.	
29	User management	Supports user and permission management, including separating administrator permissions from operation user permissions, along with allocating different resources, policies, and backup management permissions to different operation users.	
30	Unified management	A backup and recovery system, which supports scheduled backup, continuous backup, continuous replication, and copy data management, achieving unified management.	
		Supports centralized monitoring and management of data backup. It manages backup tasks, backup resources, and alarms on a single GUI.	
31	Reliability	The all-in-one backup appliance supports automatic backup. The automatic backup dataset can be used to restore historical configuration information, ensuring the restorability of backup data.	
32	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty should be provide for this unit from the date of commissioning	
33	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020
 Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center Tender 9
 for Smart Pre-Payment Metering System with Package No:
 related services on Turn-key Basis.

13. Specifications for SAN Switch

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Any reputed brand	
2	Model	To be mentioned.	
3	Country of Origin	To be mentioned.	
4	Country of Manufacturing	To be mentioned.	
5	Quantity	04 Pcs (DC-2, DR-2)	
6	Form Factor	Please specify rack unit.	
7	Number of ports	Each switch should be configured with 24 ports active at 16Gb/sec	
8	Auto-sensing	Auto-sensing of 4, 8, 16, 32 Gbps port speeds	
9	Port Type	The switch shall support different port types such as D_Port, E_Port, EX_Port, F_Port, AE_port etc	
10	Aggregate bandwidth	2Tb/s	
11	Maximum fabric latency	Latency for locally switched ports is 900 ns (including FEC)	
12	Frame buffers	15,360 dynamically allocated	
13	Security Features	Please specify	
14	Manageability	Web Tools required; Please specify if others	
15	Peripherals and Accessories	All required peripherals and accessories.	
16	Port Activation	Minimum 24 ports should be activated from day one.	
17	FC Cable	24 x 5m LC-LC Multi-mode OM4 Fiber Cable	
18	Short wave kit	24 x 16 Gbps (min) short wave transceivers	
19	Power Supply	Dual hot-swappable redundant power supplies	
20	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3 (Three) years warranty should be provided for this unit from the date of commissioning	
		Warranty support SKU and datasheet with the detail BoQ should be provided with the technical compliance document.	
21	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature: _____ Signature _____
 Name & Designation of tenderer _____ Name and Designation of Manufacturer _____
 Duly authorised to sign the Tender for and on behalf of the Tenderer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9
Package No:

14. Specifications for WAN Switch

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Internationally reputed Brand	
2	Model	To be mentioned by the bidder	
3	Country of Origin	To be mentioned by bidder	
4	Country of Manufacturer	To be mentioned by bidder	
5	3 rd Party Certification & Compliance	The OEM of the Proposed brand must be in the latest Gartner Magic Quadrant for Wired and Wireless LAN Infrastructure.	
6	Enclosure Type	Rack mountable , 1U	
7	Hardware Architecture	Must have minimum 24x10GE SFP+ ports & 6x40G/100G ports from day one	
		Bidder must supply 05 x 10G multi-mode SFP+ (0.3km,LC) module, 05 x 1G multi-mode SFP+ (0.55km,LC) module, 05 x 1G single-mode SFP+ (10km,LC) module, 05 x 1G Copper module and One (01) 40G QSFP+ direct-attach cables (3meter) with necessary cable from day one. The entire module must be OEM original.	
		Must have dual pluggable power supplies (1+1 Backup) and four Fans from day one.	
		The proposed equipment must support switching capacity of minimum 1.6 Tbps and chip's switching capability minimum 2.3Tbps from day one.	
8	Switch features	Support minimum 384K MAC address entries	
		Support IEEE 802.1d standards compliance	
		Support MAC address learning and aging	
		Support Static, dynamic, and blackhole MAC address entries	
		Support Packet filtering based on source MAC addresses	
		Support 4K VLANs	
		Support Guest VLANs and voice VLANs	
		Support GVRP	
		Support MUX VLAN or similar	
		Support VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports	
		Support VLAN mapping	
		Support Static ARP	
		Support Dynamic ARP	
		Support Static routes, RIP v1/2, RIPng, OSPF, OSPFv3, IS-IS, IS-ISv6, BGP, BGP4+, ECMP, routing policy	
		Support minimum 256K FIBv4 entries	
Support minimum 80K FIBv6 entries			
Support RRPP ring topology and RRPP multi-instance			

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		Support Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover	
		Support BFD for OSPF, BFD for IS-IS, BFD for VRRP, and BFD for PIM	
		Support STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)	
		Support BPDU protection, root protection, and loop protection	
		Support MPLS L3VPN	
		Support MPLS L2VPN (VPWS/VPLS)	
		Support MPLS-TE	
		Support MPLS QoS	
		Support IPv6 Ping, IPv6 Tracert, IPv6 Telnet	
		Support ACLs based on source IPv6 addresses, destination IPv6 addresses, Layer 4 ports, or protocol types	
		Support Multicast Listener Discovery snooping (MLDv1/v2)	
		Support IPv6 addresses configured for sub-interfaces, VRRP6, DHCPv6, and L3VPN	
		Support IGMP v1/v2/v3 snooping and IGMP fast leave	
		Support Multicast forwarding in a VLAN and multicast replication between VLANs	
		Support Multicast load balancing among member ports of a trunk	
		Support Controllable multicast	
		Support Port-based multicast traffic statistics	
		Support IGMP v1/v2/v3, PIM-SM, PIM-DM, and PIM-SSM	
		Propose switch should support integrated WLAN AC function	
		Propose switch should manage minimum 1K Aps	
		Support AP access control, AP domain management, and AP configuration template management	
		Support Radio management, unified static configuration, and dynamic centralized management	
		Support WLAN basic services, QoS, security, and user management	
		Support CAPWAP, tag/terminal location, and spectrum analysis	
9	QoS & Security features	Support Rate limiting in the inbound and outbound directions of a port	
		Support Packet redirection	
		Support Port-based traffic policing and two-rate three-color CAR	
		Support Eight queues on each port	
		Support DRR, SP, and DRR+SP queue scheduling algorithms	
		Support Re-marking of the 802.1p and DSCP fields of packets	
		Support Queue-based rate limiting and shaping on ports	
		Support Packet filtering at Layer 2 to Layer 4	
		Support Hierarchical user management and password protection	
		Support DoS attack defense, ARP attack defense, and ICMP attack defense	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		Support Binding of the IP address, MAC address, port number, and VLAN ID	
		Support Port isolation, port security, and sticky MAC	
		Support MAC Forced Forwarding (MFF)	
		Support Blackhole MAC address entries	
		Support Limit on the number of learned MAC addresses	
		Support IEEE 802.1X authentication and limit on the number of users on a port	
		Support AAA authentication, RADIUS authentication, and HWTACACS or similar authentication	
		Support CPU protection	
		Support Blacklist and whitelist	
		Support Attack source tracing and punishment for IPv6 packets such as ND, DHCPv6, and MLD packets	
		Support IPSec for management packet encryption	
10	VXLAN	The equipment shall support VXLAN L2 and L3 gateways	
		The equipment shall support BGP-EVPN	
		The equipment should allow centralized and distributed VXLAN gateway deployment modes	
		The equipment shall support Configured through the NETCONF/YANG	
11	Management and Maintenance	Should support both cloud management and on-premise management modes	
		Support Virtual cable test	
		Support SNMP v1/v2c/v3	
		Support RMON	
		Support Web-based NMS	
		Support System logs and alarms of different severities	
		Support GVRP	
		Support MUX VLAN or similar	
		Support NetStream	
		Support Telemetry	
12	Service, Support & Warranty	Customer should able to directly open TAC cases through Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided	
		Mentioning Manufacturer's warranty should be quoted, minimum 03 (Three) years warranty should be provided for this unit from the date of successful commissioning.	
		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units	
		Bidder must have to provide Manufacturer Authorization Letter	
13	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis. Tender Package No: 9

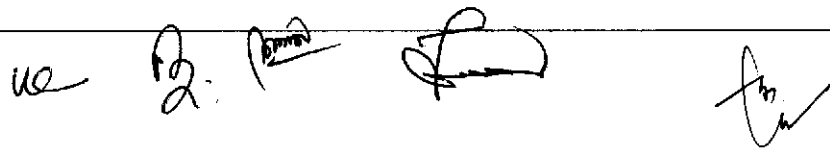
15. Specifications for Core Router

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Internationally reputed Brand	
2	Model	To be mentioned by the bidder	
3	Country of Origin	To be mentioned by bidder	
4	Country of Manufacturer	To be mentioned by bidder	
5	Enclosure Type	Rack mountable Modular Chassis, 1U	
6	Architecture	Propose Router must have Dual-AC Built-in power supply from day one.	
		Propose Router must have CF card Min 2048 Mbyte	
		Support SDRAM minimum 4096 MByte& Flash Memory minimum 64 Mbyte	
		Support future network-oriented SDN architecture and smooth SDN evolution	
7	Performance	Propose Router must support Switching capacity (IPv4/IPv6) minimum 270 Gbps from day one.	
		Propose Router must support minimum 135Gbps upstream, 135Gbps downstream from day one.	
		Support System reliability min 0.99999	
8	Interfaces	Propose Router must have 12*10GE SFP+, 8*GE/FE SFP, 8*GE/FE RJ45 port from day one.	
		The bidder must provide Five (05) SFP, Optical Transceiver, GE, Single-mode Module(10km, LC), and Five (05) SFP+, 10G, Multi-mode Module(0.3km, LC). Bidder must provide necessary patch cord from day one. All the SFP should be same OEM original SFP Module.	
9	Operation and maintenance	Support plug and play and batch delivery of user configurations	
		Support one-click service deployment and troubleshooting	
		Low power, green energy, low carbon and environmental protection.	
10	Service performance	Boot time with normal configuration 6 minutes	
		Boot time with default configuration 4 minutes	
		Must have Capability of receiving packets on the management interface of the control board min 3000 pps	
		Support Forwarding delay less than 30 us	
11	Service Interface	Minimum number of Ethernet sub-interfaces 16000	
		Minimum number of Ethernet sub-interfaces per port 4096	
		Minimum number of Eth-Trunk interfaces Device: 16 trunk interface	
		Minimum number of Eth-Trunk sub-interfaces 16000	
		Minimum number of LACP aggregation link members 8	

Standard Tender Document

Sl. No	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
12	IP routing	IPv4 route learning speed Minimum 4K/s	
		IPv6 route learning speed Minimum 3K/s	
		Route convergence speed Minimum 10K/s	
		Static IPv4 route count Minimum 10K	
		Static IPv6 route count Minimum 4K	
		IPv4 multicast route count Minimum 4K	
		Minimum BGP route count 512K	
		Minimum OSPF route count 512K	
		Minimum RIP route count 64K	
13	FIB	IPv4 FIB Minimum 512K	
		IPv4 VPN FIB Minimum 512K	
		IPv6 FIB Minimum 32K	
		IPv6 VPN FIB Minimum 32K	
		IPv4/IPv6 hybrid FIB Minimum 512K/32K	
		IPv4 multicast forwarding entry count Minimum 4K	
		Multicast outbound interface count minimum 16K	
14	MPLS	Minimum number of LDP peers 2K	
		Minimum number of LDP sessions 4K	
		Support Label layers 5	
		Minimum number of LDP LSPs (of various types) 32K	
		Minimum number of non-host route LDP LSPs (with outbound interfaces set to physical interfaces and physical sub-interfaces) 32K	
		Minimum number of non-host route LDP LSPs (with outbound interfaces set to logical interfaces, such as trunk and VLANIF interfaces) 32K	
		Minimum number of LSPs established using host routes with 32-bit masks 32K	
		MPLS FRR switching time maximum 50 ms	
15	Layer 2	BGP LSP next-hop route fast refresh maximum 800 ms	
		Minimum number of static MAC entries per device 1K	
		Minimum MAC entry learning speed 32K/s	
		Minimum number of VLANs 4K	
		Minimum number of VPLS VSIs 4K	
16	QOS	Minimum number of Layer 2 multicast forwarding entries 2K	
		Minimum number of ACL4 rules applying to each board 2K	
		Minimum number of queues (bidirectional) 1K	
		Minimum Queue buffering 32000KB	
		Minimum number of traffic classification rules 2K	
17	Service, Support & Warranty	Minimum number of traffic behaviors on a device 1K	
		Customer should be able to directly open TAC cases through Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided	
		The bidder must quote minimum 3 (Three) year manufacturer's warranty including Hardware repair & return service and 24x7 Remote Technical support. The warranty services will start from the date of successful commissioning.	
		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units	
		Bidder must have to provide Manufacturer Authorization Letter	



Standard Tender Document

Sl. No	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
18	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9

Package No:


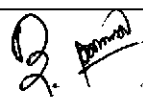
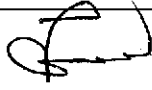
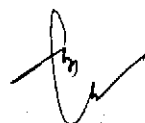
16. Specifications for Core Firewall

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Internationally reputed Brand	
2	Model	To be mentioned by the bidder	
3	Country of Origin	To be mentioned by bidder	
4	Country of Manufacturer	To be mentioned by bidder	
5	Certification	The OEM of the Proposed brand must be in challenger or Leader quadrant in the latest Gartner Magic Quadrant for Network Firewall and provide the related documents.	
6	Enclosure Type	Rack Mountable, 1U	
7	Hardware architecture	The equipment must have redundant AC power supplies from day one	
		The equipment should not be any ASIC base architecture	
		The equipment must have 240 GB SSD local storage from day one and upgrade to 1000GB for future.	
8	Interface requirements	The equipment must have 12 x 10GE (SFP+) + 02 x 40GE (QSFP+) + 16 x GE (RJ45) interface and equipped with Ten (10) SFP+, 10G, Multi-mode Module(0.3km, LC) from day one.	
		Bidder must provide necessary patch cord from day one. All the SFP should be same OEM.	
9	Configuration requirements	The equipment must support minimum concurrent SSL VPN users 5000 and provide 100 users from day one.	
		Support minimum 4k VLANS & minimum 1k VLANIF Interfaces	
		Must support Virtual firewalls minimum 1K	
10	Performance requirements	Support Firewall Throughput (1518-byte) minimum 39 Gbps from day one	
		Must support Number of concurrent Sessions (HTTP) Minimum 12,000,000	
		Must support Number of new Sessions (HTTP) per second minimum 400,000	

Standard Tender Document

Sl. No	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		Must support IPSec VPN throughput (AES-256+SHA256) minimum 29Gbps	
		Must support SSL Inspection Throughput minimum 5.5 Gbit/s	
		Support FW + SA + IPS + Antivirus Throughput minimum 13 Gbit/s	
		Firewall Latency (64-byte) 15 μ s	
		Support Security Policies minimum 40,000	
11	Integrated protection	Supports Integrates firewall, VPN, intrusion prevention, antivirus, data leak prevention	
		Supports Bandwidth management, anti-DDoS, URL filtering, and anti-spam functions	
		Support Interworks with the local or cloud sandbox to effectively detect unknown threats and prevent zero-day attacks	
		provides a global configuration view; manages policies in a unified manner	
12	Routing	Supports multiple types of routing protocols and features, such as RIP, OSPF, BGP	
		Must Supports IS-IS, RIPng, OSPFv3, BGP4+, and IPv6 IS-IS.	
		Supports service-specific PBR and intelligent uplink selection based on multiple load balancing algorithms	
13	Deployment and reliability	Supports transparent, routing, and hybrid working modes	
		Supports High availability (HA), including the Active/Active and Active/Standby modes.	
14	Traffic control	Supports & Manages per-user and per-IP bandwidth in addition to identifying service applications to ensure the network access experience of key services and users.	
		Supports limiting the maximum bandwidth, ensuring the minimum bandwidth, and changing application forwarding priorities	
15	Security policy management	Manages and controls traffic based on VLAN IDs, quintuples, security zones, regions, applications, URL categories, and time ranges, and implements integrated content security detection.	
		Provides predefined common-scenario defense templates to facilitate security policy deployment.	
		Provides security policy management solutions in partnership to reduce O&M costs and potential faults.	
		Supports virtualization of multiple types of security services, including firewall, intrusion prevention, antivirus, and VPN.	
16	User authentication	Supports multiple user authentication methods, including local, RADIUS	
		Supports HWTACACS or similar, AD, and LDAP	
		Supports built-in Portal and Portal redirection functions	
17	Cloud-based management	Must Supports authentication and registration to the cloud-based management platform to implement plug-and-play and simplify network creation and deployment for future without changing the Hardware.	
		Controls enterprise cloud applications in a refined and differentiated manner to meet enterprises' requirements for cloud application management.	
		Supports remote service configuration, device monitoring, and fault management, implementing the management of mass devices in the cloud	

Standard Tender Document

Sl. No	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
18	Intrusion prevention and web protection	Supports Accurately detects and defends against vulnerability-specific attacks based on up-to-date threat information.	
		The firewall can defend against web-specific attacks, including SQL injection and XSS attacks.	
		Supports Rapidly detects over 5 million types of viruses based on the daily-updated virus signature database.	
		Supports & Provides a URL filtering database with over 120 million URLs and more than 130 URL filtering categories	
		Supports DNS filtering, in which accessed web pages are filtered based on domain names.	
		Supports Audits and traces the sources of the accessed content based on users.	
		Supports the SafeSearch function to filter resources of search engines, such as Google, to guarantee access to only healthy network resources.	
19	VPN	Supports multiple highly available VPN features, such as IPSec VPN, SSL VPN	
		Supports L2TP VPN, MPLS VPN, and GRE	
		Supports Dynamic smart VPN (DSVPN) or similar technologies	
20	SSL Function & Anti-DDoS	Detects and defends against threats in SSL-encrypted traffic using application-layer protection methods, such as intrusion prevention, antivirus, data filtering, and URL filtering.	
		Supports SSL offloading	
		Defends against more than 10 types of common DDoS attacks	
		Supports SYN flood and UDP flood attacks	
21	Third-Party and Open-Source Ecosystem	Support Open API for integration with third-party products, providing RESTful and NetConf interfaces	
		Support third-part management software based on SNMP, SSH, and Syslog	
		Support Collaboration with anti-APT solution	
22	Service, Support & Warranty	The bidder must provide minimum 3 (Three) years Threat protection service include IPS, URL, AV from day one.	
		Customer should able to directly open TAC cases through Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided	
		Mentioning Manufacturer's warranty should be quoted, minimum 03 (Three) years warranty should be provided for this unit from the date of successful commissioning.	
		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units	
		Bidder must have to provide Manufacturer Authorization Letter	
23	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

[The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Signature

Name and Designation of Manufacturer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

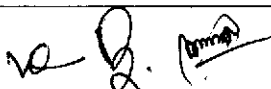
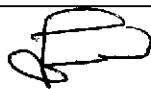
Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9
Package No:

17. Specifications for DMZ Switch

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Internationally reputed Brand	
2	Model	To be mentioned by the bidder	
3	Country of Origin	To be mentioned by bidder	
4	Country of Manufacturer	To be mentioned by bidder	
5	3 rd Party Certification & Compliance	The OEM of the Proposed brand must be in the latest Gartner Magic Quadrant for Wired and Wireless LAN Infrastructure.	
6	Enclosure Type	Rack mountable , 1U	
7	Hardware Architecture	Must have minimum 24x10GE SFP+ ports & 6x40G QSFP+ ports from day one	
		Bidder must supply 10 x 10G multi-mode SFP+ (0.3km,LC) module, 05 x 1G Copper transceivers and One (01) 40G QSFP+ direct-attach cables (3meter) with necessary cable from day one.The entire module must be OEM original.	
		Must have dual pluggable power supplies and four Fans from day one.	
		The equipment must support Forwarding performance minimum 480Mpps	
		The proposed equipment must support switching capacity of minimum 950Gbps and chip's switching capability minimum 2.3Tbps from day one.	
8	Switch features	Support IEEE 802.1d standards compliance	
		The equipment must support minimum 64K MAC address entries	
		Support MAC address learning and aging	
		Support Static, dynamic, and blackhole MAC address entries	
		Support Packet filtering based on source MAC addresses	
		Support 4K VLANs	
		Support Guest VLAN and voice VLAN	
		Support MUX VLAN or equivalent	
		Support VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports	
		The equipment shall support VLAN mapping	
		The equipment shall support RRPP ring topology and RRPP multi-instance	
The equipment shall support Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover			


Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		The equipment shall support minimum 64K FIBv4 entries and 32K FIBv6 entries	
		The equipment shall support ERPS(G.8032)	
		The equipment shall support BFD for OSPF, BFD for IS-IS, BFD for VRRP, and BFD for PIM	
		The equipment shall support IEEE 802.1d, IEEE 802.1w, and IEEE 802.1s	
		The equipment shall support BPDU protection, root protection, and loop protection	
		The equipment shall support Static routes, RIP v1/2, RIPng	
		The equipment shall support OSPF, OSPFv3, IS-IS, IS-ISv6, BGP, BGP4+	
		The equipment shall support ECMP, routing policy	
		The equipment shall support VLAN-Based Spanning Tree, working with PVST, PVST+, and RPVST	
		The equipment shall support Link-type Negotiation Protocol or similar.	
		The equipment shall support VLAN Central Management Protocol or similar.	
		The equipment shall support Neighbor Discover	
		The equipment shall support PMTU	
		The equipment shall support IPv6 Ping, IPv6 Tracert, and IPv6 Telnet	
		The equipment shall support ACLs based on source IPv6 addresses, destination IPv6 addresses, Layer 4 ports, or protocol types	
		The equipment shall support Multicast Listener Discovery snooping(MLDv1/v2)	
		The equipment shall support IPv6 addresses configured for sub-interfaces, VRRP6, DHCPv6, and L3VPN	
		The equipment shall support IGMP v1/v2/v3 snooping and IGMP fast leave	
		The equipment shall support Multicast forwarding in a VLAN and multicast replication between VLANs	
		The equipment shall support Multicast load balancing among member ports of a trunk	
		The equipment shall support Controllable multicast	
		The equipment shall support Port-based multicast traffic statistics	
		The equipment shall support IGMP v1/v2/v3, PIM-SM, PIM-DM, and PIM-SSM	
		The equipment shall support MSDP	
		The equipment shall support MVPN	
9	Security & QoS features	The equipment shall support Rate limiting in the inbound and outbound directions of a port	
		The equipment shall support Packet redirection	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		The equipment shall support Port-based traffic policing and two-rate three-color CAR	
		The equipment shall support Eight queues per port	
		The equipment shall support DRR, SP and DRR+SP queue scheduling algorithms	
		The equipment shall support WRED	
		The equipment shall support Re-marking of the 802.1p and DSCP fields of packets	
		The equipment shall support Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, and VLAN ID	
		The equipment shall support Queue-based rate limiting and shaping on ports	
		The equipment shall support Hierarchical user management and password protection	
		The equipment shall support DoS attack defense, ARP attack defense, and ICMP attack defense	
		The equipment shall support Binding of the IP address, MAC address, port number, and VLAN ID	
		The equipment shall support Port isolation, port security, and sticky MAC	
		The equipment shall support MAC Forced Forwarding	
		The equipment shall support Blackhole MAC address entries	
		The equipment shall support Limit on the number of learned MAC addresses	
		The equipment shall support IEEE 802.1x authentication and limit on the number of users on a port	
		The equipment shall support AAA authentication, RADIUS authentication, and TACACS or similar authentication	
		The equipment shall support NAC	
		The equipment shall support SSH V2.0	
		The equipment shall support HTTPS	
		The equipment shall support CPU protection	
		The equipment shall support Blacklist and whitelist	
		The equipment shall support Attack source tracing and punishment for IPv6 packets such as ND, DHCPv6, and MLD packets	
		The equipment shall support IPSec for management packet encryption	
10	Reliability	The equipment shall support LACP	
		The equipment shall support E-trunk	
		The equipment shall support Ethernet OAM(IEEE 802.3ah and IEEE 802.1ag)	
		The equipment shall support ITU-Y.1731	
		The equipment shall support DLDP	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		The equipment shall support LLDP	
		The equipment shall support BFD for BGP, BFD for IS-IS, BFD for OSPF, BFD for static route	
11	VXLAN	The equipment shall support VXLAN L2 and L3 gateways	
		The equipment shall support BGP-EVPN	
		The equipment shall support centralized and distributed VXLAN gateway deployment modes	
		The equipment shall support Configured through the NETCONF protocol	
12	Management and Maintenance	The equipment shall support iStack	
		Should support both cloud management and on-premise management modes	
		The equipment shall support Virtual cable test	
		The equipment shall support SNMP v1/v2c/v3	
		The equipment shall support RMON	
		The equipment shall support Web-based NMS	
		The equipment shall support System logs and alarms of different severities	
		The equipment shall support GVRP	
		The equipment shall support MUX VLAN or equivalent	
		The equipment shall support NetStream	
		The equipment shall support Telemetry	
13	Service, Support & Warranty	Customer should be able to directly open TAC cases through Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided	
		Mentioning Manufacturer's warranty should be quoted, minimum 03 (Three) years warranty should be provided for this unit from the date of successful commissioning.	
		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units	
		Bidder must have to provide Manufacturer Authorization Letter	
14	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

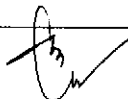
Signature

Name and Designation of Manufacturer

Duly authorised to sign the Tender for and on behalf of the Tenderer







Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9
Package No:

18. Specifications for Core Switch

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Internationally reputed Brand	
2	Model	To be mentioned by the bidder	
3	Country of Origin	To be mentioned by bidder	
4	Country of Manufacturer	To be mentioned by bidder	
5	3 rd Party Certification & Compliance	The OEM of the Proposed brand must be in the latest Gartner Magic Quadrant for Wired and Wireless LAN Infrastructure.	
6	Enclosure Type	Rack mountable , 1U	
7	Hardware Architecture	Must have minimum 48x10GE SFP+ ports & 6x40G/100G ports from day one	
		Bidder must supply 16 x 10G multi-mode SFP+ (0.3km,LC) module and One (01) 40G QSFP+ direct-attach cables (3meter) with necessary cable from day one.The entire module must be OEM original.	
		Must have dual pluggable power supplies (1+1 Backup) and four Fans from day one.	
		The proposed equipment must support switching capacity of minimum 2.15 Tbps and chip's switching capability minimum 2.3Tbps from day one.	
8	Switch features	Support minimum 384K MAC address entries	
		Support IEEE 802.1d standards compliance	
		Support MAC address learning and aging	
		Support Static, dynamic, and blackhole MAC address entries	
		Support Packet filtering based on source MAC addresses	
		Support 4K VLANs	
		Support Guest VLANs and voice VLANs	
		Support GVRP	
		Support MUX VLAN or similar	
		Support VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports	
		Support VLAN mapping	
		Support Static ARP	
		Support Dynamic ARP	
		Support Static routes, RIP v1/2, RIPng, OSPF, OSPFv3, IS-IS, IS-ISv6, BGP, BGP4+, ECMP, routing policy	
		Support minimum 256K FIBv4 entries	
Support minimum 80K FIBv6 entries			
Support RRPP ring topology and RRPP multi-instance			
Support Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover			
Support BFD for OSPF, BFD for IS-IS, BFD for VRRP, and BFD for PIM			

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		Support STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)	
		Support BPDU protection, root protection, and loop protection	
		Support MPLS L3VPN	
		Support MPLS L2VPN (VPWS/VPLS)	
		Support MPLS-TE	
		Support MPLS QoS	
		Support IPv6 Ping, IPv6 Tracert, IPv6 Telnet	
		Support ACLs based on source IPv6 addresses, destination IPv6 addresses, Layer 4 ports, or protocol types	
		Support Multicast Listener Discovery snooping (MLDv1/v2)	
		Support IPv6 addresses configured for sub-interfaces, VRRP6, DHCPv6, and L3VPN	
		Support IGMP v1/v2/v3 snooping and IGMP fast leave	
		Support Multicast forwarding in a VLAN and multicast replication between VLANs	
		Support Multicast load balancing among member ports of a trunk	
		Support Controllable multicast	
		Support Port-based multicast traffic statistics	
		Support IGMP v1/v2/v3, PIM-SM, PIM-DM, and PIM-SSM	
		Propose switch should support integrated WLAN AC function	
		Propose switch should manage minimum 1K Aps	
		Support AP access control, AP domain management, and AP configuration template management	
		Support Radio management, unified static configuration, and dynamic centralized management	
		Support WLAN basic services, QoS, security, and user management	
Support CAPWAP, tag/terminal location, and spectrum analysis			
9	QoS & Security features	Support Rate limiting in the inbound and outbound directions of a port	
		Support Packet redirection	
		Support Port-based traffic policing and two-rate three-color CAR	
		Support Eight queues on each port	
		Support DRR, SP, and DRR+SP queue scheduling algorithms	
		Support Re-marking of the 802.1p and DSCP fields of packets	
		Support Queue-based rate limiting and shaping on ports	
		Support Packet filtering at Layer 2 to Layer 4	
		Support Hierarchical user management and password protection	
		Support DoS attack defense, ARP attack defense, and ICMP attack defense	
		Support Binding of the IP address, MAC address, port number, and VLAN ID	
Support Port isolation, port security, and sticky MAC			

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		Support MAC Forced Forwarding (MFF)	
		Support Blackhole MAC address entries	
		Support Limit on the number of learned MAC addresses	
		Support IEEE 802.1X authentication and limit on the number of users on a port	
		Support AAA authentication, RADIUS authentication, and HWTACACS or similar authentication	
		Support CPU protection	
		Support Blacklist and whitelist	
		Support Attack source tracing and punishment for IPv6 packets such as ND, DHCPv6, and MLD packets	
		Support IPsec for management packet encryption	
10	VXLAN	The equipment shall support VXLAN L2 and L3 gateways	
		The equipment shall support BGP-EVPN	
		The equipment should allow centralized and distributed VXLAN gateway deployment modes	
		The equipment shall support Configured through the NETCONF/YANG	
11	Management and Maintenance	Should support both cloud management and on-premise management modes	
		Support Virtual cable test	
		Support SNMP v1/v2c/v3	
		Support RMON	
		Support Web-based NMS	
		Support System logs and alarms of different severities	
		Support GVRP	
		Support MUX VLAN or similar	
		Support NetStream	
		Support Telemetry	
12	Service, Support & Warranty	Customer should able to directly open TAC cases through Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided	
		Mentioning Manufacturer's warranty should be quoted, minimum 03 (Three) years warranty should be provided for this unit from the date of successful commissioning.	
		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units	
		Bidder must have to provide Manufacturer Authorization Letter	
13	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020

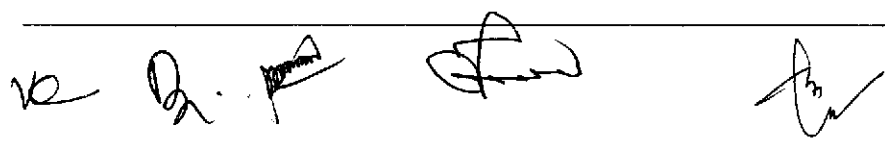
Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis. Tender 9 Package No:

19. Specifications for Server Farm Switch

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Internationally reputed Brand	
2	Model	To be mentioned by the bidder	
3	Country of Origin	To be mentioned by bidder	
4	Country of Manufacturer	To be mentioned by bidder	
5	3rd Party Certification & Compliance	The OEM of the Proposed brand must be in the latest Gartner Magic Quadrant for Wired and Wireless LAN Infrastructure.	
6	Enclosure Type	Rack mountable , 1U	
7	Hardware Architecture	Must have minimum 48x10GE SFP+ ports & 6x40G/100G ports from day one	
		Bidder must supply 04 x 10G multi-mode SFP+ (0.3km,LC) module, 40 x 10G multi-mode SFP+ (0.1km,LC) module and One (01) 40G QSFP+ direct-attach cables (3meter) with necessary cable from day one.The entire module must be same OEM original.	
		Must have dual pluggable power supplies (1+1 Backup) and four Fans from day one.	
		The proposed equipment must support switching capacity of minimum 2.15 Tbps and chip's switching capability minimum 2.3Tbps from day one.	
8	Switch features	Support minimum 384K MAC address entries	
		Support IEEE 802.1d standards compliance	
		Support MAC address learning and aging	
		Support Static, dynamic, and blackhole MAC address entries	
		Support Packet filtering based on source MAC addresses	
		Support 4K VLANs	
		Support Guest VLANs and voice VLANs	
		Support GVRP	
		Support MUX VLAN or similar	
		Support VLAN assignment based on MAC addresses, protocols, IP subnets, policies, and ports	
		Support VLAN mapping	
		Support Static ARP	
		Support Dynamic ARP	
		Support Static routes, RIP v1/2, RIPng, OSPF, OSPFv3, IS-IS, IS-ISv6, BGP, BGP4+, ECMP, routing policy	
Support minimum 256K FIBv4 entries			
Support minimum 80K FIBv6 entries			
Support RRPP ring topology and RRPP multi-instance			

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		Support Smart Link tree topology and Smart Link multi-instance, providing millisecond-level protection switchover	
		Support BFD for OSPF, BFD for IS-IS, BFD for VRRP, and BFD for PIM	
		Support STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)	
		Support BPDU protection, root protection, and loop protection	
		Support MPLS L3VPN	
		Support MPLS L2VPN (VPWS/VPLS)	
		Support MPLS-TE	
		Support MPLS QoS	
		Support IPv6 Ping, IPv6 Tracert, IPv6 Telnet	
		Support ACLs based on source IPv6 addresses, destination IPv6 addresses, Layer 4 ports, or protocol types	
		Support Multicast Listener Discovery snooping (MLDv1/v2)	
		Support IPv6 addresses configured for sub-interfaces, VRRP6, DHCPv6, and L3VPN	
		Support IGMP v1/v2/v3 snooping and IGMP fast leave	
		Support Multicast forwarding in a VLAN and multicast replication between VLANs	
		Support Multicast load balancing among member ports of a trunk	
		Support Controllable multicast	
		Support Port-based multicast traffic statistics	
		Support IGMP v1/v2/v3, PIM-SM, PIM-DM, and PIM-SSM	
		Propose switch should support integrated WLAN AC function	
		Propose switch should manage minimum 1K Aps	
		Support AP access control, AP domain management, and AP configuration template management	
		Support Radio management, unified static configuration, and dynamic centralized management	
		Support WLAN basic services, QoS, security, and user management	
		Support CAPWAP, tag/terminal location, and spectrum analysis	
9	QoS & Security features	Support Rate limiting in the inbound and outbound directions of a port Support Packet redirection Support Port-based traffic policing and two-rate three-color CAR Support Eight queues on each port Support DRR, SP, and DRR+SP queue scheduling algorithms Support Re-marking of the 802.1p and DSCP fields of packets Support Queue-based rate limiting and shaping on ports Support Packet filtering at Layer 2 to Layer 4 Support Hierarchical user management and password protection	



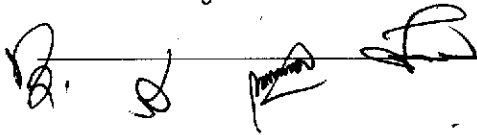
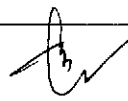
Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		Support DoS attack defense, ARP attack defense, and ICMP attack defense	
		Support Binding of the IP address, MAC address, port number, and VLAN ID	
		Support Port isolation, port security, and sticky MAC	
		Support MAC Forced Forwarding (MFF)	
		Support Blackhole MAC address entries	
		Support Limit on the number of learned MAC addresses	
		Support IEEE 802.1X authentication and limit on the number of users on a port	
		Support AAA authentication, RADIUS authentication, and HWTACACS or similar authentication	
		Support CPU protection	
		Support Blacklist and whitelist	
		Support Attack source tracing and punishment for IPv6 packets such as ND, DHCPv6, and MLD packets	
		Support IPSec for management packet encryption	
10	VXLAN	The equipment shall support VXLAN L2 and L3 gateways	
		The equipment shall support BGP-EVPN	
		The equipment should allow centralized and distributed VXLAN gateway deployment modes	
		The equipment shall support Configured through the NETCONF/YANG	
11	Management and Maintenance	Should support both cloud management and on-premise management modes	
		Support Virtual cable test	
		Support SNMP v1/v2c/v3	
		Support RMON	
		Support Web-based NMS	
		Support System logs and alarms of different severities	
		Support GVRP	
		Support MUX VLAN or similar	
		Support NetStream	
		Support Telemetry	
12	Service, Support & Warranty	Customer should able to directly open TAC cases through Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided	
		Mentioning Manufacturer's warranty should be quoted, minimum 03 (Three) years warranty should be provided for this unit from the date of successful commissioning.	
		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units	
		Bidder must have to provide Manufacturer Authorization Letter	
13	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

The Tenderer should complete all the columns as required]

Signature:
Name & Designation of tenderer

Signature
Name and Designation of Manufacturer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9
Package No:

20. Specifications for Server Management Switch

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Internationally reputed Brand	
2	Model	To be mentioned by the bidder	
3	Country of Origin	To be mentioned by bidder	
4	Country of Manufacturer	To be mentioned by bidder	
5	3 rd Party Certification & Compliance	The OEM of the Proposed brand must be in the latest Gartner Magic Quadrant for Wired and Wireless LAN Infrastructure.	
6	Enclosure Type	Rack mountable, 1U	
7	Hardware architecture	The equipment must have 48 X 10/100/1000 Base-T ports and 4x10 Gig SFP+ ports equipped with 02 (Two) 10GE SFP+ Multi-mode module (0.3km,LC) from day one. The entire module must be OEM original.	
		The equipment must have forwarding performance minimum 130Mpps	
		The proposed equipment must support switching capacity of minimum 170Gbps from day one.	
		The proposed equipment must support Surge protection ± 6 kV in common mode (power port)	
8	Switch features	Support MAC address learning and aging	
		The proposed equipment must support minimum 16K MAC entries from day one.	
		Support Static, dynamic, and blackhole MAC address entries	
		Support Packet filtering based on source MAC addresses	
		Support minimum 4K VLANs	
		Support Guest VLAN and voice VLAN	
		Support GVRP and MUX VLAN or similar	
		Support 1: 1 and N: 1 VLAN mapping	
		Support STP (IEEE 802.1d), RSTP (IEEE 802.1w), and MSTP (IEEE 802.1s)	
		Support BPDU protection, root protection, and loop protection	
		Support IGMPv1/v2/v3 and IGMPv1/v2/v3 snooping	
		Support Multicast forwarding in a VLAN and multicast replication between VLANs	
		Support Static route, RIP, RIPng, OSPF, OSPFv3	
		Support minimum 4K FIBv4 entries	
		Support minimum 1K FIBv6 entries	
Support IPv6 ping, IPv6 tracert, and IPv6 Telnet			
Support Interface-based traffic policing and two-rate and three-color CAR			
	Support Eight queues on each interface		

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		Support WRR, DRR, SP, WRR+SP, and DRR+SP queue scheduling algorithms	
		Support Rate limiting in each queue and traffic shaping on interfaces	
9	Security features	Support Hierarchical user management and password protection	
		Support DoS attack defense, ARP attack defense, and ICMP attack defense	
		Support Binding of the IP address, MAC address, interface number, and VLAN ID	
		Support Port isolation, port security, and sticky MAC	
		Support Blackhole MAC address entries	
		Support IEEE 802.1x authentication and limit on the number of users on an interface	
		Support CPU defense, Blacklist and whitelist	
		Support DHCP relay, DHCP server, DHCP snooping	
		Support DHCPv6 relay, DHCPv6 server, DHCPv6 snooping	
		Support AAA authentication, RADIUS authentication, TACACS or similar authentication, and NAC	
10	Management and Maintenance	Support Cloud management based on Netconf/Yang	
		Support Remote configuration and maintenance using Telnet	
		Support SNMPv1/v2c/v3	
		Support RMON	
		Support System logs and multi-level alarms	
		Support LLDP/LLDP-MED	
		Support Virtual cable test	
11	Service, Support & Warranty	Customer should able to directly open TAC cases through Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided	
		Mentioning Manufacturer's warranty should be quoted, minimum 03 (Three) years warranty should be provided for this unit from the date of successful commissioning.	
		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units	
		Bidder must have to provide Manufacturer Authorization Letter	
12	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

The Tenderer should complete all the columns as required]

Signature:

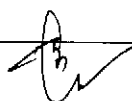
Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer



Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9
Package No:

21. Specifications for NMS

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Model	To be mentioned by the bidder	
2	Country of Origin	To be mentioned by bidder	
3	Country of Manufacturer	To be mentioned by bidder	
4	System architecture	The proposed system must be support deployment in mainstream industry server platform. Server resource requirements should be minimum (48 Core@2.6GHz), 4*32G Memory, 2*1200GB-SAS and Bidder must include in BoQ.	
5	Platform	Support robust, scalable software platform supports ICT infrastructure planning, management, and reporting applications for any size environment. OEM user-defined visual interfaces and consoles make comprehensive monitoring and management features super easy to use.	
6	Network Manager	Support Network devices, quality, and services are depicted visually to provide instant insights and guide users through workflows optimized for managing the IP network. Automated alerts, specialized online diagnostics, and 1-click fault resolution make O&M fast and error-free in environments of any size.	
7	Server Manager	Support module maintains detailed inventories of server models, specifications, configurations, utilization rates, operating systems running on each server, and batch-mode provisioning operations, saving time and accelerating upgrades.	
8	Storage Manager	Support and Offering centralized management of storage resources, this module displays relationships among storage units and applications, including file systems, disks, disk arrays, and LUNs. Graphic displays of detailed performance and capacity statistics enable quick visual analytics and insights when managing and troubleshooting fault conditions.	
9	Virtual Resource Manager	Support NMS allows users to centrally monitor and manage a variety of computing virtual resources, such as VMware ESX/ESXi Server, FusionCompute, and FusionAccess. Managed objects include clusters, virtual servers, and VMs.	
10	Communications & Collaboration Manager	Support Unified Communications and Collaboration (UC&C) systems are the cost-effective alternative to global travel, bridging the gap between geographic areas and enabling more-frequent, real-time communications across long distances.	
11	Video Surveillance Manager	Support Specialized features help manage video surveillance cameras, connections, availability, and faults in OEM and mixed-vendor systems.	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
12	xPON Manager	Support module adds comprehensive management capabilities for fiber-optic networking connections, OLTs, ONUs, and ONTs. The software supports Gigabit Passive Optical Network (GPON) and xPON communications, monitoring device status, performance statistics, and alarms in real time.	
13	eLTE Manager	Support NMS software for provisioning and managing LTE networking equipment provides simple, graphical management interfaces that make world-class broadband trunking and access capabilities practical for the enterprise.	
14	Warranty & Services	The bidder must have to submit quote for minimum 30 (Switch, Router, Firewall, WLC, Access Point) Network Management & monitoring License, minimum 30 (Servers) Server Management and 02 Storage Management License for 3 (Three) years including server. The services will start from the date of successful commissioning	
		Customer should able to directly open TAC cases through Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided	
		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units	
		Bidder must have to provide Manufacturer Authorization Letter	
15	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

The Tenderer should complete all the columns as required]


Signature:

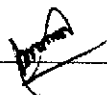
Name & Designation of tenderer

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Signature

Name and Designation of Manufacturer




Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9
Package No:

22. Specifications for Security Appliance (Sanbox / AntiDDoS)

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Internationally reputed Brand	
2	Model	To be mentioned by the bidder	
3	Country of Origin	To be mentioned by bidder	
4	Country of Manufacturer	To be mentioned by bidder	
5	Safety Certification	The offered equipment should be EMC, CB, CCC, CE-SDOC, ROHS, REACH&WEEE(EU), C-TICK, ETL, FCC&IC, VCCI, BSMI standards compliance	
6	Enclosure Type	Rack mountable Modular Chassis, 1U	
7	Hardware Architecture	Support 2x40GE(QSFP+) + 12x10GE(SFP+) + 16xGE RJ45 from day one.	
		Bidder must supply Four (04) 10GE SFP+ multimode module (0.3km,LC) with necessary cable from day one.The entire module must be OEM original.	
		Must have dual AC power supplies from day one.	
8	Deployment mode	Support In-line, off-line (static defense), off-line (Dynamic defense)	
		Must Support Options for detecting or cleaning. Bidder must provide dedicated Hardware for only detection function from day one.	
		Must Support Options for detecting or cleaning. Bidder must provide dedicated Hardware for only cleaning function from day one.	
9	Throughput	Must have support minimum 20Gbps throughput and 10Gbps capability for detector from day one.	
		Must have support minimum 20Gbps throughput and 10Gbps capability for cleaning from day one.	
10	Defense Specifications	Support Multi-core distributed architecture and big data based intelligent protection engine.	
		Support Second-level attack response to rapidly block attack traffic.	
		Support Collection of all traffic, Layer 3~7 per-packet analysis, and modeling for 60+ types of network traffic to provide the most precise and comprehensive attack detection.	
		Support local session behavior reputation, location reputation, and Botnet IP reputation to precisely defend against application-layer DDoS attacks launched from Botnets, reducing false positives and improving user experiences.	
		Support Comprehensive defense against 100+ types of attacks to protect key service systems, such as Web, DNS, DHCP, and VoIP.	
		Support Transparent access and simple deployment to defend against DDoS attacks in real time.	
		Support Bypass expansion cards for high availability.	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		Support Defense against Land, Fraggle, Smurf, WinNuke, Ping of Death, Teardrop, and TCP error flag attacks	
		Support Defense against address and port scanning attacks, and attacks using Tracert packets and IP options, such as IP source route, timestamp, and record route	
		Support Defense against SYN flood, SYN-ACK flood, ACK flood, FIN flood, RST flood, TCP fragment flood, UDP flood, UDP fragment flood, IP flood, ICMP flood, TCP connection flood, sockstress, TCP retransmission, and TCP empty connection attacks	
		Support Defense against NTP, DNS, SSDP, Chargen, TFTP, SNMP, NetBIOS, QOTD, Quake Network Protocol, Portmapper, Microsoft SQL Resolution Service, RIPv1, and Steam	
		Support RUDY, slowhttptest, slowloris, LOIC, AnonCannon, RefRef, ApacheKill, and ApacheBench attack signature databases; automatic weekly update of these signature databases	
		Support Defense against HTTP GET flood, HTTP POST flood, HTTP slow header, HTTP slow post, HTTPS flood, SSL DoS/DDoS, WordPress reflection amplification, RUDY, and LOIC attacks; packet validity check	
		Support Defense against DNS query flood, DNS reply flood, and DNS cache poisoning attacks; source limit	
		Support Defense against SIP flood/SIP methods flood attacks, including Register, Deregistration, Authentication, and Call flood attacks; source limit	
		Support IP, TCP, UDP, ICMP, DNS, SIP, and HTTP packet filters	
		Traffic block or limit based on the source IP address location	
11	IP reputation	Support Tracking of most active 5 million zombies and automatic daily update of the IP reputation database to rapidly block attacks	
		Support local access IP reputation learning to create dynamic IP reputation based on local service sessions	
12	Management functions	Support Account management and permission allocation	
		Support defense policy configuration and report display based on Zones (up to 100,000 Zones, namely tenants)	
		Support device performance monitoring	
		Support source tracing and fingerprint extraction through packet capture	
		Support email, short message, and audio alarms	
		Support log dumping, dynamic baseline learning	
13	Report functions	Bidder must provide separate AntiDDoS Management Server with dual PSU which can manages minimum 20 detecting or cleaning devices.	
		Support Comparison of traffic before and after cleaning	
		Support top N traffic statistics, application-layer traffic comparison and distribution, protocol distribution	
		Support traffic statistics based on the source location, attack event details	
		Support distribution of attacks by category, attack traffic trend, DNS resolution success ratio	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		Support download of reports in HTML/PDF/Excel format	
		Support report push via email, periodical generation of daily, weekly, monthly, and yearly reports, self-service portal for tenants	
14	Traffic diversion and injection	Support Traffic diversion: supports manual, and PBR or BGP based automatic traffic diversion.	
		Support Traffic injection: supports static route injection, MPLS VPN injection, MPLS LSP injection, GRE tunnel injection, Layer 2 injection, PBR based injection, etc	
15	Service, Support & Warranty	Customer should able to directly open TAC cases through Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided	
		Mentioning Manufacturer's warranty should be quoted, minimum 03 (Three) years warranty should be provided for this unit from the date of successful commissioning.	
		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units	
		Bidder must have to provide Manufacturer Authorization Letter	
16	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

The Tenderer should complete all the columns as required]

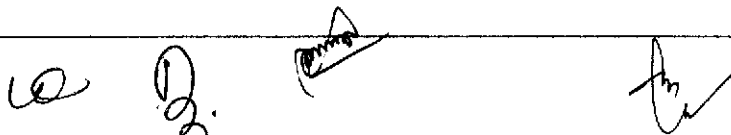
Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48 Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis. Tender 9 Package No:

23. Specifications for IPS Firewall

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Internationally reputed Brand	
2	Model	To be mentioned by the bidder	
3	Country of Origin	To be mentioned by bidder	
4	Country of Manufacturer	To be mentioned by bidder	
5	Certification	The OEM of the Proposed brand must be in challenger or Leader quadrant in the latest Gartner Magic Quadrant for Network Firewall and provide the related documents.	
6	Enclosure Type	Rack Mountable, 1U	
7	Hardware architecture	The equipment must have redundant AC power supplies from day one	
		The equipment should not be any ASIC base architecture	
		The equipment must have 240 GB SSD local storage from day one and upgrade to 1000GB for future.	
8	Interface requirements	The equipment must have 12 x 10GE (SFP+) + 02 x 40GE (QSFP+) + 16 x GE (RJ45) interface and equipped with Four (04) SFP+, 10G, Multi-mode Module(0.3km, LC) from day one.	
		Bidder must provide necessary patch cord from day one. All the SFP should be same OEM.	
9	Configuration requirements	The equipment must support minimum concurrent SSL VPN users 5000 and provide 100 users from day one.	
		Support minimum 4k VLANS & minimum 1k VLANIF Interfaces	
		Must support Virtual firewalls minimum 500	
10	Performance requirements	Support Firewall Throughput (1518-byte) minimum 29 Gbps from day one	
		Must support Number of concurrent Sessions (HTTP) Minimum 12,000,000	
		Must support Number of new Sessions (HTTP) per second minimum 400,000	
		Must support IPSec VPN throughput (AES-256+SHA256) minimum 20Gbps	
		Must support SSL Inspection Throughput minimum 5.5 Gbit/s	
		Support FW + SA + IPS + Antivirus Throughput minimum 12 Gbit/s	
		Firewall Latency (64-byte) 15 µs	
Support Security Policies minimum 40,000			
11	Integrated protection	Supports Integrates firewall, VPN, intrusion prevention, antivirus, data leak prevention	
		Supports Bandwidth management, anti-DDoS, URL filtering, and anti-spam functions	
		Support Interworks with the local or cloud sandbox to effectively detect unknown threats and prevent zero-day attacks	
		provides a global configuration view; manages policies in a unified manner	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
12	Routing	Supports multiple types of routing protocols and features, such as RIP, OSPF, BGP	
		Must Supports IS-IS, RIPv6, OSPFv3, BGP4+, and IPv6 IS-IS.	
		Supports service-specific PBR and intelligent uplink selection based on multiple load balancing algorithms	
13	Deployment and reliability	Supports transparent, routing, and hybrid working modes	
		Supports High availability (HA), including the Active/Active and Active/Standby modes.	
14	Traffic control	Supports & Manages per-user and per-IP bandwidth in addition to identifying service applications to ensure the network access experience of key services and users.	
		Supports limiting the maximum bandwidth, ensuring the minimum bandwidth, and changing application forwarding priorities	
15	Security policy management	Manages and controls traffic based on VLAN IDs, quintuples, security zones, regions, applications, URL categories, and time ranges, and implements integrated content security detection.	
		Provides predefined common-scenario defense templates to facilitate security policy deployment.	
		Provides security policy management solutions in partnership to reduce O&M costs and potential faults.	
		Supports virtualization of multiple types of security services, including firewall, intrusion prevention, antivirus, and VPN.	
16	User authentication	Supports multiple user authentication methods, including local, RADIUS	
		Supports HWTACACS or similar , AD, and LDAP	
		Supports built-in Portal and Portal redirection functions	
17	Cloud-based management	Must Supports authentication and registration to the cloud-based management platform to implement plug-and-play and simplify network creation and deployment for future without changing the Hardware.	
		Controls enterprise cloud applications in a refined and differentiated manner to meet enterprises' requirements for cloud application management.	
		Supports remote service configuration, device monitoring, and fault management, implementing the management of mass devices in the cloud	
18	Intrusion prevention and web protection	Supports Accurately detects and defends against vulnerability-specific attacks based on up-to-date threat information.	
		The firewall can defend against web-specific attacks, including SQL injection and XSS attacks.	
		Supports Rapidly detects over 5 million types of viruses based on the daily-updated virus signature database.	
		Supports & Provides a URL filtering database with over 120 million URLs and more than 130 URL filtering categories	
		Supports DNS filtering, in which accessed web pages are filtered based on domain names.	
		Supports Audits and traces the sources of the accessed content based on users.	
19	VPN	Supports the SafeSearch function to filter resources of search engines, such as Google, to guarantee access to only healthy network resources.	
		Supports multiple highly available VPN features, such as IPSec VPN, SSL VPN	

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		Supports L2TP VPN, MPLS VPN, and GRE	
		Supports Dynamic smart VPN (DSVPN) or similar technologies	
20	SSL Function & Anti-DDoS	Detects and defends against threats in SSL-encrypted traffic using application-layer protection methods, such as intrusion prevention, antivirus, data filtering, and URL filtering.	
		Supports SSL offloading	
		Defends against more than 10 types of common DDoS attacks	
		Supports SYN flood and UDP flood attacks	
21	Third-Party and Open-Source Ecosystem	Support Open API for integration with third-party products, providing RESTful and NetConf interfaces	
		Support third-part management software based on SNMP, SSH, and Syslog	
		Support Collaboration with anti-APT solution	
22	Firewall Management System	Bidder must provide separate hardware of Firewall Manager to manage all the Hardware and software firewall from centrally.	
		Must support minimum 500 firewall in a single node system and In cluster support minimum 2000 Firewall.	
		Bidder must provide Four (04) Firewall manager license with 03 years support-service from day one.	
23	Service, Support & Warranty	The bidder must provide minimum 3 (Three) years Threat protection service include IPS, URL,AV from day one.	
		Customer should able to directly open TAC cases through Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided	
		Mentioning Manufacturer's warranty should be quoted, minimum 03 (Three) years warranty should be provided for this unit from the date of successful commissioning.	
		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units	
		Bidder must have to provide Manufacturer Authorization Letter	
24	Installation & Commissioning	Installation, testing and commissioning with necessary accessories	

The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9
Package No:

24. Specifications for MDC

(To be filled up and signed by the Manufacturer & Tenderer)

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
1	Brand	Any reputed brand	
2	Model	To be mentioned by Bidder	
3	Country of origin	To be mentioned by Bidder	
4	Country of Manufacturer	To be mentioned by Bidder	
5	Component	UPS, Precision air-conditioner and racks must be provided by same manufacturer	
		The solution should provide the following components from day 1: Three pcs Precision AC (n+1), one pcs of temperature sensor, one pcs of water sensor, one pcs of smoke sensor, 20KVA online UPS (redundant) with 30 minutes backup time, one pcs of smart tab for monitoring, one pcs of IP camera, 3 pcs of IT rack with 42U (600mm X 1350mm X 2000mm) 1 pcs of IT rack with 42U (800mm X 1350mm X 2000mm) smart monitoring system which can monitor from remote or locally.	
6	System features	Power system should support 380/400/415Vac, 50Hz, 3Ph+N+PE.	
		Aisle containment Should support Hot or cold.	
		System protection level Should support IP20.	
		Maximum cabinet quantity for a module Should support minimum cabinet 8.	
		Quantity of cabinets Should have minimum 3 (three) IT Cabinets, 1 (one) network cabinets, 1(One) UPS and 1(One) AC cabinets.	
7	Precision Air conditioner	Cabinet height should be 42U.	
		AC type should be Precision AC.	
		Cooling capacity Should be ≥ 11 KW	
		Sensible cooling capacity Should have ≥ 11 kW	
		Cooling mode Should have Direct expansion air-cooler	
		Installation must support Rack mount	
		Redundancy mode should be n+1	
		Air Volume Should support 2600m ³ /h	
		Air supply mode Should support Front supply, rear return (in-row cooling)	
		Indoor fan type Should be EC (Emergency Commutated) Fan	
Indoor unit installation mode Should support Rack-mounted			
Outdoor unit installation mode Should be Wall/floor-			

Standard Tender Document

Sl. No.	Name of Item	Required specifications	Full Technical Specification & Standard (to be mentioned)
		mounted	
		Heating capacity (optional) Should have $\geq 3kW$	
8	Power Distribution Box	UPS input and output power distribution module,	
		indicator power distribution module	
		Input power Should have dual inputs	
		UPS capacity Should have minimum 20kVA	
		Backup time Should support minimum 30 min from day 1	
		UPS redundancy mode should have 1+1	
		Input voltage rate Should be 380/400/415 V, 50/60 Hz, 3Ph+N+PE.	
		UPS efficiency 94.5% or 95% in online mode or equal	
		Monitoring port RS485 or equal	
		Battery system should have battery cabinet and battery rack	
		Maintenance bypass: Should have bypass mode	
		Intelligent battery monitoring system: Should have battery monitoring system	
		Installation mode should be rack-mounted	
		Should have minimum two PDU in every IT Cabinet.	
	Monitoring system	Monitoring system Should have Mobile phone APP, SMS alarm, Web access, Should have minimum 10 inch pad from day 1	
		Water sensor: Should have minimum 1 (one) water sensor which will be integrated with UPS, AC, IP camera.	
		Smoke sensor: Should have minimum 1 (one) smoke sensor which will be integrated with UPS, AC, IP camera.	
		Door status sensor: Should have door status sensor	
		Temperature and humidity sensor: Should have minimum 5(five) or more temperature or as required and humidity sensor which will be integrated with UPS, AC, IP camera.	
		Local mobile app: Should have local mobile app	
		Remote mobile app: Should have mobile app available in play store	
		SMS alarm: Should have SMS alarm system which will be integrated with UPS, AC, IP camera.	
		Camera: Should have minimum 1 (one) IP camera system.	
9	Battery	Battery must have monitoring system	
10	Manufacture authorization letter	Must provide with BoQ	
11	RMA support	The OEM must have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units.	
12	Warranty	Minimum 3 years (Three) Years OEM warranty	

The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

(Handwritten signatures and initials)

Specifications Submission and Compliance Sheet (Form PG4-4)

Invitation for Tender No: 27.22.4785.905.50.040.20/48

Date: 05/03/2020

Package Description: Design, Manufacture, Supply, Installation, Testing and Commissioning of Disaster Recovery Center for Smart Pre-Payment Metering System with related services on Turn-key Basis.

Tender 9
Package No:

25. Specifications for 50 KVA 3-Phase Diesel Generator

SCHEDULE-A

No. of Units : Must be one (Single Unit)

GUARANTEES

Ambient Conditions

- Ambient Temperature 35° C
- Atmospheric pressure 1.013 Bar
- Relative humidity 98%
- Maximum altitude 100 Ft. msl
- Power factor 0.8 lagging

1. Diesel Engine Generator Guarantees

The guaranteed performance of Diesel Engine Generating Unit at site condition (35° C, 1.013 bar, 98% Relative Humidity) and 0.80(Lagging) generator power factor shall be as follows:

Base Load

Net Power Output, KW : _____

Max. Inlet Temperature, deg. C : _____

Max. Outlet Temperature, deg. C : _____

Heat Rate (LHV) 100% 75% 50%

At Ambient Air Temp. 35° C, KJ/Kwh: _____

Peak Load

Net Power Output, KW : _____

Heat rate, KJ/Kwh : _____

Max. Inlet Temperature, deg. C : _____

Max. Outlet Temperature, deg. C : _____

i) Net Power Output

Net power output shall mean the power output measured at the generator terminals.

ii) Heat Rate

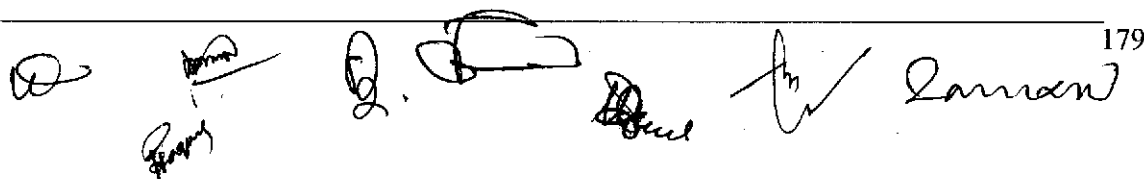
Net heat rate shall mean the heat equivalent of the fuel consumed by the Diesel Engine unit per unit time based upon the Lower Calorific Value, divided by the net power output as defined above.

iii) Fuel

177

Standard Tender Document

Sl. No.	Name of Item	Unit	Full Technical Specification & Standard (to be mentioned)			
12	Power rating					
13	Ambient temp=45° C	KW				
14	Ambient temp=35° C	KW				
15	Ambient temp=25° C	KW				
16	Ambient temp=20° C	KW				
17	Maximum vibration limit	mm/sec				
18	Speed					
19	Rated Speed, Diesel Engine	rpm				
20	Rated Speed Generator	rpm				
21	Diesel Engine Performance					
22	Overhaul Life on base load	hours				
23	Expected life of cylinder	hours				
24	Expected life of reciprocating parts	hours				
25	Expected life of stationary parts	hours				
26	Number of hours of continuous operation allowed at peak output	hours				
27	No of hours of peak operation allowed per year	hours				
28	Overhaul Life on peak load					
29	Overhaul Life on number of hours	hours				
30	Overhaul Life number of starts	no.				
31	Starting time from cold	in min				
32	Starting time from standby	in min				
33	Fuel required for standby	m ³ /hour				
34	Electrical power required for standby	kW				
35	Indicated hp	hp or kW				
36	Brake hp	hp or kW				
37	Indicated thermal efficiency					
38	Brake thermal efficiency					
39	Mechanical efficiency					
B1.2 Heat Rate			100%	75%	50%	25%
1	Ambient air temp=45° C	KJ/kWH				
2	Ambient air temp=35° C	KJ/kWH				
3	Ambient air temp=25° C	KJ/kWH				
4	Ambient air temp=20° C	KJ/kWH				
B1.3 Auxiliary Power Consumption at Ambient			100%	75%	50%	25%
1	Ambient air temp=45° C	KJ/kWH				
2	Ambient air temp=35° C	KJ/kWH				
3	Ambient air temp=25° C	KJ/kWH				
4	Ambient air temp=20° C	KJ/kWH				
B1.4 Start up time from cold start to synchronous speed						
1	Normal	minute				
2	Emergency	minute				
3	Capable rated load change without structural damage	kw/ min.				
B1.5 Full Load Heat Balance						
1	Useful work					
2	Cooling					
3	Exhaust					
4	Friction, Radiation and others					
5	Heat input		100 unit			



Standard Tender Document

Sl. No.	Name of Item	Unit	Full Technical Specification & Standard (to be mentioned)
B1.6 Starting Time			
1	From Cold	hour	
2	From Standby		
3	Time required to no load to maximum load		
4	Normal	minute.	
5	Emergency	minute.	
6	Starting reliability	%	
7	Number of consecutive starts to prove reliability	no.	
B1.7 Sound attenuation			
1	100 meter from unit	db	
2	50 meter from unit	db	
3	1 meter from unit	db	
B 1.8 Diesel engine data			
1	Number of cylinder	no	
2	Piston materials		
3	Piston ring materials		
4	Cylinder with liner material		
5	Max allowable gas temperature after combustion	° c	
6	Brake mean effective pressure	psi	
7	Cylinder bore	mm	
8	Piston stroke	mm	
9	Mean piston speed	mm/sec	
10	Complete engine weight	ton	
11	Engine output (On shaft)	kW	
12	Specific fuel consumption	Kg/h	
B1.9 Cooling system			
1	Type and description		
2	Design ambient temperature for water	° c	
3	Existing Cooling Pond & Spray		
4	Radiator		
B1.10 Lubrication system			
1	Type and description		
2	Capacity of lube-oil storage tank	liter	
3	Cap. of maintenance tank	liter	
4	Type of lube-oil purifier		
5	Capacity of lube oil purifier	liter/hr	
B1.11 Type of filtration unit			
1	Manufacturer		
2	Type of lube-oil heater		
3	Pre lube-oil pump manufacturer		
4	Type		
5	Motor rating	kW	
6	Capacity	liter/hr	
B1.12 Starting system			
1	Type of starter		
2	Manufacturer		
3	Capacity		
4	Type of compressor		
5	Pr. to stop compressor	bar	
6	Pr. to start compressor	bar	

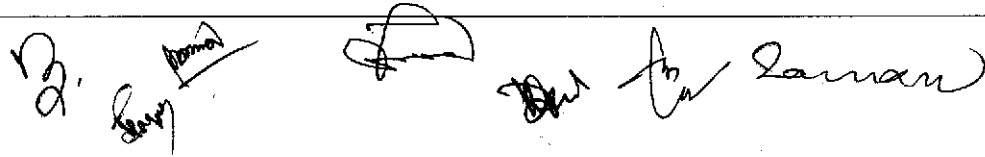
180

Standard Tender Document

Sl. No.	Name of Item	Unit	Full Technical Specification & Standard (to be mentioned)
7	No. of air bottle	no	
8	Air bottle capacity	liter	
9	Pipe line pr. to the engine	bar	
10	Specification of Starting batteries with battery charging system (if Electric Starting System is offered)		
B1.13 Diesel engine intake air filters			
1	Manufacturer		
2	Type		
3	Material		
4	Type of louvers		
B1.14 Turbocharger			
1	Manufacturer		
2	Country of origin		
3	Inlet pr. of turbine	bar	
4	Exhaust pr. of turbine	bar	
5	Suction pr. of compressor	bar	
6	Exhaust pr. of compressor	bar	
7	Temp. of air after compressor	° C	
B1.15 Engine governor or control & Hardware			
1	Manufacturer		
2	Type		
3	Name of speed regulation		
4	Maximum speed rise after full load rejection		
5	To be guaranteed by contractor		
B1.16 Turning gear			
1	Motor rating	hp	
2	Main shaft speed on turning gear	rpm	
B1.17 Fuel System Description			
	Electrical Equipment		
	List of Trip signal		
	1		
	2		
	3		
	4		
	5		
	6		
	7		
	8		
	9		
	10		
	11		
	12		
	13		
	14		
	15		
B1.18 Generator and Ancillaries			
Generator			
	-Manufacturer, Country of Origin (UK/USA/EU Origin)		
	-Type		
	-KVA rating at power factor		
	-Max, leading & lagging KVAR capability at 0.8 pf		

181

Sl. No.	Name of Item	Unit	Full Technical Specification & Standard (to be mentioned)
	-Rated voltage between lines, KV		
	-Connection of armature winding		
	-Rated Current, A		
	-Rated frequency, Hz		
	-Efficiency at pf 0.8, % at pr 1.0, %		
	-Stator overloading, %		
	-Critical speed, rpm		
	-Max. torque when the stator is short-circuited, Nm		
	-Generator Characteristics		
	-Type of cooling		
	-Short circuit ratio		
	-Generator rated excitation requirements for Operation at rated KVA Excitation voltage Excitation current		
	-Generator calculated losses at 100% Base rating Total generator iron loss, kW Generator stator I ² R loss, kW Generator rotor I ² R loss, kW Generator stray load loss, kW Generator windbag loss, kW Total generator loss, kW		
	-Generator weights Weight of rotor, kg Weight of complete stator, kg		
Exciter			
	-Manufacturer		
	-Type		
	-Rated output, kW		
	-Rated load field voltage at 0.80 pf/1.00 pf		
	-Rated exciter current at 0.80 pf/1.00 pf		
	-Exciter ceiling voltage, V		
	-Maximum continuous exciter current, A		
	-Excitation system voltage response ratio		
B1.19 Automatic Voltage Regulator (AVR)			
	-Manufacturer		
	-Type		
Generator Protection			
	-Generator differential relay		
	-Generator ground over-current relay		
	-Field ground detection system		
	-Reverse power relay		
	Loss of field relay		
	-Gen. Distance relay [for 1x80 MW± 10% unit]		
	-Voltage restrain over-current relays		



Standard Tender Document

Sl. No.	Name of Item	Unit	Full Technical Specification & Standard (to be mentioned)
	-Negative phase sequence relay		
	-Voltage balance relay		
	-Lockout relay		
	-Inter-Lock relay for Condenser Operation		
	-Black Start Gen. protection relays		
	-Auxiliary relays		
0.4 KV Switchgear			
	Generator Switchgear		
	-Manufacturer		
	-Circuit Breaker Catalog No. Type		
DC Supply System			
	Battery Units		
	-Manufacturer		
	-Type		
	-Catalogue No.		
	-Capacity (AH at 5 Hr discharge)		
	-Number of cells per unit		
	-Weight per cell, kg		
	-Total battery weight, kg		
	-Overall dimension of -battery rack Length, mm Width, mm Height, mm		
Battery Chargers			
	-Manufacturer		
	-Type		
	-Capacity, A/kW		
	-DC Voltage adjusting range		
Diesel Engine Generator			
	1) Weight of machine Engine, Kg Generator, Kg Auxiliary, Kg Total, Kg		
	2) Dimension of DG foundation Width, m Length, m Thickness, m		
	3) Weight of DG foundation, Kg		

The Tenderer should complete all the columns as required]

Signature:

Name & Designation of tenderer

Duly authorised to sign the Tender for and on behalf of the Tenderer

Signature

Name and Designation of Manufacturer

183

7.50 Technical Orientation and Quality Test Witness:

The Purchaser shall have the right to inspect/ test the goods/ materials to confirm their conformity to the specification. The purchaser shall be entitled at all reasonable time during manufacture to inspect, examine and test of goods/materials at the manufacturers' premises, workmanship and performance.

The following test shall be carried out as per latest version of IEC/BDS standard unless otherwise mentioned at the manufacturer premises or other places where the test facilities are available.

The Supplier shall, after consulting the purchaser, give the Purchaser reasonable notice in writing of the date and the place at which any material or equipment will be ready for testing as provided in the contract and unless the purchaser shall attend at the place so named on date, which the supplier has stated in his notice, the supplier may proceed with the tests, which shall be deemed to have been made in the purchaser's presence, and shall forth with forward to the purchaser duly certified copies of test readings.

When the purchaser intends to attend the test he shall promptly inform the supplier accordingly in writing, so that he can take action. The purchaser shall give the supplier timely notice in writing of his intention to attend the test.

Where the supplier provides for tests on the premises of the supplier or of any manufacturer of the supplier, except where otherwise specified, shall provide free of charge such assistance, labor, materials, electricity, fuel, stores, apparatus and instruments as may be requisite and as may be reasonably demanded to carry out such test efficiently. These tests shall be performed as per relevant IEC/BDS standard and only routine tests as agreed upon, will be performed.

As and when the purchaser is satisfied that any materials/equipment shall have passes the tests referred to in this clause, purchaser shall notify the contractor in writing to that effect.

Should any inspected/ tested goods fail to conform to the specification, the Purchaser shall have the right to reject any of the items or complete batch if necessary. In that case Supplier has to replace the Equipment and to make good of them without any financial involvement to the Purchaser. In case any of the Equipment found not conforming with the specification at the time of post landing Inspection, the supplier will in no way be relieved from the responsibility of replacing them or making them good at their own cost, despite the Equipment were found good at the time of Factory Acceptance Test. Nothing in this clause shall in any way release the supplier from any warranty or other obligations under the contract.

If the offered goods are manufactured outside the purchaser's country then Utility's Inspection Team shall have to conduct Technical Orientation and Quality Test Witness at the manufacturer's factory premises. The cost incurred for this purpose shall be borne by the supplier. The cost of Air Tickets (both way) from Bangladesh to Manufacturer's Country (place of Technical Orientation and Quality Test Witness), Hotel Accommodation, food, etc. will be borne by the Supplier. Other than this the Supplier will pay a standard amount of pocket money per day (Excluding journey period). The period for this purpose is about 07 (Seven) days without journey time. Technical Orientation and Quality Test Witness will be attended by at least 03 (Three) engineers from respective Utility offices. All the cost of this purpose shall be deemed is included in the offered price.

No goods shall be packed, prepared for shipment / delivery unless it has been approved including Test reports and written instruction has been issued by the Purchaser.

The tenderder has to mention the place of Technical Orientation and Quality Test Witness in the following table:-

Sl. No.	Item	Period of Technical Orientation and Quality Test Witness	Place & Country of Technical Orientation and Quality Test Witness

7.51 Post Landing Inspection:

The Supplier shall inform the purchaser immediately after arrival of the goods at the designated store of Utility (as per delivery schedule). An Inspection team of Utility shall perform the post-landing inspection in presence of supplier's representative. The Supplier shall arrange the program of post-landing inspection. Any defect or damage have been found at post-landing inspection, the defective or damaged materials/ goods to be replaced by the supplier at his own cost within the stipulated time.

The purchaser's right to inspect, test (where necessary) and reject the goods after delivery at the designated store of Utility shall in no way be limited or waived by reason of the goods having previously been inspected, tested and passed by the purchaser prior to the good's delivery. The cost incurred for this purpose shall be borne by the supplier.

7.52 Packing:

Meters must be export packed and properly protected for shipment, rough transportation and storage. Specific care shall be taken for protection in store and reference is made to the climatic condition prevailing in Bangladesh.

Each unit shall be sealed in waterproof polyethylene bag having a silica gel packet placed inside the unit and then packed in polystyrene foam gasket closed by self adhesive tape rating of the meter shall be marked by marker pen or label on the form for easy identification.

Maximum 10 (ten) nos. of complete metering units are allowed to pack into a wooden packaging box lined with heavy gauge polyethylene. Between metering units a suitable packing material for protection and preventing their movement should be used. Silica gel should be provided inside each polyethylene wrapper. The packing case should be able to withstand accidental direct exposure to weather for reasonable period.

The supplier shall be responsible for damages due to inadequate packing. A packing list showing the contents of each packing shall be enclosed in a waterproof envelope secured outside of the packing case. A copy of the packing list shall also be enclosed inside the package.

All packages imported are liable to be opened for customs examination at the port of landing and packing shall therefore be designed to facilitate opening and repackaging thereafter.

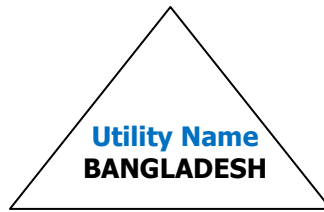
A red band (20 cm wide) shall be painted all around each package. Each package shall have the following information printed on it bold letters.

- Name of supplier.
- Port of loading.
- Port of destination.
- Name of consignee.
- Contract number.
- Brief description of stores.
- Number of packages. (total quantity)
- Gross and net weight.

- Dimension.

In addition each package shall be clearly marked or stenciled in red on two sides, the shipping mark Utility Name, BANGLADESH inscribed within a triangle marked shown below:

The shipping mark



On the other two sides, arrow marking with words "THIS SIDE UP" and "FRAGILE" shall be clearly marked or stenciled to indicate the face of the package to keep upward.



7.53 Hand Over of Project Site

The tenderer will supply, install, test, commission, the prepayment meter, train all utilities personals on installation testing, commissioning, operating troubleshooting, maintain and managing the prepayment meter and handover the feeder to respective utility. To hand over the project the tenderer must submit the following:

1. Tenderer shall submit the last updated source code of the unified pre-paid metering system at the time of project handover.

7.54 Responsibility under operational support contract

<p>RESPNSIBILITY UNDER OPERATIONAL SUPPORT CONTRACT</p> <p>In addition to the requirements of the technical specifications, the following shall be the responsibilities of the Operational Support for the duration of the 3 (three) years Operational Support Contract.</p>
<p>Source Code</p> <p>The Source codes of the system shall be the property of the employer.</p> <p>There will be a Service Level Agreement on the System maintenance and updates for 03 years, the bidder shall quote the price during the tender in price schedule. During the 03 years maintenance, the Contractor shall work with Employer/Purchaser to support the project and ensure the service smoothly for the systems which shall be offered and provided during this tender.</p> <p>The source code will be kept and maintained by the Contractor during these 03 years. After 03 years, the Service Level Agreement may be extended by mutual understanding, or the new Service Level Agreement may be assigned to WZPDLC's own JV Technology Company, which will keep and maintain the system with source code.</p>
<p>Software Use</p> <p>The tenderer shall comply with the requirements for interfacing of prepaid / Smart prepaid meters with the employers' softwares.</p>

System Management

The registration of customer details on the MIC & DC/DR management of any changes to customer details, the Operational Support shall perform editing of customer records and management of customer arrears. The Operational Support shall effect up to 5 tariff changes as required by Utility during the contract period. Data shall be uploaded/downloaded to the MIC/DC/DR from the UVS, POS, Meter & UCCs from the respective to the MIC & CDCS every 24 x7 round the clock. The Operational Support shall provide customer reports detailing the number of prepayment customers at the start of each month to Utility. The Operational Support shall visit each consumer to perform a system audit at least once every 6 months.

The Operational Support includes all kinds of development of the applications required by the purchaser, interfacing new Head-End-System with existing Unified System, interfacing new third party to the supplied AMS system and process all applications, Database, Hardware & Network within the Operational Support's operational area directly. New installations shall be completed by the tenderer and notified to Utility.

- a. WZPDCL shall assist the contractor to install the Unified System in the DRC with necessary updates to support the vending service for prepayment/smart prepayment meters at site;
- b. The contractor shall assist WZPDCL to interface the existing HES system and other manufacturer's HES & MDM, with the Open Standard API through UIP (unified Interface Platform), the Standard API will be shared by the contractor to other manufacturers to interface; It shall be WZPDCL responsibility to arrange the existing manufacturer to assist the interface of their own HES system etc.

Technical Manual

Tenderer should provide technical manual and operational manual of the system within 15 (fifteen) days from before commercial operation start.

- The maintenance services shall be valid for 03 (**three**) years from the date of commissioning under warranty period.
- To keep the supplied Software in good working condition under warranty period.
- Maintenance service includes preventive maintenance services on Monthly basis, based on the specific needs of individual equipment or as determined by Tenderer/Employer and on-call remedial maintenance under warranty period. Maintenance work should be at utility offices. In case it is not possible the maintenance work at utility premises, then tenderer will provide the maintenance work by their own arrangement.
- Maintenance Services includes the replacement of non-working parts of hardware without incurring any cost to the employer under warranty period.
- To provide all necessary labor and technical know-how, and replacement of mechanical, electrical or electronic parts, as required for the maintenance work of equipment under warranty period.
- To maintain necessary stock of spare parts which may have the chances of damage for immediate support/ replacement under warranty period.
- The maintenance, servicing & replacement works as necessary must start within 02 (Two) hours sharp after lodging complaints under warranty period.
- The tenderer shall has to report time to time like 2 times in a month and shall has to report the progress.
- Defect or any sort of damage in hardware shall have to be identified, repaired/replaced and put into normal working condition within 08 (eight) hours after lodging complaint with the tenderer. The Tenderer will be responsible for repair, correction, and replacement of the defective goods or parts without incurring any cost to the employer under warranty period.

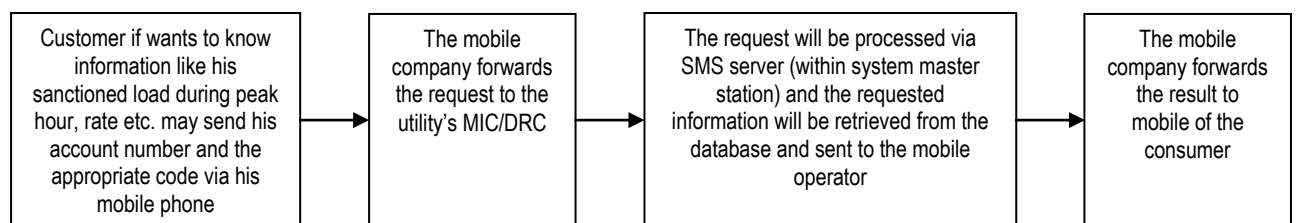
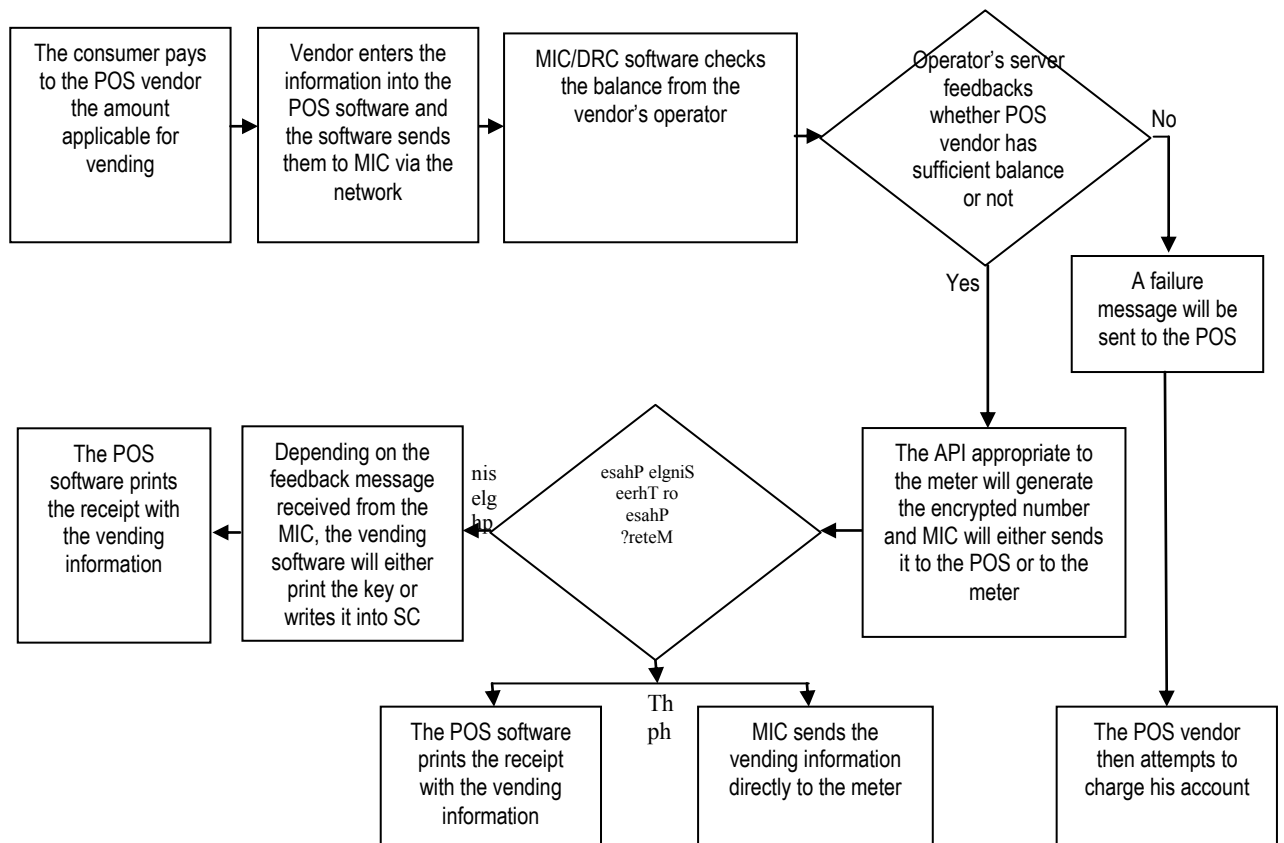
<ul style="list-style-type: none">• Utility shall impose penalty @Taka 500 per hour of delay after 16 hours of lodging complaint with the tenderer under warranty period.
<ul style="list-style-type: none">• Pre-Paid Meter Maintenance: Faulty devices and peripherals shall be repaired on exchange basis whether warranty or otherwise at the cost of the operational support. All sorts of repairing and maintenance tasks for software, hardware, meter and network has to be performed by the contractor.
<ul style="list-style-type: none">• On a monthly basis meter data collection, auditing and related all sorts of reports shall be prepared by the operational support contractor and copied to respective utility.
<ul style="list-style-type: none">• If it is not possible to resolve the problem within 16 (sixteen) hours, the tenderer may provide required support/equipments/item/parts on temporary basis without incurring any cost to the employer so that Server, Computer, Line Matrix Printer & UPS shall work properly. But this type of arrangement must not exceed more than two weeks. In that case, penalty will not be imposed for this maximum two weeks under warranty period.
<ul style="list-style-type: none">• For any further up gradation, if utility procures any part/ product /devices, then the tenderer should install, commission the parts/ products /devices without incurring any service charge to the employer under warranty period.
<ul style="list-style-type: none">• For 03 years operation & maintenance support the tenderer shall employ the following personnel:<ul style="list-style-type: none">a) System Administrator- 1 no.b) Network Engineer - 1 no.c) Hardware Engineer - 1 no.d) Database Administrator - 1 no.

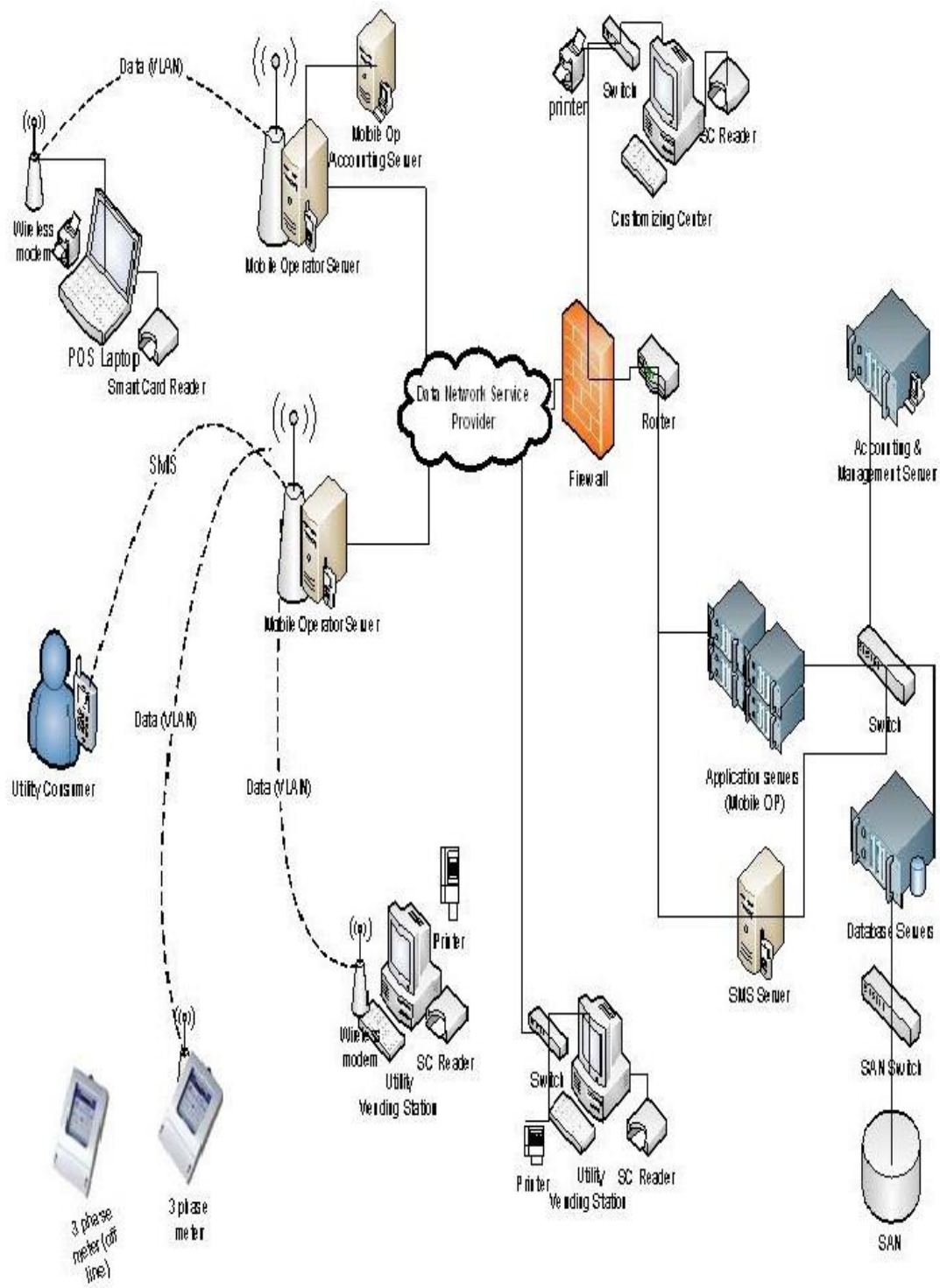
Section-8: Drawings

Flow charts of the processes involved between different entities in the prepaid e-metering system

Overall Process Outline

Main requirement: A receipt is essential as a proof of vending. Otherwise, in case of problem of actual vending into the meters, resolution of the dispute will be difficult. Therefore, a consumer for vending purpose must come either to a POS or to a Vending Station for recharging his/her meters (either single phase or three phases). Since the friendly hour and emergency credit facilities will be active within the meter so the failure of vending beyond the office hour will not harm the consumer.





Annexure-1

Curriculum Vitae with supported document to be submitted according to the following qualification of manpower.				
Key staff (minimum) with qualifications and experience shall be as follows:				
1	2	3	4	5
SL No	Position	person	Qualification	Experience in similar work (years)
1	System Administrator	01	B.Sc.Engg./ Masters in Computer Science/ CSE/ IT/ ECE/EEE	Working experience with minimum 03(ten) years with JAVA
2	Database Administrator	01	B.Sc.Engg./ Masters in Computer Science/ CSE/ IT/ ECE/EEE	Working experience with minimum 3 (three) years with Oracle
3	Network Engineer	01	B.Sc.Engg./ Masters in Computer Science/ CSE/ IT/ ECE/EEE	Working experience with minimum 03 (three) years on UNIX/Linux/Windows of field oriented project.
4	Hardware Engineer	1	B.Sc.Engg.(CSE/EEE)with OCP(DBATrack)	Working experience with minimum 03 (three) years on UNIX/Linux/Windows of field oriented project.
<ul style="list-style-type: none"> • Tenderer should attach the certificates of training as mentioned in the Column 5. • The Tenderer should submit the Bio-data to be signed by the employee as per attached format supported by documents . (Proposed team of personnel for Project Implementation (schedule-C)) 				

SCHEDULE C

Proposed team of personnel for Project Implementation

Proposed position for this Project:		
Personnel Information	Name	Date of birth
	Last Educational Qualification: Passing Year: Result: Name of the last Institute/University:	
Present Employment	Name of employer:	
	Joining Date:	
	Designation:	
	Address of employer:	
	Telephone:	Contact (Manager/Personnel officer):
	Fax:	E-mail:
Responsibilities:	Year with present employer:	