



Ministry of Energy
(Power Division)

Bidding Document for Procurement of Goods/Services PK-MOE-350499-GO-RFB

Data Center Equipment for hosting of Market Management System (*For Supply, Installation, Testing & Commissioning of Tier III Data Center Facility/equipment at CPPA-G & Migration of Existing IT Systems, Data Backup Solution, Data Institutionalization Project - Big Data Solution, Information Security Enhancement*)

Lot A	For Supply, Installation, Testing & Commissioning of Tier III Data Center Facility/equipment at CPPA-G & Migration of Existing IT Systems
Lot B	Data Backup Solution
Lot C	Data Institutionalization Project – Big Data Solution
Lot D	Information Security Enhancement

Note: Bidders may submit bids lot-wise, and evaluation as well as award of contract will be lot-wise

(One Envelop Bidding Process)

January 2025

Table of Contents

PART 1 – Bidding Procedures	1
Section I. Instructions to Bidders.....	3
Section II. Bid Data Sheet (BDS).....	29
Section III. Evaluation and Qualification Criteria.....	33
Section IV. Bidding Forms.....	37
Section V. Eligible Countries.....	67
Section VI. Bank Policy - Corrupt and Fraudulent Practices.....	69
PART 2 – Supply Requirements	73
Section VII. Schedule of Requirements.....	74
PART 3 - Contract	121
Section VIII. General Conditions of Contract.....	123
Section IX. Special Conditions of Contract.....	147
Section X. Contract Forms.....	151

PART 1 – Bidding Procedures

Section I. Instructions to Bidders

Table of Contents

A. General.....	5
1. Scope of Bid.....	5
2. Source of Funds	5
3. Corrupt and Fraudulent Practices.....	5
4. Eligible Bidders	6
5. Eligible Goods/Services and Related Services	8
B. Contents of Bidding Document	9
6. Sections of Bidding Document	9
7. Clarification of Bidding Documents	10
8. Amendment of Bidding Document.....	10
C. Preparation of Bids	10
9. Cost of Bidding	10
10. Language of Bid.....	10
11. Documents Comprising the Bid.....	11
12. Letter of Bid and Price Schedules.....	11
13. Alternative Bids	11
14. Bid Prices and Discounts	12
15. Currencies of Bid and Payment	14
16. Documents Establishing the Eligibility and Conformity of the Goods/Services and Related Services.....	14
17. Documents Establishing the Eligibility and Qualifications of the Bidder.....	15
18. Period of Validity of Bids.....	16
19. Bid Security	16
20. Format and Signing of Bid.....	18
D. Submission and Opening of Bids	18
21. Sealing and Marking of Bids	18
22. Deadline for Submission of Bids	19
23. Late Bids	19
24. Withdrawal, Substitution, and Modification of Bids	19
25. Bid Opening.....	20
E. Evaluation and Comparison of Bids.....	21
26. Confidentiality	21
27. Clarification of Bids.....	22

28. Deviations, Reservations, and Omissions	22
29. Determination of Responsiveness	22
30. Nonconformities, Errors and Omissions	23
31. Correction of Arithmetical Errors	23
32. Conversion to Single Currency	24
33. Margin of Preference	24
34. Evaluation of Bids.....	24
35. Comparison of Bids	25
36. Qualification of the Bidder	25
37. Purchaser’s Right to Accept Any Bid, and to Reject Any or All Bids	26
F. Award of Contract.....	26
38. Award Criteria	26
39. Purchaser’s Right to Vary Quantities at Time of Award	26
40. Notification of Award	27
41. Signing of Contract	27
42. Performance Security	28

Section I. Instructions to Bidders

A. General

1. **Scope of Bid**
 - 1.1 In connection with the Invitation for Bids, **specified in the Bid Data Sheet (BDS)**, the Purchaser, **as specified in the BDS**, issues these Bidding Documents for the supply of Goods/Services and Related Services incidental thereto as specified in Section VII, Schedule of Requirements. The name, identification and number of lots (contracts) of this National Competitive Bidding (NCB) procurement are **specified in the BDS**.
 - 1.2 Throughout these Bidding Documents:
 - (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, telex) with proof of receipt;
 - (b) if the context so requires, “singular” means “plural” and vice versa; and
 - (c) “day” means calendar day.
2. **Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called “Borrower”) **specified in the BDS** has applied for or received financing (hereinafter called “funds”) from the International Bank for Reconstruction and Development or the International Development Association (hereinafter called “the Bank”) in an amount **specified in BDS**, toward the project named **in BDS** The Borrower intends to apply a portion of the funds to eligible payments under the contract for which these Bidding Documents are issued.
 - 2.2 Payment by the Bank will be made only at the request of the Borrower and upon approval by the Bank in accordance with the terms and conditions of the Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the Loan (or other financing) account for the purpose of any payment to persons or entities, or for any import of Goods/Services, if such payment or import, to the knowledge of the Bank, is prohibited by decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations. No party other than the Borrower shall derive any rights from the Loan (or other financing) Agreement or have any claim to the proceeds of the Loan (or other financing).
3. **Corrupt and Fraudulent Practices**
 - 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Section VI.

3.2 In further pursuance of this policy, Bidders shall permit and shall cause its agents (where declared or not), sub-contractors, sub-consultants, service providers or suppliers and to permit the Bank to inspect all accounts, records and other documents relating to the submission of the application, bid submission (in case prequalified), and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

4. Eligible Bidders

4.1 A Bidder may be a firm that is a private entity, a government-owned entity—subject to ITB 4.5—or any combination of such entities in the form of a joint venture (JV) under an existing agreement or with the intent to enter into such an agreement supported by a letter of intent. In the case of a joint venture, all members shall be jointly and severally liable for the execution of the Contract in accordance with the Contract terms. The JV shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution. **Unless specified in the BDS**, there is no limit on the number of members in a JV.

4.2 A Bidder shall not have a conflict of interest. Any Bidder found to have a conflict of interest shall be disqualified. A Bidder may be considered to have a conflict of interest for the purpose of this bidding process, if the Bidder:

- (a) directly or indirectly controls, is controlled by or is under common control with another Bidder; or
- (b) receives or has received any direct or indirect subsidy from another Bidder; or
- (c) has the same legal representative as another Bidder; or
- (d) has a relationship with another Bidder, directly or through common third parties, that puts it in a position to influence the bid of another Bidder, or influence the decisions of the Purchaser regarding this bidding process; or
- (e) participates in more than one bid in this bidding process. Participation by a Bidder in more than one Bid will result in the disqualification of all Bids in which such Bidder is involved. However, this does not limit the inclusion of the same subcontractor in more than one bid; or
- (f) any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the bid; or

- (g) any of its affiliates has been hired (or is proposed to be hired) by the Purchaser or Borrower for the Contract implementation; or
- (h) would be providing Goods/Services, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
- (i) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who: (i) are directly or indirectly involved in the preparation of the bidding documents or specifications of the contract, and/or the bid evaluation process of such contract; or (ii) would be involved in the implementation or supervision of such contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the procurement process and execution of the contract

4.3 A Bidder may have the nationality of any country, subject to the restrictions pursuant to ITB 4.7. A Bidder shall be deemed to have the nationality of a country if the Bidder is constituted, incorporated or registered in and operates in conformity with the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed sub-contractors or sub-consultants for any part of the Contract including related Services.

4.4 A Bidder that has been sanctioned by the Bank in accordance with the above ITB 3.1, including in accordance with the Bank's Guidelines on Preventing and Combating Corruption in Projects Financed by IBRD Loans and IDA Credits and Grants ("Anti-Corruption Guidelines"), shall be ineligible to be prequalified for, bid for, or be awarded a Bank-financed contract or benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. The list of debarred firms and individuals is available at the electronic address **specified in the BDS.**

4.5 Bidders that are Government-owned enterprises or institutions in the Purchaser's Country may participate only if they can establish that

they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not dependent agencies of the Purchaser. To be eligible, a government-owned enterprise or institution shall establish to the Bank's satisfaction, through all relevant documents, including its Charter and other information the Bank may request, that it: (i) is a legal entity separate from the government (ii) does not currently receive substantial subsidies or budget support; (iii) operates like any commercial enterprise, and, inter alia, is not obliged to pass on its surplus to the government, can acquire rights and liabilities, borrow funds and be liable for repayment of its debts, and can be declared bankrupt; and (iv) is not bidding for a contract to be awarded by the department or agency of the government which under their applicable laws or regulations is the reporting or supervisory authority of the enterprise or has the ability to exercise influence or control over the enterprise or institution.

- 4.6 A Bidder shall not be under suspension from bidding by the Purchaser as the result of the operation of a Bid-Securing Declaration.
- 4.7 Firms and individuals may be ineligible if so indicated in Section V and (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of Goods/Services or the contracting of works or services required; or (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of Goods/Services or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
- 4.8 A Bidder shall provide such evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.

5. Eligible Goods/Services and Related Services

- 5.1 All the Goods/Services and Related Services to be supplied under the Contract and financed by the Bank may have their origin in any country in accordance with Section V, Eligible Countries.
- 5.2 For purposes of this Clause, the term "Goods/Services" includes commodities, raw material, machinery, equipment, and industrial plants; and "related services" includes services such as insurance, installation, training, and initial maintenance.
- 5.3 The term "origin" means the country where the Goods/Services 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.

B. Contents of Bidding Document

6. Sections of Bidding Document

- 6.1 The Bidding Documents consist of Parts 1, 2, and 3, which include all the Sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.

PART 1 Bidding Procedures

- Section I. Instructions to Bidders (ITB)
- Section II. Bidding Data Sheet (BDS)
- Section III. Evaluation and Qualification Criteria
- Section IV. Bidding Forms
- Section V. Eligible Countries
- Section VI. Bank Policy-Corrupt and Fraudulent Practices

PART 2 Supply Requirements

- Section VII. Schedule of Requirements

PART 3 Contract

- Section VIII. General Conditions of Contract (GCC)
- Section IX. Special Conditions of Contract (SCC)
- Section X. Contract Forms

- 6.2 The Invitation for Bids issued by the Purchaser is not part of the Bidding Document.

- 6.3 Unless obtained directly from the Purchaser, the Purchaser is not responsible for the completeness of the document, responses to requests for clarification, the Minutes of the pre-Bid meeting (if any), or Addenda to the Bidding Document in accordance with ITB 8. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.

- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Documents and to furnish with its Bid all information or documentation as is required by the Bidding Documents.

7. Clarification of Bidding Documents 7.1 A Bidder requiring any clarification of the Bidding Document shall contact the Purchaser in writing at the Purchaser’s address **specified in the BDS**. The Purchaser will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of bids within a period **specified in the BDS**. The Purchaser shall forward copies of its response to all Bidders who have acquired the Bidding Documents in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. If so **specified in the BDS**, the Purchaser shall also promptly publish its response at the web page **identified in the BDS**. Should the clarification result in changes to the essential elements of the Bidding Documents, the Purchaser shall amend the Bidding Documents following the procedure under ITB 8 and ITB 22.2.

8. Amendment of Bidding Document 8.1 At any time prior to the deadline for submission of bids, the Purchaser may amend the Bidding Documents by issuing addenda.

8.2 Any addendum issued shall be part of the Bidding Documents and shall be communicated in writing to all who have obtained the Bidding Documents from the Purchaser in accordance with ITB 6.3. The Purchaser shall also promptly publish the addendum on the Purchaser’s web page in accordance with ITB 7.1.

8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their bids, the Purchaser may, at its discretion, extend the deadline for the submission of bids, pursuant to ITB 22.2.

C. Preparation of Bids

9. Cost of Bidding 9.1 The Bidder shall bear all costs associated with the preparation and submission of its bid, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

10. Language of Bid 10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Purchaser, shall be written in the language **specified in the BDS**. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the language **specified in the BDS**, in which case, for purposes of interpretation of the Bid, such translation shall govern.

**11. Documents
Comprising the
Bid**

11.1 The Bid shall comprise the following:

- (a) Letter of Bid in accordance with ITB 12;
- (b) completed schedules , in accordance with ITB 12 and 14
- (c) Bid Security or Bid-Securing Declaration, in accordance with ITB 19.1;
- (d) alternative bids, if permissible, in accordance with ITB 13;
- (e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 20.2;
- (f) documentary evidence in accordance with ITB 17 establishing the Bidder's qualifications to perform the contract if its bid is accepted;
- (g) documentary evidence in accordance with ITB 17 establishing the Bidder's eligibility to bid;
- (h) documentary evidence in accordance with ITB 16, that the Goods/Services and Related Services to be supplied by the Bidder are of eligible origin;
- (i) documentary evidence in accordance with ITB 16 and 30, that the Goods/Services and Related Services conform to the Bidding Documents;
- (j) any other document **required in the BDS.**

11.2 In addition to the requirements under ITB 11.1, bids submitted by a JV shall include a copy of the Joint Venture Agreement entered into by all members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all members and submitted with the bid, together with a copy of the proposed Agreement.

11.3 The Bidder shall furnish in the Letter of Bid information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this Bid.

**12. Letter of Bid
and Price
Schedules**

12.1. The Letter of Bid and Price Schedules shall be prepared using the relevant forms furnished in Section IV, Bidding Forms. The forms must be completed without any alterations to the text, and no substitutes shall be accepted except as provided under ITB 20.2. All blank spaces shall be filled in with the information requested.

13. Alternative Bids

13.1. Unless otherwise **specified in the BDS**, alternative bids shall not be considered.

14. Bid Prices and Discounts

- 14.1 The prices and discounts quoted by the Bidder in the Letter of Bid and in the Price Schedules shall conform to the requirements specified below.
- 14.2 All lots (contracts) and items must be listed and priced separately in the Price Schedules.
- 14.3 The price to be quoted in the Letter of Bid in accordance with ITB 12.1 shall be the total price of the bid, excluding any discounts offered.
- 14.4 The Bidder shall quote any discounts and indicate the methodology for their application in the Letter of Bid, in accordance with ITB 12.1.
- 14.5 Prices quoted by the Bidder shall be fixed during the Bidder's performance of the Contract and not subject to variation on any account, **unless otherwise specified in the BDS**. A bid submitted with an adjustable price quotation shall be treated as nonresponsive and shall be rejected, pursuant to ITB 29. However, if in accordance with the BDS, prices quoted by the Bidder shall be subject to adjustment during the performance of the Contract, a bid submitted with a fixed price quotation shall not be rejected, but the price adjustment shall be treated as zero.
- 14.6 If so specified in ITB 1.1, bids are being invited for individual lots (contracts) or for any combination of lots (packages). Unless otherwise **specified in the BDS**, prices quoted shall correspond to 100 % of the items specified for each lot and to 100% of the quantities specified for each item of a lot. Bidders wishing to offer discounts for the award of more than one Contract shall specify in their bid the price reductions applicable to each package, or alternatively, to individual Contracts within the package. Discounts shall be submitted in accordance with ITB 14.4 provided the bids for all lots (contracts) are opened at the same time.
- 14.7 The terms EXW, DDP, and other similar terms shall be governed by the rules prescribed in the current edition of Incoterms, published by The International Chamber of Commerce, **as specified in the BDS**.
- 14.8 Prices shall be quoted as specified in each Price Schedule included in Section IV, Bidding Forms. The dis-aggregation of price components is required solely for the purpose of facilitating the comparison of bids 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 Bidder shall be free to use transportation through carriers registered in any eligible country, in accordance

with Section V, Eligible Countries. Similarly, the Bidder may obtain insurance services from any eligible country in accordance with Section V, Eligible Countries. Prices shall be entered in the following manner:

- (a) For Goods/Services manufactured in the Purchaser's Country:
 - (i) the price of the Goods/Services quoted EXW (ex-works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable), including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of the Goods/Services;
 - (ii) any Purchaser's Country sales tax and other taxes which will be payable on the Goods/Services if the contract is awarded to the Bidder; and
 - (iii) the price for inland transportation, insurance, and other local services required to convey the Goods/Services to their final destination (Project Site) **specified in the BDS.**
- (b) For Goods/Services manufactured outside the Purchaser's Country, to be imported:
 - (i) the price of the Goods/Services, quoted DDP named place of destination, in the Purchaser's Country, as **specified in the BDS;**
 - (ii) the price for inland transportation, insurance, and other local services required to convey the Goods/Services from the named place of destination to their final destination (Project Site) **specified in the BDS;**
- (c) For Goods/Services manufactured outside the Purchaser's Country, already imported:
 - (i) the price of the Goods/Services, including the original import value of the Goods/Services; plus any mark-up (or rebate); plus any other related local cost, and custom duties and other import taxes already paid or to be paid on the Goods/Services already imported.
 - (ii) the custom duties and other import taxes already paid (need to be supported with documentary

evidence) or to be paid on the Goods/Services already imported;

(iii) the price of the Goods/Services, obtained as the difference between (i) and (ii) above;

(iv) any Purchaser's Country sales and other taxes which will be payable on the Goods/Services if the contract is awarded to the Bidder; and

(v) the price for inland transportation, insurance, and other local services required to convey the Goods/Services from the named place of destination to their final destination (Project Site) **specified in the BDS.**

(d) for Related Services, other than inland transportation and other services required to convey the Goods/Services to their final destination, whenever such Related Services are specified in the Schedule of Requirements:

(i) the price of each item comprising the Related Services (inclusive of any applicable taxes).

15. Currencies of Bid and Payment

15.1 The currency(ies) of the bid and the currency(ies) of payments shall be **as specified in the BDS.** The Bidder shall quote in the currency of the Purchaser's Country the portion of the bid price that corresponds to expenditures incurred in the currency of the Purchaser's country, unless otherwise **specified in the BDS.**

15.2 The Bidder may express the bid price in any currency. If the Bidder wishes to be paid in a combination of amounts in different currencies, it may quote its price accordingly but shall use no more than three foreign currencies in addition to the currency of the Purchaser's Country.

16. Documents Establishing the Eligibility and Conformity of the Goods/Services and Related Services

16.1 To establish the eligibility of the Goods/Services and Related Services in accordance with ITB 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Bidding Forms.

16.2 To establish the conformity of the Goods/Services and Related Services to the Bidding Documents, the Bidder shall furnish as part of its Bid the documentary evidence that the Goods/Services conform to the technical specifications and standards specified in Section VII, Schedule of Requirements.

16.3 The documentary evidence may be in the form of literature, drawings or data, and shall consist of a detailed item by item description of the essential technical and performance

characteristics of the Goods/Services and Related Services, demonstrating substantial responsiveness of the Goods/Services and Related Services to the technical specification, and if applicable, a statement of deviations and exceptions to the provisions of the Section VII, Schedule of Requirements.

- 16.4 The Bidder 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/Services during the period **specified in the BDS** following commencement of the use of the Goods/Services by the Purchaser.
- 16.5 Standards for workmanship, process, material, and equipment, as well as references to brand names or catalogue numbers specified by the Purchaser in the Schedule of Requirements, are intended to be descriptive only and not restrictive. The Bidder may offer other standards of quality, brand names, and/or catalogue numbers, provided that it demonstrates, to the Purchaser's satisfaction, that the substitutions ensure substantial equivalence or are superior to those specified in the Section VII, Schedule of Requirements.

**17. Documents
Establishing the
Eligibility and
Qualifications
of the Bidder**

- 17.1 To establish Bidder's their eligibility in accordance with ITB 4, Bidders shall complete the Letter of Bid, included in Section IV, Bidding Forms.
- 17.2 The documentary evidence of the Bidder's qualifications to perform the contract if its bid is accepted shall establish to the Purchaser's satisfaction:
- (a) that, if **required in the BDS**, a Bidder that does not manufacture or produce the Goods/Services it offers to supply shall submit the Manufacturer's Authorization using the form included in Section IV, Bidding Forms to demonstrate that it has been duly authorized by the manufacturer or producer of the Goods/Services to supply these Goods/Services in the Purchaser's Country;
 - (b) that, if **required in the BDS**, in case of a Bidder not doing business within the Purchaser's Country, the Bidder 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, repair and spare parts-stocking obligations prescribed in the Conditions of Contract and/or Technical Specifications; and

- (c) that the Bidder meets each of the qualification criterion specified in Section III, Evaluation and Qualification Criteria.

**18. Period of
Validity of Bids**

- 18.1. Bids shall remain valid for the period **specified in the BDS** after the bid submission deadline date prescribed by the Purchaser in accordance with ITB 22.1. A bid valid for a shorter period shall be rejected by the Purchaser as nonresponsive.
- 18.2. In exceptional circumstances, prior to the expiration of the bid validity period, the Purchaser may request bidders to extend the period of validity of their bids. The request and the responses shall be made in writing. If a Bid Security is requested in accordance with ITB Clause 19, it shall also be extended for a corresponding period. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request shall not be required or permitted to modify its bid, except as provided in ITB 18.3.
- 18.3. If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial bid validity, the Contract price shall be determined as follows:
 - (a) In the case of fixed price contracts, the Contract price shall be the bid price adjusted by the factor **specified in the BDS**.
 - (b) In the case of adjustable price contracts, no adjustment shall be made.
 - (c) In any case, bid evaluation shall be based on the bid price without taking into consideration the applicable correction from those indicated above.

19. Bid Security

- 19.1. The Bidder shall furnish as part of its bid, either a Bid-Securing Declaration or a bid security, as **specified in the BDS**, in original form and, in the case of a bid security. In the amount and currency **specified in the BDS**.
- 19.2. A Bid Securing Declaration shall use the form included in Section IV, Bidding Forms.
- 19.3. If a bid security is specified pursuant to ITB 19.1, the bid security shall be a demand guarantee in any of the following forms at the Bidder's option :
 - (a) an unconditional guarantee issued by a bank or financial institution (such as an insurance, bonding or surety company);

- (b) an irrevocable letter of credit;
- (c) a cashier's or certified check; or
- (d) another security **specified in the BDS**,

from a reputable source from an eligible country. If the unconditional guarantee is issued by a financial institution located outside the Purchaser's Country, the issuing financial institution shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable. In the case of a bank guarantee, the bid security shall be submitted either using the Bid Security Form included in Section IV, Bidding Forms, or in another substantially similar format approved by the Purchaser prior to bid submission. The bid security shall be valid for twenty-eight (28) days beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 18.2.

- 19.4. If a Bid Security is specified pursuant to ITB 19.1, any bid not accompanied by a substantially responsive Bid Security shall be rejected by the Purchaser as non-responsive.
- 19.5. If a Bid Security is specified pursuant to ITB 19.1, the Bid Security of unsuccessful Bidders shall be returned as promptly as possible upon the successful Bidder's signing the contract and furnishing the Performance Security pursuant to ITB 42.
- 19.6. The Bid Security of the successful Bidder shall be returned as promptly as possible once the successful Bidder has signed the contract and furnished the required performance security.
- 19.7. The Bid Security may be forfeited or the Bid Securing Declaration executed:
 - (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or any extension thereto provided by the Bidder ; or
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB41; or
 - (ii) furnish a performance security in accordance with ITB 42.
- 19.8. The bid security or Bid- Securing Declaration of a JV must be in the name of the JV that submits the bid. If the JV has not been legally constituted into a legally enforceable JV at the time of bidding, the bid security or Bid-Securing Declaration shall be in

the names of all future members as named in the letter of intent referred to in ITB 4.1 and ITB 11.2.

- 19.9. If a bid security is **not required in the BDS**, pursuant to ITB 19.1, and
- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid, or
 - (b) if the successful Bidder fails to: sign the Contract in accordance with ITB 41; or furnish a performance security in accordance with ITB 42;

the Borrower may, **if provided for in the BDS**, declare the Bidder ineligible to be awarded a contract by the Purchaser for a period of time **as stated in the BDS**.

20. Format and Signing of Bid

- 20.1 The Bidder shall prepare one original of the documents comprising the bid as described in ITB 11 and clearly mark it "ORIGINAL." Alternative bids, if permitted in accordance with ITB 13, shall be clearly marked "ALTERNATIVE." In addition, the Bidder shall submit copies of the bid, in the number **specified in the BDS** and clearly mark them "COPY." In the event of any discrepancy between the original and the copies, the original shall prevail.
- 20.2 The original and all copies of the bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation **as specified in the BDS** and shall be attached to the bid. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the bid where entries or amendments have been made shall be signed or initialed by the person signing the bid.
- 20.3 In case the Bidder is a JV, the Bid shall be signed by an authorized representative of the JV on behalf of the JV, and so as to be legally binding on all the members as evidenced by a power of attorney signed by their legally authorized representatives.
- 20.4 Any inter-lineation, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the bid.

D. Submission and Opening of Bids

21. Sealing and Marking of Bids

- 21.1. The Bidder shall enclose the original and all copies of the bid, including alternative bids, if permitted in accordance with ITB 13, in separate sealed envelopes, duly marking the envelopes as "ORIGINAL", "ALTERNATIVE" and "COPY." These envelopes

containing the original and the copies shall then be enclosed in one single envelope.

21.2. The inner and outer envelopes shall:

- (a) bear the name and address of the Bidder;
- (b) be addressed to the Purchaser in accordance with ITB 24.1;
- (c) bear the specific identification of this bidding process indicated in ITB 1.1; and
- (d) bear a warning not to open before the time and date for bid opening.

21.3. If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the bid.

22. Deadline for Submission of Bids

22.1. Bids must be received by the Purchaser at the address and no later than the date and time **specified in the BDS**. When so **specified in the BDS**, bidders shall have the option of submitting their bids electronically. Bidders submitting bids electronically shall follow the electronic bid submission procedures **specified in the BDS**.

22.2. The Purchaser may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Documents in accordance with ITB 8, in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.

23. Late Bids

23.1. The Purchaser shall not consider any bid that arrives after the deadline for submission of bids, in accordance with ITB 22. Any bid received by the Purchaser after the deadline for submission of bids shall be declared late, rejected, and returned unopened to the Bidder.

24. Withdrawal, Substitution, and Modification of Bids

24.1. A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization (the power of attorney) in accordance with ITB 20.2, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:

- (a) prepared and submitted in accordance with ITB 20 and 21 (except that withdrawal notices do not require copies), and in addition, the respective envelopes shall be clearly marked

“WITHDRAWAL,” “SUBSTITUTION,” or “MODIFICATION;”
and

(b) received by the Purchaser prior to the deadline prescribed for submission of bids, in accordance with ITB 22.

24.2. Bids requested to be withdrawn in accordance with ITB 24.1 shall be returned unopened to the Bidders.

24.3. No bid may be withdrawn, substituted, or modified in the interval between the deadline for submission of bids and the expiration of the period of bid validity specified by the Bidder on the Letter of Bid or any extension thereof.

25. Bid Opening

25.1. Except as in the cases specified in ITB 23 and 24, the Purchaser shall publicly open and read out in accordance with ITB 25.3 all bids received by the deadline at the date, time and place **specified in the BDS** in the presence of Bidders’ designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 22.1, shall be as **specified in the BDS**.

25.2. First, envelopes marked “WITHDRAWAL” shall be opened and read out and the envelope with the corresponding bid shall not be opened, but returned to the Bidder. If the withdrawal envelope does not contain a copy of the “power of attorney” confirming the signature as a person duly authorized to sign on behalf of the Bidder, the corresponding bid will be opened. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening. Next, envelopes marked “SUBSTITUTION” shall be opened and read out and exchanged with the corresponding Bid being substituted, and the substituted Bid shall not be opened, but returned to the Bidder. No Bid substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at bid opening. Envelopes marked “MODIFICATION” shall be opened and read out with the corresponding Bid. No Bid modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Bid opening. Only bids that are opened and read out at Bid opening shall be considered further.

25.3. All other envelopes shall be opened one at a time, reading out: the name of the Bidder and whether there is a modification; the total Bid Prices, per lot (contract) if applicable, including any discounts and alternative bids; the presence or absence of a Bid Security, if required; and any other details as the Purchaser may consider

appropriate. Only discounts and alternative bids read out at Bid opening shall be considered for evaluation. The Letter of Bid and the Price Schedules are to be initialed by representatives of the Purchaser attending bid opening in the manner **specified in the BDS**. The Purchaser shall neither discuss the merits of any bid nor reject any bid (except for late bids, in accordance with ITB 25.1).

- 25.4. The Purchaser shall prepare a record of the bid opening that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; the Bid Price, per lot (contract) if applicable, including any discounts, and alternative bids; and the presence or absence of a Bid Security, if one was required. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders.

E. Evaluation and Comparison of Bids

- 26. Confidentiality**
- 26.1 Information relating to the evaluation of bids and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with the bidding process until information on Contract Award is communication to all Bidders in accordance with ITB 40.
- 26.2 Any effort by a Bidder to influence the Purchaser in the evaluation or contract award decisions may result in the rejection of its Bid.
- 26.3 Notwithstanding ITB 26.2, from the time of bid opening to the time of Contract Award, if any Bidder wishes to contact the Purchaser on any matter related to the bidding process, it should do so in writing.

- 27. Clarification of Bids**
- 27.1 To assist in the examination, evaluation, comparison of the bids, and qualification of the Bidders, the Purchaser may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder in respect to its Bid and that is not in response to a request by the Purchaser shall not be considered. The Purchaser's request for clarification and the response shall be in writing. No change, including any voluntary increase or decrease, in the prices or substance of the Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the Evaluation of the bids, in accordance with ITB 31.
- 27.2 If a Bidder does not provide clarifications of its bid by the date and time set in the Purchaser's request for clarification, its bid may be rejected.
- 28. Deviations, Reservations, and Omissions**
- 28.1 During the evaluation of bids, the following definitions apply:
- (a) "Deviation" is a departure from the requirements specified in the Bidding Documents;
 - (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Documents; and
 - (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Documents
- 29. Determination of Responsiveness**
- 29.1 The Purchaser's determination of a bid's responsiveness is to be based on the contents of the bid itself, as defined in ITB 11.
- 29.2 A substantially responsive Bid is one that meets the requirements of the Bidding Documents without material deviation, reservation, or omission. A material deviation, reservation, or omission is one that:
- (a) if accepted, would
 - (i) affect in any substantial way the scope, quality, or performance of the Goods/Services and Related Services specified in the Contract; or

(ii) limit in any substantial way, inconsistent with the Bidding Documents, the Purchaser's rights or the Bidder's obligations under the Contract; or

(b) if rectified, would unfairly affect the competitive position of other bidders presenting substantially responsive bids.

29.3 The Purchaser shall examine the technical aspects of the bid submitted in accordance with ITB 16 and ITB 17, in particular, to confirm that all requirements of Section VII, Schedule of Requirements have been met without any material deviation or reservation, or omission.

29.4 If a bid is not substantially responsive to the requirements of Bidding Documents, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

30. Nonconformities, Errors and Omissions

30.1 Provided that a Bid is substantially responsive, the Purchaser may waive any nonconformities in the Bid.

30.2 Provided that a bid is substantially responsive, the Purchaser may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities or omissions in the bid related to documentation requirements. Such omission shall not be related to any aspect of the price of the Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.

30.3 Provided that a bid is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component.

31. Correction of Arithmetical Errors

31.1 Provided that the Bid is substantially responsive, the Purchaser 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 Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall 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; and

- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to (a) and (b) above.
- 31.2 Bidders shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITB 31.1, shall result in the rejection of the Bid.
- 32. Conversion to Single Currency**
 - 32.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted in a single currency as **specified in the BDS**.
- 33. Margin of Preference**
 - 33.1 **Unless otherwise specified in the BDS**, a margin of preference shall not apply.
- 34. Evaluation of Bids**
 - 34.1 The Purchaser shall use the criteria and methodologies listed in this Clause. No other evaluation criteria or methodologies shall be permitted.
 - 34.2 To evaluate a Bid, the Purchaser shall consider the following:
 - (a) evaluation will be done for Items or Lots (contracts), as **specified in the BDS**; and the Bid Price as quoted in accordance with clause 14;
 - (b) price adjustment for correction of arithmetic errors in accordance with ITB 31.1;
 - (c) price adjustment due to discounts offered in accordance with ITB 14.3;
 - (d) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 32;
 - (e) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 30.3;
 - (f) the additional evaluation factors are specified in Section III, Evaluation and Qualification Criteria;
 - 34.3 The estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
 - 34.4 If these Bidding Documents allows Bidders to quote separate prices for different lots (contracts), the methodology to determine the lowest evaluated price of the lot (contract) combinations, including

any discounts offered in the Letter of Bid Form, is specified in Section III, Evaluation and Qualification Criteria

34.5 The Purchaser's evaluation of a bid will exclude and not take into account:

- (a) in the case of Goods/Services manufactured in the Purchaser's Country, sales and other similar taxes, which will be payable on the Goods/Services if a contract is awarded to the Bidder;
- (b) in the case of Goods/Services manufactured outside the Purchaser's Country, already imported or to be imported, customs duties and other import taxes levied on the imported Good, sales and other similar taxes, which will be payable on the Goods/Services if the contract is awarded to the Bidder;
- (c) any allowance for price adjustment during the period of execution of the contract, if provided in the bid.

34.6 The Purchaser's evaluation of a bid may require the consideration of other factors, in addition to the Bid Price quoted in accordance with ITB 14. These factors may be related to the characteristics, performance, and terms and conditions of purchase of the Goods/Services and Related Services. The effect of the factors selected, if any, shall be expressed in monetary terms to facilitate comparison of bids, unless otherwise **specified in the BDS** from amongst those set out in Section III, Evaluation and Qualification Criteria. The criteria and methodologies to be used shall be as specified in ITB 34.2 (f).

35. Comparison of Bids

35.1 The Purchaser shall compare the evaluated prices of all substantially responsive bids established in accordance with ITB 34.2 to determine the lowest evaluated bid. The comparison shall be on the basis of DDP (place of final destination) prices for imported Goods/Services and EXW prices, plus cost of inland transportation and insurance to place of destination, for Goods/Services manufactured within the Borrower's country, together with prices for any required installation, training, commissioning and other services. The evaluation of prices shall not take into account custom duties and other taxes levied on imported Goods/Services quoted DDP and sales and similar taxes levied in connection with the sale or delivery of Goods/Services.

36. Qualification of the Bidder

36.1 The Purchaser shall determine to its satisfaction whether the Bidder that is selected as having submitted the lowest evaluated

and substantially responsive bid meets the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.

36.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 17.

36.3 An affirmative determination shall be a prerequisite for award of the Contract to the Bidder. A negative determination shall result in disqualification of the bid, in which event the Purchaser shall proceed to the next lowest evaluated bid to make a similar determination of that Bidder's qualifications to perform satisfactorily.

**37. Purchaser's
Right to Accept
Any Bid, and to
Reject Any or
All Bids**

37.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to contract award, without thereby incurring any liability to Bidders. In case of annulment, all bids submitted and specifically, bid securities, shall be promptly returned to the Bidders.

F. Award of Contract

38. Award Criteria

38.1 Subject to ITB 37.1, the Purchaser shall award the Contract to the Bidder whose bid has been determined to be the lowest evaluated bid and is substantially responsive to the Bidding Documents, provided further that the Bidder is determined to be qualified to perform the Contract satisfactorily.

**39. Purchaser's
Right to Vary
Quantities at
Time of Award**

39.1 At the time the Contract is awarded, the Purchaser reserves the right to increase or decrease the quantity of Goods/Services and Related Services originally specified in Section VII, Schedule of Requirements, provided this does not exceed the percentages **specified in the BDS**, and without any change in the unit prices or other terms and conditions of the bid and the Bidding Documents.

40. Notification of Award

40.1 Prior to the expiration of the period of bid validity, the Purchaser shall notify the successful Bidder, in writing, that its Bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the “Letter of Acceptance”) shall specify the sum that the Purchaser will pay the Supplier in consideration of the supply of Goods/Services (hereinafter and in the Conditions of Contract and Contract Forms called “the Contract Price”). At the same time, the Purchaser shall also notify all other Bidders of the results of the bidding and shall publish in *UNDB online* the results identifying the bid and lot (contract) numbers and the following information:

- (i) name of each Bidder who submitted a Bid;
- (ii) bid prices as read out at Bid Opening;
- (iii) name and evaluated prices of each Bid that was evaluated;
- (iv) name of bidders whose bids were rejected and the reasons for their rejection; and
- (v) name of the successful Bidder, and the Price it offered, as well as the duration and summary scope of the contract awarded.

40.2 Until a formal Contract is prepared and executed, the notification of award shall constitute a binding Contract.

40.3 The Purchaser shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 40.1, requests in writing the grounds on which its bid was not selected.

41. Signing of Contract

41.1 Promptly after notification, the Purchaser shall send the successful Bidder the Contract Agreement.

41.2 Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Purchaser.

41.3 Notwithstanding ITB 41.2 above, in case signing of the Contract Agreement is prevented by any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/Goods/Services, systems or services to be supplied, where such export restrictions arise from trade regulations from a country supplying those products/Goods/Services, systems or services, the Bidder shall not be bound by its bid, always provided however, that the Bidder can demonstrate to the satisfaction of the Purchaser and of the Bank that signing of the Contract Agreement has not been prevented by any lack of diligence on the part of the Bidder in

completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the products/Goods/Services, systems or services under the terms of the Contract.

**42. Performance
Security**

- 42.1 Within twenty eight (28) days of the receipt of notification of award from the Purchaser, the successful Bidder, if required, shall furnish the Performance Security in accordance with the GCC, subject to ITB 34.5, using for that purpose the Performance Security Form included in Section X, Contract Forms, or another Form acceptable to the Purchaser. If the Performance Security furnished by the successful Bidder is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Bidder to be acceptable to the Purchaser. A foreign institution providing a bond shall have a correspondent financial institution located in the Purchaser's Country.
- 42.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the Bid Security. In that event the Purchaser may award the Contract to the next lowest evaluated Bidder, whose bid is substantially responsive and is determined by the Purchaser to be qualified to perform the Contract satisfactorily.

Section II. Bid Data Sheet (BDS)

The following specific data for the Goods/Services to be procured shall complement, supplement, or amend the provisions in the Instructions to Bidders (ITB). Whenever there is a conflict, the provisions herein shall prevail over those in ITB.

ITB Clause Reference	A. General
ITB 1.1	The reference number of the Invitation for Bids is : <i>PK-MOE-350499-GO-RFB</i>
ITB 1.1	The Purchaser is: Central Power Purchasing Agency (CPPA-G), <i>PIU-EDEIP, Ministry of Energy (Power Division)</i>
ITB 1.1	The Purchaser is: CPPA-G, <i>PIU-EDEIP, Ministry of Energy (Power Division)</i> The name of the RFB is: Data Center Equipment for hosting of Market Management System (For Supply, Installation, Testing & Commissioning of Tier III Data Center Facility/equipment at CPPA-G & Migration of Existing IT Systems, Data Backup Solution, Data Institutionalization Project – Big Data Solution, Information Security Enhancement) The identification number is: <i>PK-MOE-350499-GO-RFB</i>
ITB 2.1	The Borrower is: Islamic Republic of Pakistan
ITB 2.1	Loan or Financing Agreement amount: US\$ 195 Million
ITB 2.1	The name of the Project is: <i>ELECTRICITY DISTRIBUTION EFFICIENCY IMPROVEMENT PROJECT (EDEIP)</i>
ITB 4.1	¹ Maximum number of members in the JV shall be: Two
IITB 4.4	A list of debarred firms and individuals is available on the Bank's external website: http://www.worldbank.org/debarr .
	B. Contents of Bidding Documents
ITB 7.1	For Clarification of bid purposes only in writing, the Purchaser's address is: Attention: Chief Information Officer CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED, SHAHEEN PLAZA, PLOT 73-A WEST, FAZLUL HAQ ROAD BLUE AREA, ISLAMABAD City: Islamabad Email: farrukh.nawaz@cpga.gov.pk Mob: 0321-5196385 Country: Pakistan Requests for clarification should be received by the Employer no later than: Seven (07) days before the submission deadline.

¹ In case of a joint venture, all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. Therefore, the Qualification Criteria stated in Section III - Evaluation and Qualification Criteria shall be met separately by each member of the JV for bid evaluation. This means that each JV member must meet the minimum requirements stated in qualification criteria. The attention of the bidders is also invited to the aspect that as per qualification criteria explained in Section III, a bidder either bidding as a JV or single entity, can either be manufacturer or authorized agent of manufacturer. Even in case of a bid by authorized agent, there are some mandatory requirements to be met by the manufacturer whose goods are being offered by an authorized agent.

In case of JV payments will only be made into account of JV

ITB 7.1	Web page: www.cppa.gov.pk ; www.power.gov.pk
ITB 7.4	A Pre-Bid meeting “shall” take place at the following date, time and place: Date: 21st January 2025 Time: 11:00 AM Place: CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED, SHAHEEN PLAZA, PLOT 73-A WEST, FAZLUL HAQ ROAD BLUE AREA, ISLAMABAD City: Islamabad for participation at meeting e-mail at farrukh.nawaz@cppa.gov.pk ; mobile: 0321-5196385 A site visit will be arranged at pre-bid meeting.
C. Preparation of Bids	
ITB 10.1	The language of the bid is: English All correspondence exchange shall be in English language.
ITB 11.1 (j)	The Bidder shall submit the following additional documents in its bid: <i>As required in the evaluation & qualification criteria.</i>
ITB 13.1	Alternative Bids shall not be considered.
ITB 14.5	The prices quoted by the Bidder shall not be subject to adjustment during the performance of the Contract.
ITB 14.6	Prices quoted shall correspond at least to 100 percent of the items/quantities specified.
ITB 14.7	The Incoterms edition is: INCOTEM (2020 Edition)
ITB 14.8 (b) (i) and (c) (v)	Place of Destination: (on DDP basis) with following destination OFFICE OF CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED, SHAHEEN PLAZA, PLOT 73-A WEST, FAZLUL HAQ ROAD BLUE AREA, ISLAMABAD
ITB 14.8 (a) (iii);(b)(ii) and (c)(v)	“Final destination (Project Site)”: OFFICE OF CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED, SHAHEEN PLAZA, PLOT 73-A WEST, FAZLUL HAQ ROAD BLUE AREA, ISLAMABAD
ITB 15.1	<i>Pak Rupees</i>
ITB 16.4	Period of time the Goods & Services are expected to be functioning (for the purpose of spare parts): Four (4) years Period
ITB 17.2 (a)	Manufacturer’s authorization is: required only for Lot as specified in evaluation criteria.
ITB 17.2 (b)	Support service is: required
ITB 18.1	The bid validity period shall be 120 days.
ITB 18.3 (a)	NA
ITB 19.1	Bid Security will be submitted by bidders in favor of “ Electricity Distribution Efficiency Improvement Project (EDEIP) ” in shape of CDR, SDR, Pay Order, Demand Draft, Banker’s Cheque, or Unconditional Bank Guarantee @ 3% of total bid value for each lot , bidder is participating, issued by a scheduled Bank in Pakistan.

ITB 19.3 (d)	NA
ITB 19.9	NA
ITB 20.1	In addition to the original of the bid, the number of copies is: One hard copy
ITB 20.2	In case of joint venture the written confirmation of authorization to sign on behalf of the Bidder shall consist of: On the official letter head of the firm in case of JV all JV partners will authorize the signatory to sign the bid.
D. Submission and Opening of Bids	
ITB 22.1	For bid submission purposes only, the Purchaser's address is: OFFICE OF THE CHIEF EXECUTIVE OFFICER (CEO) CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED, SHAHEEN PLAZA, PLOT 73-A WEST, FAZLUL HAQ ROAD BLUE AREA, ISLAMABAD. Attention: CHIEF INFORMATION OFFICER City: Islamabad Country: Pakistan The deadline for bid submission is: Date: <u>11th February 2025</u> Time: <u>11:00 AM</u> Bidders shall not have the option of submitting their bids electronically
ITB 25.1	The bid opening shall take place at: OFFICE OF THE CHIEF EXECUTIVE OFFICER (CEO) CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED, SHAHEEN PLAZA, PLOT 73-A WEST, FAZLUL HAQ ROAD BLUE AREA. UAN:111-922-772 EXT: 235 City: ISLAMABAD Country: Pakistan Date: <u>11th February 2025</u> Time: <u>11:30 AM</u>
ITB 25.3	The Letter of Bid and Price Schedules shall be initialed by representatives of the Procurement Committee conducting Bid opening.
E. Evaluation and Comparison of Bids	
ITB 32.1	The currency that shall be used for bid evaluation and comparison purposes is: PKR (Pakistani Rupees)
ITB 33.1	Margin of Preference: N/A
ITB 34.2(a)	Technical Evaluation will be done Lot wise as per specifications
ITB 34.6	The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria: (a) the cost of major replacement components, mandatory spare parts, and service: Not Applicable (b) the availability in the Purchaser's Country of spare parts and after-sales services for the equipment offered in the bid: Not Applicable
F. Award of Contract	
ITB 39.1	The maximum percentage by which quantities may be increased is: 15% The maximum percentage by which quantities may be decreased is: 15%

Section III. Evaluation and Qualification Criteria

Contents

1. Technical Evaluation (ITB 34)	34
2. Qualification (ITB 36)	34

1. Technical Evaluation (ITB 34)

Technical Evaluation will be carried out based schedule of requirements/ technical specification provided in section III by ensuring the compliance.

2. Qualification (ITB 36)

- i) The bidder will be declared technically qualified if Marks obtained of Evaluation Criteria ≥ 80 .
- ii) The contract will be awarded to the financially lowest bidder. In case if lowest financial value is tied between two or more bidders, bid will be awarded to the bidder having highest score in technical evaluation.

Qualification Criteria

The evaluation will be done on the basis of following parameters for eligibility of the Bidder:

Sr.	Factors	Max. Score
I.	Registration/Incorporation/Business Certificate	Mandatory
	Valid Income Tax Registration	Mandatory
	Valid General Sales Tax Registration (Active with FBR)	Mandatory
	Compliance to technical specifications of BoQ for competing LOT on Letter head of company. For LOT A compliance must be provided as per Annexure D.	Mandatory
	Compliance to schedule of supplies (Delivery/Completion Schedule)	Mandatory
	Manufacturer Authorization Letter (MAL) for Lot A (only for items mentioned in Technical Specification / BoQ of LOT A) and for LOT B	Mandatory
	Principal valid Partnership certificate (For Lots B and D, however for LOT A only for items mentioned in Technical Specification/BoQ of LOT A).	Mandatory
	Must have Average annual turnover of at least PKR 100 million for Lot A and for other Lots at least fifteen (15) million in the last Two years – Income Tax Returns must be attached for all lots	Mandatory
	Must have Office in Islamabad/Rawalpindi	Mandatory
	For LOT A , bidder should have employee with certification (CTDC, CDCP or equivalent) and documentary prove must be submitted with the bid.	Mandatory
	For LOT A Documentation: The bidder must also provide hard printed sets for Detailed Technical Proposal, DataSheets, schematic diagrams, single line diagram for all electrical, mechanical, air-conditioning systems etc. CAD/layout drawings/shop drawings/General. The softcopies of Arrangement Drawings of Electrical (including networks) and Data Sheets for the proposed Data Center Components are also required.	Mandatory

	for LOT A , the bidder should have registration with Pakistan Engineering Council (PEC) in relevant fields (Certificate copy must be attached)	Mandatory
	Bid Validity period of 120 days from date of opening of Bids	Mandatory
II.	<p>For Lot A: Average Annual Sales Turnover for Last Two Years equals or more than 100 million</p> <p>For B & C: Average Annual Sales Turnover for Last Two Years equals or more than 30 million</p> <p>For Lot D Average Annual Sales Turnover for Last Two Years equals or more than 15 million</p> <p>Note for all lots: Income Tax Returns for Last Two Years must be attached</p>	<ul style="list-style-type: none"> • (For lots A,B & D Twenty (20)) • (For Lot C Ten (10))
III.	<p>For Lot A, B, C & D: Similar Project having same scale and complexity each project =twenty Marks (20)</p>	Forty Marks (40)
IV.	<p>List of required Staff Position residing in Islamabad / Rawalpindi of Company (must attach certificates), Certified for Lots A,B,D with principal</p> <ul style="list-style-type: none"> • Certified with principal per resource =20 points <p>List of required Staff Position residing in Islamabad / Rawalpindi of Company (must attach resume), For Lot C</p> <ul style="list-style-type: none"> • Properly Qualified Implementation Team. Per resource = Five Marks (05) 	<ul style="list-style-type: none"> • (For lots A,B & D Forty (40)) • (For Lot C Twenty (20))
V	<p>For Lot C only The bidder for Lot C will give the presentation to the Bid Evaluation Committee regarding their understanding about the:</p> <ul style="list-style-type: none"> • Understanding about scope of the project • business and technical architecture/footprint of the solution being offered • details of project milestones and implementation plan • profiles of the team to be deployed on the project • and any other necessary information helpful for the successful implementation of the project. <p>Max six (6) marks for each of above areas of presentation</p>	<ul style="list-style-type: none"> • Thirty (30)
Max. score		100

Note:

- i) verifiable documentary proof for all above requirements is a mandatory requirement, non-compliance will lead to disqualification.
- ii) Complete specifications with supporting document, brochure of the offered items. If specifications do not meet the tender requirements; offered material shall not be entertained.
- iii) The Refurbished, Grey smuggled products will be not accepted in any case.

3.4 Post-qualification Requirements (ITB 36.1)

After determining the qualification of the bidders, the contract shall be awarded lot wise to the lowest-evaluated bid in accordance with ITB 36.

Section IV. Bidding Forms

Table of Forms

Letter of Bid	38
Bidder Information Form	41
Bidder’s JV Members Information Form	42
Price Schedule: Goods/Services (For Lot A)	Error! Bookmark not defined.
Price Schedule: Goods/Services (For Lot A: SLA for Data Center Equipment)	Error! Bookmark not defined.
Price Schedule: Goods/Services (For Lot B: Data Backup Solution)	Error! Bookmark not defined.
Price Schedule: Goods/Services (For Lot C: Data Institutionalization Project)	Error! Bookmark not defined.
Price Schedule: Goods/Services (For Lot D: Information Security Enhancement)	Error! Bookmark not defined.
Form of Bid Security	44
Form of Bid-Securing Declaration (N/A)	Error! Bookmark not defined.
Manufacturer’s Authorization	65

Letter of Bid

The Bidder must prepare the Letter of Bid on stationery with its letterhead clearly showing the Bidder's complete name and address.

Note: All italicized text is for use in preparing these form and shall be deleted from the final products.

Date: **[insert date (as day, month and year) of Bid Submission]**

Invitation for Bid No.: **[insert identification]**

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB 8)___;
- (b) We meet the eligibility requirements and have no conflict of interest in accordance with ITB 4;
- (c) We have not been suspended nor declared ineligible by the Purchaser based on execution of a Bid Securing Declaration in the Purchaser's country in accordance with ITB 4.6
- (d) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Schedule of Requirements the following Goods/Services: **[insert a brief description of the Goods/Services and Related Services]**;
- (e) The total price of our Bid, excluding any discounts offered in item (f) below is:

In case of only one lot, total price of the Bid **[insert the total price of the bid in words and figures, indicating the various amounts and the respective currencies]**;

In case of multiple lots, total price of each lot **[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]**;

In case of multiple lots, total price of all lots (sum of all lots) **[insert the total price of all lots in words and figures, indicating the various amounts and the respective currencies]**;

- (f) The discounts offered and the methodology for their application are:

(i) The discounts offered are: [Specify in detail each discount offered.]

- (ii) The exact method of calculations to determine the net price after application of discounts is shown below: **[Specify in detail the method that shall be used to apply the discounts];**
- (g) Our bid shall be valid for a period of [*specify the number of calendar days*] days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (h) If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- (i) We are not participating, as a Bidder or as a subcontractor, in more than one bid in this bidding process in accordance with ITB 4.2(e), other than alternative bids submitted in accordance with ITB 13;
- (j) We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by a member of the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Employer’s country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (k) We are not a government owned entity/ We are a government owned entity but meet the requirements of ITB 4.5;²
- (l) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: **[insert complete name of each Recipient, its full address, the reason for which each commission or gratuity was paid and the amount and currency of each such commission or gratuity]**

Name of Recipient	Address	Reason	Amount

(If none has been paid or is to be paid, indicate “none.”)

- (m) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and

² Bidder to use as appropriate

- (n) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (o) We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf will engage in any type of fraud and corruption

Name of the Bidder* **[insert complete name of person signing the Bid]**

Name of the person duly authorized to sign the Bid on behalf of the Bidder** **[insert complete name of person duly authorized to sign the Bid]**

Title of the person signing the Bid **[insert complete title of the person signing the Bid]**

Signature of the person named above **[insert signature of person whose name and capacity are shown above]**

Date signed **[insert date of signing]** day of **[insert month]**, **[insert year]**

*: In the case of the Bid submitted by joint venture specify the name of the Joint Venture as Bidder

** : Person signing the Bid shall have the power of attorney given by the Bidder to be attached with the Bid Schedules.

Bidder Information Form

[The Bidder 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.]

Date: *[insert date (as day, month and year) of Bid Submission]*

ICB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page _____ of _____ pages

1. Bidder's Name <i>[insert Bidder's legal name]</i>
2. In case of JV, legal name of each member : <i>[insert legal name of each member in JV]</i>
3. Bidder's actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
4. Bidder's year of registration: <i>[insert Bidder's year of registration]</i>
5. Bidder's Address in country of registration: <i>[insert Bidder's legal address in country of registration]</i>
6. Bidder's Authorized Representative Information Name: <i>[insert Authorized Representative's name]</i> Address: <i>[insert Authorized Representative's Address]</i> Telephone/Fax numbers: <i>[insert Authorized Representative's telephone/fax numbers]</i> Email Address: <i>[insert Authorized Representative's email address]</i>
7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i> <input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or documents of registration of the legal entity named above, in accordance with ITB 4.3. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITB 4.1. <input type="checkbox"/> In case of Government-owned enterprise or institution, in accordance with ITB 4.5 documents establishing: <ul style="list-style-type: none">• Legal and financial autonomy• Operation under commercial law• Establishing that the Bidder is not dependent agency of the Purchaser
2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.

Bidder's JV Members Information Form

[The Bidder shall fill in this Form in accordance with the instructions indicated below. The following table shall be filled in for the Bidder and for each member of a Joint Venture]].

Date: *[insert date (as day, month and year) of Bid Submission]*

ICB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

Page _____ of _____ pages

1. Bidder's Name: <i>[insert Bidder's legal name]</i>
2. Bidder's JV Member's name: <i>[insert JV's Member legal name]</i>
3. Bidder's JV Member's country of registration: <i>[insert JV's Member country of registration]</i>
4. Bidder's JV Member's year of registration: <i>[insert JV's Member year of registration]</i>
5. Bidder's JV Member's legal address in country of registration: <i>[insert JV's Member legal address in country of registration]</i>
<p>6. Bidder's JV Member's authorized representative information</p> <p>Name: <i>[insert name of JV's Member authorized representative]</i></p> <p>Address: <i>[insert address of JV's Member authorized representative]</i></p> <p>Telephone/Fax numbers: <i>[insert telephone/fax numbers of JV's Member authorized representative]</i></p> <p>Email Address: <i>[insert email address of JV's Member authorized representative]</i></p>
<p>7. Attached are copies of original documents of <i>[check the box(es) of the attached original documents]</i></p> <p><input type="checkbox"/> Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITB 4.3.</p> <p><input type="checkbox"/> In case of a Government-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and absence of dependent status, in accordance with ITB 4.5.</p> <p>2. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership.</p>

Price Schedule Forms

*[The Bidder shall fill in these Price Schedule Forms in accordance with the instructions indicated. The list of line items in column 1 of the **Price Schedules** shall coincide with the List of Goods/Services and Related Services specified by the Purchaser in the Schedule of Requirements.]*

Price Schedule: Goods/Services (For Lot A)
Currencies in accordance with ITB 15 (PKR)

Line Item N°	Description of Goods/Services	Unit	Qty	Unit price DELIVERED DUTY PAID (DDP) [CPPA-G office Islamabad]	Total Price in PKR
1	Cabinets & POD Containment Aisles-OEM Warranty for first Year (MAF & Principal Partnership Certificate required)				
1.01	42U open cabinet, including front door, rear double door, top panel, bottom panel, 9-folded frame, wheels and stand-levels, Side door with insulation, for Closed Cabinet, 600mm(width)*1200mm(depth)*2000mm(height)	Nos.	6		
1.02	Vertical cable organizer, 42U height. Including cable plate, and cable rings.	Nos.	14		
1.03	Horizontal cable organizer including cable slot and cover, 1U height.	Nos.	8		
1.04	Sliding door electric type, suitable for 1200mm aisle layout.	Nos.	2		
1.05	Door release switch compact design push open.	Nos.	2		
1.06	Lighting kit for aisle system, LED type	Nos.	8		
1.07	Top panel fix type, dimension	Nos.	2		
1.08	Top panel hinge type, dimension	Nos.	2		
1.09	Top panel fix type, dimension	Nos.	2		
1.10	Integrated power and control module, including control for top panel, lighting, smoke/fire port and 12V power supply.	Nos.	1		
1.11	Quick installation type tool free blanking panel 1U height.	Nos.	180		
1.12	3 in 1 Rack access control reader, supporting fingerprint, RFID card, and pin.	Nos	14		
1.13	Installation, Testing and Commissioning of Cabinets and Aisles System	Job	1		
2	InRow Precision Cooling and Thermal Management System- OEM Warranty for 1 Year (MAF & Principal Partnership Certificate required)				

2.01	Inrow split indoor unit, w/ Heat & Hum, inverter compressor, 380-415V/3P/50Hz-60Hz. with SNMP with Air Cooled Condenser Single Circuit OR Equivalent cooling system {(N+1) = (17KW+1)}	Nos	2			
2.02	Rigging, lifting(ODU on rooftop), Installation, testing and commissioning of Air Conditioning units including supply and installation of supports, brackets, rubber isolator, flashing, control wiring & power wiring (connection). Supply, installation, testing and commissioning of refrigerant pipes (liquid + gas) with expanded rubber foam insulation, PVC tape wrapping + control wiring, Water and drain pipes in proper trays and conduits, Refregerant Gas for units. Complete in all respects ready to operate.	Job	2			
3	Power System- OEM Warranty for 1 Year (MAF & Principal Partnership Certificate required)					
3.01	UPS 400V3P 60kVA capacity or above, with provisioing of 5- 6 pcs Power Modules, hot-swap bypass module, power efficiency >95.5%, back up batteries: 32~44, rack mount with SNMP Card. Power modules as per load {(N+1) = 30KVA (20KVA+1)}, Output PF 1.0	Nos	2			
3.02	Rack mount battery package. Hot swappable type battery sub-assembly (Minimum 20-25 mins backup at 80% load)	Nos	8			
3.03	32A Rack Mount STS/LTS/ATS with 12 x C13 + 4 x C19 sockets	Nos	1			
3.04	Rack PDU rated input current 32A, 16-bit C13 output socket, 8-bit C19 output socket with indicator, with total meter (hot-swapped IP-2017 digital current meter), vertical mount, with web, RS485 or SNMP protocol	Nos	16			
3.05	Installation, Testing and Commissioning of Power System including UPS, BB and PDUs	Job	1			
3.06	Shifting and Reinstallation of existing LTS in new MMR racks	Job	1			
4	Data Center Infrastructure Monitoring- OEM Warranty for 1 Year (MAF & Principal Partnership Certificate required)					
4.01	Integrated monitoring host with built in minimum 10 inch display, communicates with sensors (temperature & humidity, smoke, leaking, door open) and equipment (cooling, ups and power	Nos	1			

	meters). Web portal and Modbus-TCP port. Wall mounting type.					
4.02	SNMP reporting port for higher level DCIM/BMS/NMS integration	Nos	1			
4.03	Temperature and humidity sensor, RS-485 type	Nos	6			
4.04	Water flooding sensor, none positioning type.	Nos	2			
4.05	Smoke sensor, dry contact type with alarm light.	Nos	2			
4.06	Access controller, management of users, logs and access authorization, 2 door type.	Nos	10			
4.07	Supply of Connectivity Cables, Installation, Testing and Commissioning	Job	1			
4.08	Rack mount switch, 24 network port.	Nos	1			
4.09	17" LED display, 16-port USB switcher to manage 16 servers. VGA interface, 1U rack mount.	Nos	1			
5	Power Cables					
5.01	From MDP To UPS and Bypass - A & B 50 mm sq 4C CU/PVC/PVC Std X 1	meters	40			
5.02	From AC DB To Data Center Cooling Indoor Unit - A & B 10 mm sq 4C CU/PVC/PVC Std X 2	meters	80			
5.03	From Data Center Cooling Indoor Unit to Outdoor Unit - A & B 2.5 mm sq 4C CU/PVC/PVC Std X 2	meters	120			
5.04	From MGB to Server Room Precision cooling Outdoor Unit - ECCA & B 2.5 mm sq SC CU/PVC std X 2	meters	180			
5.05	From MGB to Server Room and MMR Racks and cooling Units- ECCA & B 6 mm sq SC CU/PVC std X 14	meters	270			
5.06	Laying, Termination & testing of Power Cables	Jobs	1			
6	Fire Detection & Suppression System					
6.01	The bidder has to provide the detailed drawing and BOQ as per site requirements and industry standards	Jobs	1			
6.02	dodecafluoro-2-methylpentan-3-one based Fire Suppression System (UL listed) in Power Rooms , Communication Room , DC Hall.	Jobs	1			
6.03	Cylinder 120 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter	Nos	1			

	TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR					
6.04	Cylinder 40 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR	Nos	2			
6.05	Cylinder 67 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR	Nos	1			
6.06	Low pressure switch	Nos	4			
6.07	MH5112 (FK-5-1-12) commonly known as dodecafluoro-2-methylpentan-3-one. Specification compliance with NFPA2001 (Standard on clean agent fire extinguishing systems) and ISO14520 (Gaseous fire extinguishing systems). UL/FM approved.	kg	201			
6.08	(360°) CENTRAL NOZZLE	Nos	5			
6.09	CAUTION-ROOM PROTECTED	Nos	4			
6.10	Fire extinguishing control modules/panels as per site requirements	Lot	1			
6.11	Addressable Optical smoke detector with base (UL Listed with Flashing LED) For DC Hall, MMR, Power Rooms, Corridor, Manager Room, IT Hall, NOC Room & Kitchen	Nos	29			
6.12	Electronic Sounder with Flasher	Nos	4			
6.13	Fire Alarm Bell 6" High efficiency low current consumption on 24VDC motorized bells. Sound Output: 93dB @1M. Approved EN54, LPCB, CE.	Nos	4			
6.14	Supply and Installation of Sch 40 pipe network for fire suppression system in Power Rooms 1 & 2, MMR and Server Room	Job	1			
6.15	Programming, Testing and commissioning of Fire Detection and Suppression system	Job	1			

6.16	Manual Fire extinguishers with clean agent for ABCD Classes of Fire 4kg, Type: Halotron (HCFC-123)	Each	6			
6.17	Addressable Fire Alarms and Detection System with redundant loop system and central monitoring	Nos.	1			
6.18	Supply and wiring of 2C, 1.5 Sq.mm fire resistant Cable in EMT conduit from fire alarm control panel to all sensors & devices including all installation accessories and paint/civil reworks where required	Job	1			
6.19	Supply and Installation of tempered Glass Doors, Double Door size 7ft x 5ft with all accessories including handles, latches, locks, fittings, access control lock and frosting as per design	Nos.	1			
7	Migration of Existing IT Systems					
7.01	Migration of existing IT equipment to new Data Center	Job	1			
8	<ul style="list-style-type: none"> • Network Cabling Design (End of the Row Solution) • 12+12 fiber OM4 10G LC ports from MMR to EOR Network Cabinets and EOR to IT Racks including cabling, Patch frames/ODF, Patch Cords • 12+12 fiber OS2 10G LC ports from MMR to EOR Network Cabinets including cabling, Patch frames/ODF, Patch Cords • 24+24 copper ports from each rack to EOR/Network Cabinets and to MMR including Cat-6 UTP cabling, Patch Panels and othr allied accessories 					
8.01	24 Port Patch Panel Cat-06 UTP Loaded	Nos	14			
8.02	Cat-06 UTP Cable Roll LSZH 23 AWG 305-meter roll (1000ft)	Nos	8			
8.03	Cat-06 UTP Patch Cord 1 Meter	Nos	170			
8.04	Cat-06 UTP Patch Cord 3-Meter	Nos	170			
8.05	Cable Manager	Nos	28			
8.06	Cable Tagging and Ties	Nos	1			
8.07	Laying of Cable and Punching of Patch Panel	Job	1			
8.08	Fluke Testing With DTX-1800 NVP-69	Job	168			
8.09	Fiber Cable 12 Core Single Mode Flexible	meters	50			
8.10	Fiber Cable 12 Core Multi Mode OM3/OM4 Flexible	meters	300			
8.11	Fiber Patch Cord 3-meter OM3/OM4 LSZH	Nos	170			

8.12	12 Port OFDF with LC Coupler and Pigtail OM3/OM4	Nos	6			
8.13	24 Port OFDF with 12 LC/APC SM Coupler and 12 LC OM3/OM4	Nos	2			
8.14	72 Port OFDF with LC Coupler and OM3/OM4 Pigtail	Nos	1			
8.15	Fiber Patch Cord 3-meter OS2	Nos	24			
8.16	Cable Tagging and Ties	Nos	1			
8.17	Laying of Cable and Punching of Patch Panel	Job	1			
8.18	Fiber Splicing and OTDR Testing With Fujikira	Job	192			
8.19	Shifting and laying of Existing building passive cabling from each floor to MMR. Total 30 nodes	Job	1			
8.20	Anti-Static Wrist Strap with Grounding Wire	Nos	4			
8.21	Structured Cabling Compliance with ANSI/TIA/EIA 568 Standard and Cable Labeling Compliance with ANSI/TIA 606 Standard	Job	1			
9	Training, Enablement & Warranty					
9.01	Provide the soft and hard copies of final network and power drawings/layouts	Job	1			
9.02	Complete Operational and Maintenance Training for installed Systems and Facilities on CPPA Premises. (Five (5) Persons local onsite hands on five days training)	Job	1			
9.03	All provided equipment / services must be covered under warranty for 01 year after date of issuance of Acceptance Certificate. OEM Based SLA for OEM part as mentioned in Bill of Quantity (BOQ) above and of all other items supplier to provide Warranty for non-OEM products for 1st year (Warranty as per manufacture`s standard condition including parts)	Job	1			
Grand Total						

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]*
Date *[insert date]*

**Price Schedule: For Lot A: SLA for Data Center
Equipment**

First, Second & Third Agreement Years (Per year)

Currencies in accordance with ITB 15 (PKR)

Line Item N°	Description of Goods/Services	Unit	Qty	Unit price DELIVERED DUTY PAID (DDP) [CPPA -G office Islamabad]	Total Price in PKR
1	Industrial Sockets				
1.01	32A Industrial Sockets 3 pin single phase (Brand: Clipsal)	Nos.	26		
2	LV Switch Gear				
2.01	250A ATS with MOR (Brand: ABB)	Nos.	2		
2.02	250A MDP with Surge Protection (Brand: ABB)	Nos.	2		
2.03	DB ELV and NOC (Brand: ABB)	Nos.	2		
2.04	AC DB (Brand: ABB)	Nos.	2		
2.05	LSP DB (Brand: ABB)	Nos.	2		
2.06	UPS Output and Bypass DB (Brand: ABB)	Nos.	2		
2.07	Rack Power Distribution DB (Brand: ABB)	Nos.	2		
2.08	Provisioning of Electrical parameters central monitoring through energy analyzers on DCIM software (Brand: Tense)	Each	1		
3	Grounding				

3.01	Grounding of less than 1 OHM through earth pits (DC Hall, Electric UPS Room, Communication Room, Generator) Chemical Enhanced Earth using 25 mm dia 10'-0" long copper rod filled with soil conditioning material (low res/bentonite) including 4" dia, boring and back filled chemical	Job	3			
4	Mechanical					
4.01	2.0-ton Inverter type Comfort cooling unit for MMR Room and Power Rooms with Sequence Controller (Brand: Haier, Model: HSU-24HFCD/022USDCW)	No	6			
5	Civil					
5.01	Fire Rated Doors for DC Hall, Power rooms, DC Hall, MMRs with Trim Lock, Panic Bar (Brand: SECCO)	No.	7			
5.02	Anti-static (Static Dissipative) Solid Vinyl Conductive ESD flooring with thickness of 3mm of approved color, Antistatic Vinyl Tilling for DC Hall , UPS/Power Rooms and MMR/ Communication Room (Brand: DECORA, Model: Terrazzo Classic)	Sqft	900			
6	CCTV & Access Control					
6.01	Ceiling mounted fixed type PoE Powered I.P Camera with day and minimum 25 fps, along with all mounting accessories (Brand: Hikvision, Model: DS-2CD1043G0-L)	Nos.	16			

6.02	16 Port PoE 1-Gig Switch (Brand: Hikvision, Model=DS-3EO518P-EW)	Nos.	1			
6.03	Network Video Recorder (NVR). (Brand: Hikvision, Model: DS-7616N-K2)	Nos.	1			
6.04	LCD Display 55" (Brand: TCL, Model:55P635)	Nos.	2			
6.05	Face Pad with following features and cloud based reporting and door lock mechanism a) CPU: Hexa Core Processor b) OS: Android 7.1 c) Screen Resolution: 1200x600 d) Capacitive Touch Screen e) Camera: Dual, 2 MP f) Face capacity: 5,000 g) Speed: <4 secs h) Bulk Registration supported i) Ethernet: 100/10 MBPS j) Wi-Fi, USB, Relay controller & Buzzer enabled (with indication lights) (Face Recognition Device, Model: TR08A)	Nos.	1			
6.06	Access Control System (with features of Bio Metric & RFID) (Brand: ZKT ECO, Model: F22)	Job	4			
7	Cabinets & POD Containment Aisles					
7.01	42U open cabinet, including front door, rear double door, top panel, bottom panel, 9- folded frame, wheels and stand-levels, Side door with insulation, for Closed Cabinet, 600mm(width)*1200mm(de pth)*2000mm(height)	Nos.	6			

7.02	3 in 1 Rack access control reader, supporting fingerprint, RFID card, and pin.	Nos	10			
8	InRow Precision Cooling and Thermal Management System					
8.01	Inrow split indoor unit, w/ Heat & Hum, inverter compressor, 380-415V/3P/50Hz-60Hz. with SNMP with Air Cooled Condenser Single Circuit OR Equivalent cooling system {(N+1) = (17KW+1)}	Nos	2			
9	Power System					
9.01	UPS 400V3P 60kVA capacity or above, with provisioning of 5- 6 pcs Power Modules, hot-swap bypass module, power efficiency >95.5%, back up batteries: 32~44, rack mount with SNMP Card. Power modules as per load {(N+1) = 30KVA (20KVA+1)}, Output PF 1.0	Nos	2			
9.02	Rack mount battery package. Hot swappable type battery sub-assembly (Minimum 20-25 mins backup at 80% load)	Nos	8			
9.03	32A Rack Mount STS/LTS/ATS with 12 x C13 + 4 x C19 sockets	Nos	1			
9.04	Rack PDU rated input current 32A, 16-bit C13 output socket, 8-bit C19 output socket with indicator, with total meter (hot-swapped IP-2017 digital current meter), vertical mount, with web, RS485 or SNMP protocol	Nos	16			
9.05	LTS in MMR racks	Nos	1			

10	Data Center Infrastructure Monitoring					
10.01	Integrated monitoring host with built in minimum 10-inch display, communicates with sensors (temperature & humidity, smoke, leaking, door open) and equipment (cooling, ups and power meters). Web portal and Modbus-TCP port. Wall mounting type.	Nos	1			
10.02	SNMP reporting port for higher level DCIM/BMS/NMS integration	Nos	1			
10.03	Temperature and humidity sensor, RS-485 type	Nos	6			
10.04	Water flooding sensor, none positioning type.	Nos	2			
10.05	Rack mount switch, 24 network port.	Nos	1			
10.06	Smoke sensor, dry contact type with alarm light.	Nos	2			
10.07	Access controller, management of users, logs and access authorization, 2 door type.	Nos	10			
10.09	17" LED display, 16-port USB switcher to manage 16 servers. VGA interface, 1U rack mount.	Nos	1			
11	Fire Detection & Suppression System					
	dodecafluoro-2-methylpentan-3-one based Fire Suppression System (UL listed) in Power Rooms, Communication Room , DC Hall.					
11.01	Cylinder 120 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter	Nos	1			

	TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR					
11.02	Cylinder 40 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR	Nos	2			
11.03	Cylinder 67 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR	Nos	1			
11.04	Low pressure switch	Nos	4			
11.05	MH5112 (FK-5-1-12) commonly known as dodecafluoro-2- methylpentan-3-one. Specification compliance with NFPA2001 (Standard on clean agent fire extinguishing systems) and ISO14520 (Gaseous fire extinguishing systems). UL/FM approved.	kg	201			
11.06	(360°) CENTRAL NOZZLE	Nos	5			
11.07	CAUTION-ROOM PROTECTED	Nos	4			
11.08	Fire extinguishing control modules/panels as per site requirements	Lot	1			
11.09	Addressable Optical smoke detector with base (UL Listed with	Nos	29			

	Flashing LED) For DC Hall, MMR, Power Rooms, Corridor, Manager Room, IT Hall, NOC Room & Kitchen					
11.10	Electronic Sounder with Flasher	Nos	4			
11.11	Fire Alarm Bell 6" High efficiency low current consumption on 24VDC motorized bells. Sound Output: 93dB @1M. Approved EN54, LPCB, CE.	Nos	4			
11.12	Addressable Fire Alarms and Detection System with redundant loop system and central monitoring	Nos.	1			
12	Resident Engineer and OEM backed Extended warranty, Support and SLA					
12.01	An OEM backed Extended warranty, Support and SLA for OEM parts, as mentioned above, and an SLA with a warranty for non-OEM products, initially for one agreement year and extendable annually for up to two additional years, subject to the issuance of a satisfactory performance certificate by CPPA-G. (Includes OEM-backed 24/7 support and part replacement as per timelines mentioned in table Lot A: Service Level Agreement: Annexure "B" Clause 9 (a) (vii) (Item-wise cost to be provided by the bidder.)	Job	1			
12.02	Resident Engineer (start from the date of issuance of Acceptance Certificate	Nos.	1			
Total Price for First Agreement Year						

Total Price for Second Agreement Year	
Total Price for Third Agreement Year	
Grand Total	

Name of Bidder *[insert complete name of Bidder]* Signature of Bidder *[signature of person signing the Bid]*
Date *[insert date]*

Price Schedule: Goods For Lot B: DATA BACKUP SOLUTION

Currencies in accordance with ITB 15 (PKR)

Line Item N°	Description of Goods/Services	<i>Quantity</i>	Unit price DELIVERED DUTY PAID (DDP) [CPPA-G office Islamabad]		Total Price in PKR
1	DATA BACKUP SOLUTION with Three (03) years 24/7 OEM Warranty and support and next business day Part & Repair replacement.	1			
2	OEM Technical Training (International hands on five days training including traveling, lodging and boarding)	2			
Grand Total					

Name of Bidder [*insert complete name of Bidder*] Signature of Bidder [*signature of person signing the Bid*]
Date [*insert date*]

**Price Schedule: Lot C: - DATA INSTITUTIONALIZATION PROJECT
(BIG DATA SOLUTION)**

Currencies in accordance with ITB 15 (PKR)

Line Item N°	Description of Goods/Services	<i>Quantity</i>	Unit price DELIVERED DUTY PAID (DDP) [CPPA-G office Islamabad]		Total Price in PKR
1	Big Data Solution Licenses (One Year Subscription)	<i>1</i>			
2	Project implementation (Six (06) Months Timeline)	<i>1</i>			
3	Support After Implementation Per year	1			
4	Principal Training (Local hands on five days training including traveling, lodging and boarding)	5			
Grand Total					

Name of Bidder [*insert complete name of Bidder*] Signature of Bidder [*signature of person signing the Bid*]
Date [*insert date*]

Price Schedule: Lot D: INFORMATION SECURITY ENHANCEMENT

Currencies in accordance with ITB 15 (PKR)

Line Item N°	Description of Goods/Services	Quantity	Unit price DELIVERED DUTY PAID (DDP) [CPPA-G office Islamabad]	GST on Unit price delivered duty paid (DDP) [CPPA-G office Islamabad]	Total Price in PKR
1	BloxOne DDI Backup Virtual Appliance. (On-Prem DNS Server)	1			
2	Virtual Appliance deployment of Blox1DDI and provisioning of the conditional forwarding for the visibility of internal corporate users.	2			
3	One Year on Site Support after deployment	1			
4	International hands on five days training including traveling, lodging and boarding (training and knowledge transfer to CPPA-G's personnel for all components.	2			

	The training should cover the deployment, configuration, management, upgrade and reporting aspects)				
				Grand Total	

Name of Bidder *[insert complete name of Bidder]*

Signature of Bidder *[signature of person signing the Bid]*

Date *[insert date]*

Form of Bid Security

(Bank Guarantee)

[The bank shall fill in this Bank Guarantee Form in accordance with the instructions indicated.]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Purchaser to insert its name and address]*

IFB No.: *[Purchaser to insert reference number for the Invitation for Bids]*

Alternative No.: *[Insert identification No if this is a Bid for an alternative]*

Date: *[Insert date of issue]*

BID GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that _____ *[insert name of the Bidder, which in the case of a joint venture shall be the name of the joint venture (whether legally constituted or prospective) or the names of all members thereof]* (hereinafter called "the Applicant") has submitted or will submit to the Beneficiary its bid (hereinafter called "the Bid") for the execution of _____ under Invitation for Bids No. _____ ("the IFB").

Furthermore, we understand that, according to the Beneficiary's conditions, bids must be supported by a bid guarantee.

At the request of the Applicant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of _____ (_____) upon receipt by us of the Beneficiary's complying demand, supported by the Beneficiary's statement, whether in the demand itself or a separate signed document accompanying or identifying the demand, stating that either the Applicant:

- (a) has withdrawn its Bid during the period of bid validity set forth in the Applicant's Letter of Bid ("the Bid Validity Period"), or any extension thereto provided by the Applicant; or
- (b) having been notified of the acceptance of its Bid by the Beneficiary during the Bid Validity Period or any extension thereto provided by the Applicant, (i) has failed to execute the contract agreement, or (ii) has failed to furnish the performance security, in accordance with the Instructions to Bidders ("ITB") of the Beneficiary's bidding document.

This guarantee will expire: (a) if the Applicant is the successful bidder, upon our receipt of copies of the contract agreement signed by the Applicant and the performance security issued to the Beneficiary in relation to such contract agreement; or (b) if the Applicant is not the successful bidder, upon the earlier of (i) our receipt of a copy of the Beneficiary's notification to the Applicant of the results of the bidding process; or (ii) twenty-eight days after the end of the Bid Validity Period.

Consequently, any demand for payment under this guarantee must be received by us at the office indicated above on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758.

[Signature(s)]

Note: All italicized text is for use in preparing this form and shall be deleted from the final product.

Manufacturer's Authorization

[The Bidder 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 Bidder shall include it in its bid, if so indicated in the BDS.]

Date: *[insert date (as day, month and year) of Bid Submission]*

ICB No.: *[insert number of bidding process]*

Alternative No.: *[insert identification No if this is a Bid for an alternative]*

To: *[insert complete name of Purchaser]*

WHEREAS

We *[insert complete name of Manufacturer]*, who are official manufacturers of *[insert type of Goods/Services manufactured]*, having factories at *[insert full address of Manufacturer's factories]*, do hereby authorize *[insert complete name of Bidder]* to submit a bid the purpose of which is to provide the following Goods/Services, manufactured by us *[insert name and or brief description of the Goods/Services]*, and to subsequently negotiate and sign the Contract.

We hereby extend our full guarantee and warranty in accordance with Clause 28 of the General Conditions of Contract, with respect to the Goods/Services offered by the above firm.

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

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

Title: *[insert title]*

Dated on _____ day of _____, _____ *[insert date of signing]*

Section V. Eligible Countries

Eligibility for the Provision of Goods/Services, Works and Non Consulting Services in Bank-Financed Procurement

In reference to ITB 4.7 and 5.1, for the information of the Bidders, at the present time firms, Goods/Services and services from the following countries are excluded from this bidding process:

Under ITB 4.7(a) and 5.1: *India and Israel*

Under ITB 4.7(b) and 5.1: *None*

Section VI. Bank Policy - Corrupt and Fraudulent Practices

Guidelines for Procurement of Goods/Services, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011.

“Fraud and Corruption:

1.16 It is the Bank’s policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.³ In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;⁴
 - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;⁵
 - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;⁶
 - (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;⁷

³ In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

⁴ For the purpose of this sub-paragraph, “*another party*” refers to a public official acting in relation to the procurement process or contract execution. In this context, “*public official*” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

⁵ For the purpose of this sub-paragraph, “*party*” refers to a public official; the terms “*benefit*” and “*obligation*” relate to the procurement process or contract execution; and the “*act or omission*” is intended to influence the procurement process or contract execution.

⁶ For the purpose of this sub-paragraph, “*parties*” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other’s bid prices or other conditions.

⁷ For the purpose of this sub-paragraph, “*party*” refers to a participant in the procurement process or contract execution.

- (v) "obstructive practice" is:
 - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - (bb) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank's sanctions procedures,⁸ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated⁹;
- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to

⁸ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank's sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

⁹ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”

PART 2 – Supply Requirements

Section VII. Schedule of Requirements

Contents

1. List of Goods/Services and Delivery Schedule	Error! Bookmark not defined.
2. List of Related Services and Completion Schedule.....	76
3. Technical Specifications/Schedule of Requirement	77
4. Drawings
5. Inspections and Tests.....	119

1. List of Goods/Services and Delivery Schedule

Line Item No.	Description of Goods/Services	Quantity	Physical unit	Final (Project Site) Destination as specified in BDS	Delivery (as per Incoterms) Date
					Delivery Date
Lot A	For Supply, Installation, Testing & Commissioning of Tier III Data Center Facility/equipment at CPPA-G & Migration of Existing IT Systems	As per Schedule of Requirements	As per Schedule of Requirements	Office of The Chief Executive Officer (CEO) Central Power Purchasing Agency (Guarantee) Limited, Shaheen Plaza, Plot 73-A West, Fazlul Haq Road Blue Area, Islamabad	Two hundred & Ten Days (210)
Lot B	Data Backup Solution				One Fifty Days (150)
Lot C	Data Institutionalization Project – Big Data Solution				Project completion should be within One eighty days (180)
Lot D	Information Security Enhancement				One Fifty Days (150)

2. List of Related Services and Completion Schedule

Service	Description of Service	Quantity ¹	Physical Unit	Place where Services shall be performed	Final Completion Date(s) of Services
Lot A	For Supply, Installation, Testing & Commissioning of Tier III Data Center Facility/equipment at CPPA-G & Migration of Existing IT Systems	As per Schedule of Requirements	As per Schedule of Requirements	Office of The Chief Executive Officer (CEO) Central Power Purchasing Agency (Guarantee) Limited, Shaheen Plaza, Plot 73-A West, Fazlul Haq Road Blue Area, Islamabad	Two hundred & Ten Days (210)
Lot B	Data Backup Solution				One Fifty Days (150)
Lot C	Data Institutionalization Project – Big Data Solution				Project completion should be within One eighty days (180)
Lot D	Information Security Enhancement				One Fifty Days (150)

1. If applicable

3. Schedule of Requirement / Technical Specifications

LOT A: TECHNICAL SPECIFICATIONS- For Supply, Installation, Testing & Commissioning of Tier III Data Center Facility/equipment at CPPA-G & Migration of Existing IT Systems

The CPPA-G invites sealed bids, through this Request for Proposal (RFP) from the bidders (registered with Income Tax and Sales Tax Departments), to prominently achieve the establishment of Data Center covering Power cooling and ITDC monitoring infrastructure completion supporting entire passive infrastructure deployment to achieve smooth and uninterrupted data center operations 24x7 eliminating all single point of failures in Power and cooling with best possible and maximum protection level overall up to Rating/Tier III conformance (Tier-III benchmark guides and specifications for Telecom, Electrical, Architectural, Mechanical, fit out).

TECHNICAL SPECIFICATION REQUIREMENTS

Introduction: -

1. The turn-key solution is required for complete Data Center infrastructure. The solution shall encompass services (Electrical, Civil, Mechanical and Telecom), as per TIA 942 Design and Facility Requirements on 'Turn-Key Basis'.
2. The intended achievable result is "Concurrent Maintainable Data Center" operational 24x7. Eliminating all single point of failures in the Electrical, Mechanical and Telecom Distribution.
3. This section describes technical specifications of components, materials, appliances, and services to be delivered. The section is structured such that the bidder is aware of the complete set of requirements which include allied services, equipment, systems, integration, processes, post installation work and subsequent operating support. No deviation in specification given in this document will be accepted.

The specification of the data center will be based on TIA 942 A/B. The design will be Rating 3 ensuring the highest availability. Commonly, Rating 3 means:

- 7 x 24 h / 365 days continuous operation
- Availability Rating III for technical infrastructure is must.
- Any repair, maintenance, extension or retrofitting work in conjunction with the data center supporting systems shall not affect continuous operation of IT infrastructure (concurrently maintainable).

The data center shall have the following:

- Aisle Containment
- High emphasis is placed on design scalability for future design and high availability of the Data Center on all elements i.e., Telecom, Electrical, Architectural and Mechanical.
- All critical components for operation of the Data Center e.g., Modular UPS systems, In-Row Precision Cooling Units, Racks, PDUs, Containment & DCIM Solution must be supplied by single OEM.
- The bidder will supply/deploy 6 x Racks for IT and Network Equipment Deployment, but the containment design should be of 12 Racks to allow future scalability.
- Each Rack load will be 3kW per rack however, it will be diversified as the number of racks are increased.

- The Modular Chassis and respective Modules of the UPS supplied to cater for the IT Load must be sized for the 6 x Racks of Datacenter and 2 x Racks of MMR with redundant power module.
- The Heat Load of the IT Equipment will be catered by In-Row Precision Cooling Units. The In-row precision cooling units design will be based on the supply to 6 x Racks in data center (12kW for 4x IT Racks and 5kW for 2x Network racks load)

The aim of this procurement is to have all the key elements including products and services for this data center including but not limited to the below:

- Data Center layout design and associated civil works in accordance with load bearing capacity of floor.
- Redundant backup power system for the data center.
- In Row Precision Cooling Solutions must be provided for the IT Equipment Room
- Modular Thermal Containment is required for the IT Equipment Room
- Provisioning of Qty-6 High density Server Racks with dual PDU 32A metered based modular POD with Standard 42U [600mm (width) * 1200mm (depth) *2000mm (height)] enclosures. Cabinets/Racks shall meet specification of EIA-310.
- Blanking panels must be installed for all vacant slots in cabinet.
- Fire detection and suppression.
- Monitoring system Data Center Infrastructure Management software (DCIM) for data center
- Network connectivity
- Professional services including migration of existing server and network infrastructure.
- Warranty and support services.

The bidder has to ensure that the design should meet the (but not limited to the) following guidelines:

- American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) cooling standards or equivalent standards.
- Institute of Electrical and Electronics Engineers (IEEE) standards for Electrical
- International Standard Organization ISO standards for processes and procedures
- Under writers Laboratory/CE Standards or equivalent standards etc.

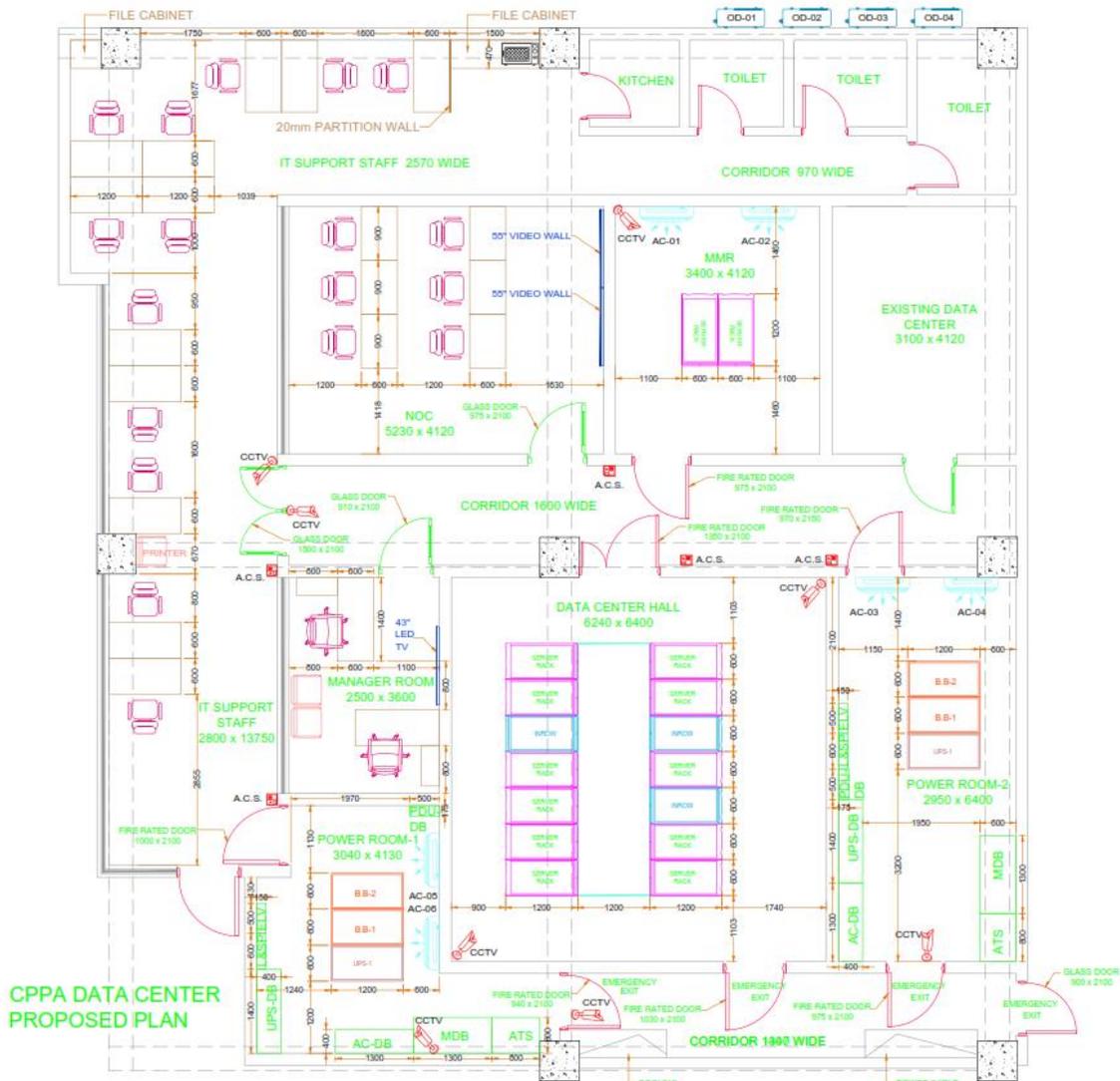


Fig 1: Data Center General Arrangement Layout

1. Cabinets & POD Containment Aisles

The scope of Cabinets includes design, procurement, installation, implementation / grounding, testing and commissioning. The Rack shall be designed to provide a secure, managed environment for computer and networking equipment.

The table below provides summary for IT cabinets and PDU requirements.

Sr No	Description	Size
1.	Server Racks	600mmx1200mmX2000 mm

2.	Smart PDU's (Dual PDU each rack)	0 U, 32A Metered
3.	Blanking Panel	1U/2U tool-less

Note: slight changes in rack sized are allowed to accommodate different principal manufacturers.

- a. The racks shall support a load of >1,500 kg. The racks must have 75% perforated front door, perforated split rear doors, two (02) side panels, roof with cable access holes, vertical 0U accessory mounting brackets, four (04) leveling feet and four (04) casters, baying and grounding hardware pre-installed by the manufacturer.
- b. All weight bearing components shall be constructed from steel with a thickness no less than 1.0mm (19 gauge). All sheet metal parts shall be painted using a powder coat paint process. Plastic materials shall comply with good international standards. All interior components of the cabinets shall not have electroplated zinc coating to minimize zinc whiskers near active equipment.
- c. The Racks should be of same manufacturer as of in-row cooling Equipment.
- d. There should be horizontal blanking panels in the cabinets for all IT cabinets.

32A Metered Rack PDU vertical zero-U form factors to monitors electrical attributes of an individual Rack PDU, including real-time remote and local display of monitoring of aggregate and branch-level electrical parameters (status, thresholds and alarms) including voltage, amps, kW, power factor and kW-hr.

- Each IT Racks should have 3in1 Access Control System at the front and rear of the Rack along with 2 x vertically mounted smart metered PDUs with 32Amp single phase having 2 x 24 Power Outputs (C19, C13).
- The smart PDUs should have mounting pegs for easy installation and replacements in racks, there should be local metering display for real-time equipment connectivity and load balancing guidance as well as network management port to access and configure remotely via web, SNMP

Power Distribution Units (PDUs) must be unit level monitored over SNMP and be added with racks in redundant configurations as per below:

- Rate Current: 32A
- Input Plug: IEC309
- Output Receptacle: 24 x C13 / C19
- Overload Protection: with 3-way 32A 240V
- Compliance: CE, RoHs
- Working Temp: 20 - 55 Deg C
- Working Humidity: 5% – 95% RH
- Installation: Zero-U Vertical

2. In-Row Precision Cooling and Thermal Management System

- In-Row Precision Air Conditioning Unit Capacity 5 – 10 tonnage or above, Humidifier Electric Reheating and matching with LED Display and air-cooled condensers. The cooling unit must have following features
- In row type precision air-conditioning system (CE Approved) is required for environmental control and to maintain desired temperature and humidity. These units should be direct expansion (DX) refrigerant-based system.
- Units should be provided with N+1 redundancy and should be able to remove the accumulative heat load of the system. Condenser unit of the system to be placed outdoor on the roof top and the copper piping should be done via overhead trays or equivalent. Humidifier water feed should be connected with provided water connection with PPRC type pipe. Condensate drain water should be connected to the allocated drain connection. Condensate drain and humidifier piping will be done over head.
- Evaporator of each system should be provided with water leakage sensor and should shut down the operation of the same unit in case of leakage detection and should provide the alarm over the monitoring screen.
- The precision environmental control system shall be a self-contained factory assembled unit with horizontal airflow delivery. Each system/product shall have a total cooling capacity of 17 kW or higher based on an entering air temperature. The EC fans shall be capable of handling maximum air flow of more than 4500 CMH. Bidder can provide equivalent solution with respect to different capacity per cooling unit available in their proposed product, provided the total sensible cooling capacity mentioned above is met by N cooling unit(s). Both Unit should have internal communication for team mode operation.
- Single refrigeration circuit shall include a liquid line filter drier, a refrigerant sight glass with moisture indicator and a liquid line solenoid valve.
- The compressor shall be VFD with variable capacity operation from 30-100%. Compressor shall not have any kind of limitation for replacement in terms of hour(s)/year usage and incase of refrigerant leakage.
- The system shall be designed for use with R410A refrigerant, which meets the EPA clean air act for phase-out of HCFC refrigerants.
- The unit has a copper tubes evaporator coil of with hydrophilic painted aluminum fins followed with a condensate drain pan. The diameter of evaporator coil is 7 mm and face areas of the offer models and unit should have 3 rows of coil. The hydrophilic coating provides superior water carryover resistance.
- The electronic expansion valve (EEV) controls the mass flow rate of the refrigerant within the refrigerant circuits at high speed with greater precision. EEV is suitable for DC brushless compressor as an expansion device, with green refrigerants (R410A). EEV provides a better control over superheating at the outlet of the evaporator, thereby ensures that compressor shall never be filled by liquid.
- The unit is equipped with two G4 rated air filters following with EU4, located within the cabinet, and accessible from the rear side of the unit. A filter alarm is also available as an option to alert clogging of the filter.
- The unit is designed for R410A, an environment-friendly refrigerant, the remote shutdown terminal will provide an access to the customer to remotely shut down the unit.

- The control board is provided with an RS485 port, and the standard protocol is MODBUS / SNMP monitoring card is used to monitor the unit through serial port communication (an RJ45 port and a USB port also available). One SIC cards can be configured per unit.

Monitoring Card for InRow Precision Cooling and Thermal Management System

Using the Web browser to monitor intelligent equipment and the environment through the Web server function.

Using the Network Management System (NMS) to monitor intelligent equipment and the environment through the SNMP agent function.

Using the Machine Room Management Software (Server-Manager) to monitor intelligent equipment and the environment through the TCP/IP port.

Using the Centralized Management Software (Nform) to monitor intelligent equipment through the Server function.

The cabinet shall be designed so all components are easily accessible for service and maintenance. The Superior Service Access Panel shall provide additional access to the top of the system components. Side access is not required.

The filter channel shall be an integral part of the system, located within the cabinet and serviceable from the rear. The filters shall be deep pleated 4" thick with a MERV 8 (or equivalent) Filter. A filter alarm shall be included.

The capacity of the reheat coils shall be 3-6 kW - 1 stage heater. The capacity of the Humidifier shall be 1.5-3kg/hr.

Cooling unit must contain condensate drainage pumps and alarms for high water condition.

Available Alarms:

- High Temperature
- Low Temperature
- High Humidity
- Low Humidity
- Condensate Pump Fault and Pan Full
- Humidifier Problem
- High Head Pressure
- Fan Failure
- Low Suction Pressure
- Unit Off

SNMP enabled remote monitoring feature to be available within each Inrow Cooling unit.

All units in the respective POD/compartiment should work in team mode. Units should work as a team and continuously monitor the temperature and humidity requirement and should participate is temperature or relative humidity is high/low and maintain the set point. Units should avoid demand fighting phenomena. Supplier is responsible of doing the all the required communication cabling with accessories/control modules and should extend the cabling until DCIM control panel or network switches.

Each Rack should have individual temperature/humidity sensor which should be connected to Inrow Cooling unit and Inrow Cooling unit should adjust the cooling accordingly.

The manufactured outdoor air-cooled condenser shall be the low profile, multiple direct drive or equivalent, and propeller fan type. The condenser shall be provided with outdoor ambient air temperature at 45°C or higher. Environmental Corrosion Protection coating shall be provided. Condenser unit shall be of same brand as of evaporator.

HOT/COLD AISLE shall have the following mandatory features:

An aisle containment consists of the roof, end doors, and cabinets. The roof is flat. And Iron angle / Press SS sheet- Black /Brown Powder coated structure frames PVC - Frosted see through panel sheets within doors / Sides & Roof Frames Door handles with sliding door arrangement. Necessary complete in all respect, the design ensures that fire extinguishing gas enters the cold aisle containment.

- a. The doors of the cold /hot aisle containment must be sliding doors. The sliding door adopts a push-and-pull design to ensure that the cold/hot aisle containment is properly sealed and separated. The middle of the panel is made of reinforced glass; through which you can see the cold aisle.
- b. Cable troughs can separate signal cables from power cables. The positions of the partition plates can be adjusted based on the number of cables. Material requirements: high-intensity class A carbon cold rolled steel plates.

The bidder must submit the solution of Hot/Cold Aisle Containment System with InRow Cooling unit in N+1 redundancy.

- The rack containment solution must have electrical sliding doors system.
- The roof of rack containment must have separator strip for extension of Fire Nozzle.
- Aisle width must be 1200 mm.
- Rack Containment should have protective brackets and sensor boxes.
- Filler panel for racks within containment should be provided as per requirement and should be provisioned for all free space in racks left after equipment mounting.

3. Power System

Modular and Scalable Uninterruptible Power System 60KVA or higher

These specifications describe requirements for a Modular, Scalable & Digital Uninterruptible Power Supply (UPS) consisting of one or more single power module units connected in parallel

inside a standard 600 x 1100mm x 2000mm (W X D X H) frame without the need for either an additional system controller or an external centralized maintenance bypass static switch.

The UPS shall automatically maintain AC power within specified tolerances to the critical load, without interruption (for specified duration as per battery run time), during failure or deterioration of the mains power supply. The UPS system shall be expandable by inserting additional modules of the same rating, to provide for module redundancy or load growth requirements.

The manufacturer shall design and furnish all materials and equipment to be fully compatible with electrical, environmental and space conditions at the site. The UPS shall include all equipment to properly interface the AC power source to the intended load and shall be designed for unattended operation.

General Safety requirements of the UPS EN62040-1/IEC62040-1/AS62040-1

EMC requirement of the UPS EN62040-2/IEC62040-2/AS62040-2(CLASS C3)

Method of performance and test requirements of the UPS EN62040-3/IEC62040-3/AS62040-3(VFI SS 111)

SYSTEM DESCRIPTION

For non-redundant operation, the UPS system shall be sized to provide a minimum of 60 kVA / kW output.

Load voltage and bypass line voltage shall be 400VAC, three-phase, four-wire plus ground. Input voltage shall be 400VAC, three-phase, four-wire plus ground. The AC input source and bypass input source shall each be a solidly grounded wye service.

Modes of Operation

The UPS shall operate as an on-line reverse transfer system in the following modes:

A. Normal: The critical AC load shall be continuously powered by the UPS inverter. The rectifier/charger shall derive power from the utility AC source and supply DC power to the DC-DC converter, which in turn shall supply the inverter while simultaneously float charging the battery.

B. ECO Mode: The critical AC load shall be continuously powered by the bypass with the inverter available to power the load if the bypass source voltage or frequency exceeds adjustable parameters of power quality.

C. Battery: Upon failure of utility AC power, the critical load shall be powered by the inverter, which, without any switching, shall obtain its power from the battery plant via the DC-DC converter. There shall be no interruption in power to the critical load upon failure or restoration of the utility AC source.

D. Recharge: Upon restoration of the utility AC source, the rectifier shall supply power to the output inverter and to the DC-DC converter, which shall simultaneously recharge the batteries. This shall be an automatic function and shall cause no interruption to the critical load.

E. Bypass: If the UPS must be taken out of service, the static transfer switch shall transfer the load to the bypass source. The transfer process shall cause no interruption in power to the critical load. An optional external wrap-around maintenance bypass shall be used to ensure full isolation of the unit for the service of internal components while providing safety from arc flash.

F. Off-Battery: If the battery only is taken out of service, it shall be disconnected from the DC-DC converter by means of an external disconnect circuit breaker. The UPS shall continue to function and meet all of the specified steady-state performance criteria, except for the power outage backup time capability. If multiple battery strings are used, each string shall be capable of being electrically isolated for safety during maintenance.

G. Maintenance: UPS Cabinet should have an internal maintenance bypass. If the UPS needs to be maintained or repaired, all UPS modules & static switch module in the system should be replaceable online without shutting the system down.

H. Module Paralleling: For higher capacity or higher reliability, power modules can be paralleled inside the UPS rack; it should be possible to add power modules online to increase capacity/ redundancy and power modules automatically share the load. UPS system should be built using discrete control logic i.e. each power & static switch module shall have its own intelligent DSP controller to avoid single point of failure.

There should not be any single/redundant centralized common controller that controls all power modules in the system.

Performance Requirements

The solid-state power components, magnetics, electronic devices and overcurrent protection devices shall operate within the manufacturer's recommended temperature when the UPS is operating at 100% critical load and maintain battery charging under either of the following conditions: Any altitude within the specified operating range $\leq 1500\text{m}$ elevation.

Any ambient temperature within the specified operating range of 0°C to 40°C

Input

A. Voltage: Input/output voltage specifications of the UPS shall be Rectifier AC Input: 380/400/415V,

three-phase, four-wire-plus-ground Bypass AC Input: 380/400/415V, three-phase, four-wire-plus-ground

AC Output: 380/400/415V, three-phase, four-wire-plus-ground

B. Voltage Range: 305 ~ 477; 304 ~ 228 (output derated up to 70%)

C. Frequency Range: 40 - 70Hz

D. Maximum Inrush Current: UPS inrush current not to exceed 1.5 times rated input current

E. Power Factor: Minimum 0.99 at full load with nominal input voltage

F. Current Distortion: Less than 3% THD at full load input current in double-conversion mode

AC Output

A. Load Rating: 100% of load rating for any load from 0.7 to 0.9 lagging

B. Voltage Regulation:
±1% RMS average for a balanced, three-phase load

C. Voltage Adjustment Range: ±5% for line drop compensation adjustable by factory service personnel

D. Frequency Regulation:
Synchronized to bypass: ±0.25% default setting, (adjustable by factory service personnel)

E. System Efficiency: defined as output kW/input kW at rated lagging load power factor; and not less than the values listed below
>93.35% at 100% Load,
>94% at 75-40% Load,

H. Overload at Full Output Voltage with ±1% voltage regulation:
100% continuously
105% - 110% of full load for 60 minutes
110% - 125% of full load for 10 minutes
125% - 150% of full load for 60 seconds

Grounding

The UPS chassis shall have an equipment ground terminal.

ENVIRONMENTAL CONDITIONS

The UPS shall be able to withstand the following environmental conditions without damage or degradation of operating characteristics:

A. Operating Ambient Temperature

UPS: 0°C to 40°C

Battery: 25°C ± 3°C

B. Storage/Transport Ambient Temperature

Storage: -20°C ~ +70°C; transportation: -20°C ~ +70°C

C. Relative Humidity

0 to 95%, non-condensing

D. Altitude

≤1500m; derate power by 1% per 100m between 1500m and 3000m

Proposal Submittals

Submittals with the proposal shall include:

Descriptions of equipment to be furnished, including deviations from these specifications.

Document showing the efficiency certification by certified agency.

System configuration with single-line diagrams.
Detailed layouts of customer power and control connections.

Functional relationship of equipment, including weights, dimensions and heat dissipation.
Information to allow distribution system coordination.

Order Submittals

Submittals supplied at time of order shall include:

Detailed installation drawings including all terminal locations.

Interconnect wiring diagrams showing conduit wiring with terminal numbers for each wire.

UPS Delivery Submittals

Submittals upon UPS delivery shall include:

A complete set of submittal drawings.

Two (2) sets of instruction manuals. Manuals shall include a functional description of the equipment, safety precautions, instructions, step-by-step operating procedures, and routine maintenance guidelines, including illustrations.

Manufacturer's Qualifications

More than 5 years experience in the design, manufacture and testing of solid-state UPS systems shall be required.

The quality system for the engineering and manufacturing facility shall be certified to conform to Quality System Standard ISO 9001 for the design and manufacture of power protection systems for computers and other sensitive electronics

4. Data Center Infrastructure Monitoring

DCIM with allied Server Hardware to integrate and monitor all installed appliances (Cooling, UPS, rPDU and all related Sensors i.e. Temperature, Humidity, Water leakage, Smoke etc.) installed in Data Center.

The Data Center infrastructure management solution must provide the Data Center administrators to manage environmental conditions i.e., temperature and humidity, leak, smoke, and digital inputs and outputs. It is also capable of monitoring infrastructure appliances such as UPS, precision cooling units etc. It must also be equipped with a built-in web-based application, eliminating the need to perform a software installation.

The EMS must allow the Data Center managers to perform the following operations through a secure webpage:

- Monitoring of the health and status of the equipment
- Monitoring of environmental conditions i.e., temperature and humidity, leak and smoke.
- Monitor the improved communication speed in transmitting control or commands to the equipment and parameter setting
- Records Data and Logs of historical information of alarms and notifications
- SNMP
- Modbus485
- Dry contacts
- Analog Signals

Note: Bidder to quote all the required sensors and No. of Sensors as per Data Center requirement and must quantify the items in the BoQ.

There will be no recurring cost of the software license renewal will be paid for the DCIM Solution.

6. Fire Detection & Suppression System

Automated Fire detection System and Suppression System (dodecafluoro-2-methylpentan-3-one or equivalent) in Power Rooms, Communication Room & Datacentre Hall.

FSD is expected to have the following features:

The control panel should be programmable to allow adjustments to sensitivity and parameters, such as time delays, threshold and other features.

Fire alarm monitors, control panels and notification mechanisms should be installed. Automated alerts when thresholds are reached should indicate alarm.

- Fire suppression system should be UL/FM approved, panel should be programmable and should have dry contact alarm against each action for remote communication.
- Optical smoke detectors and manual call point should be installed.
- Audio visual alarm for stage one fire and audio alarm for stage 2 fire should be installed.
- Dry contact for AC shut down rated should be provided.

7. Professional Services & Migration from old to new facility

Bidder to note that Customer expects a proposal based on turnkey solution and shall include complete design documentation, installation, commissioning, implementation, and configuration testing and integration services in the proposal as needed.

Installation, commissioning and testing services for all the elements quoted in this RFP including but not limited to:

- Cooling and containment systems,
- Modular UPS
- Fire detection system
- DCiM Facility monitoring system
- IT Racks and rPDUs
- End of Row network connectivity solution

All provided equipment / services must be covered under **warranty** for 01 year after date of issuance of Completion Certificate issued by CPPA-G.

Training and Knowledge Transfer: - Bidder is required to provide professional training.

Project management services shall be the responsibility of Bidder.

Development of Standard operating procedures (SOPs): Bidder shall provide / develop SOP for Datacenter and the solutions / services provided.

Following documents should be delivered as part of the project.

- Existing network infrastructure migration plan and test document
- DC physical layout-as built documents
- DC cooling design and test documents
- Monitoring system design and test documents
- Fire suppression system design and test documents
- Network connectivity design and documents

For migration of existing network infrastructure, Bidders are encouraged to carry out a survey of existing server rooms.

Customer would like to have a minimum downtime/interruption of services during the physical migration if deemed necessary and hence puts a lot of emphasis for the Bidder capabilities and methodology for such activities.

Project Management

Bidder Project Manager will establish a framework for Project Management, communications, reporting, and other activities for Services under the scope of this bid following PMI guidelines.

Establish and maintain Project Management, communications through Customer Point of Contact.

Bidder would provide detailed Project Plan and Communication plan to the Customer team. Provide Project Weekly and Monthly Status Report

8. Network Cabling Design (End of the Row Solution)

The scope of cabling solution includes design, implementation, testing and commissioning for complete network cabling solution for Customer data center.

- High-density network cabling solution for existing and future requirements of the data center.
- Bidder will be responsible to shift existing passive network (UTP and Fiber) from old to new location.
- The products used must be compliant with industry standards.
- Network data cabling solution must be compliant with industry standards.
- All nodes and cable bunches should be properly labeled as per international standards. The origin and ending of all nodes should be clear.
- It should be a plug and play system with custom made (length as required) cables to connect Distribution Area Racks.
- It should be modular solution for Fiber and is to be designed to allow easy patching from any switch to any device without any need to run additional cabling.
- Offered solution should be expandable and scalable to accommodate additional Distribution Area Racks in Future.

Schedule of Requirements / Bill of Quantity (BOQ)

S No	Description	Unit	Qty
1	Cabinets & POD Containment Aisles-OEM Warranty for first Year (MAF & Principal Partnership Certificate required)		
1.01	42U open cabinet, including front door, rear double door, top panel, bottom panel, 9-folded frame, wheels and stand-levels, Side door with insulation, for Closed Cabinet, 600mm(width)*1200mm(depth)*2000mm(height)	Nos.	6
1.02	Vertical cable organizer, 42U height. Including cable plate, and cable rings.	Nos.	14
1.03	Horizontal cable organizer including cable slot and cover, 1U height.	Nos.	8
1.04	Sliding door electric type, suitable for 1200mm aisle layout.	Nos.	2
1.05	Door release switch compact design push open.	Nos.	2
1.06	Lighting kit for aisle system, LED type	Nos.	8
1.07	Top panel fix type, dimension	Nos.	2
1.08	Top panel hinge type, dimension	Nos.	2
1.09	Top panel fix type, dimension	Nos.	2
1.10	Integrated power and control module, including control for top panel, lighting, smoke/fire port and 12V power supply.	Nos.	1
1.11	Quick installation type tool free blanking panel 1U height.	Nos.	180
1.12	3 in 1 Rack access control reader, supporting fingerprint, RFID card, and pin.	Nos	14
1.13	Installation, Testing and Commissioning of Cabinets and Aisles System	Job	1
2	InRow Precision Cooling and Thermal Management System-OEM Warranty for first Year (MAF & Principal Partnership Certificate required)		
2.01	Inrow split indoor unit, w/ Heat & Hum, inverter compressor, 380-415V/3P/50Hz-60Hz. with SNMP with Air Cooled Condenser Single Circuit OR Equivalent cooling system $\{(N+1) = (17KW+1)\}$	Nos	2
2.02	Rigging, lifting(ODU on rooftop), Installation, testing and commissioning of Air Conditioning units including supply and installation of supports, brackets, rubber isolator, flashing, control wiring & power wiring (connection). Supply, installation, testing and commissioning of refrigerant pipes (liquid + gas) with expanded rubber foam insulation, PVC tape wrapping + control wiring, Water and drain pipes in proper trays and conduits, Refregerant Gas for units. Complete in all respects ready to operate.	Job	2
3	Power System- OEM Warranty for 1 Year (MAF & Principal Partnership Certificate required)		
3.01	UPS 400V3P 60kVA capacity or above, with provisioing of 5- 6 pcs Power Modules, hot-swap bypass module, power efficiency >95.5%, back up batteries: 32~44, rack mount with SNMP Card. Power modules as per load $\{(N+1) = 30KVA (20KVA+1)\}$, Output PF 1.0	Nos	2

3.02	Rack mount battery package. Hot swappable type battery sub-assembly (Minimum 20-25 mins backup at 80% load)	Nos	8
3.03	32A Rack Mount STS/LTS/ATS with 12 x C13 + 4 x C19 sockets	Nos	1
3.04	Rack PDU rated input current 32A, 16-bit C13 output socket, 8-bit C19 output socket with indicator, with total meter (hot-swapped IP-2017 digital current meter), vertical mount, with web, RS485 or SNMP protocol	Nos	16
3.05	Installation, Testing and Commissioning of Power System including UPS, BB and PDUs	Job	1
3.06	Shifting and Reinstallation of existing LTS in new MMR racks	Job	1
4	Data Center Infrastructure Monitoring- OEM Warranty for 1 Year (MAF & Principal Partnership Certificate required)		
4.01	Integrated monitoring host with built in minimum 10 inch display, communicates with sensors (temperature&humidity, smoke,leaking, door open) and equipment (cooling, ups and power meters). Web portal and Modbus-TCP port. Wall mounting type.	Nos	1
4.02	SNMP reporting port for higher level DCIM/BMS/NMS integration	Nos	1
4.03	Temperature and humidity sensor, RS-485 type	Nos	6
4.04	Water flooding sensor, none positioning type.	Nos	2
4.05	Smoke sensor, dry contact type with alarm light.	Nos	2
4.06	Access controller, management of users, logs and access authorization, 2 door type.	Nos	10
4.07	Supply of Connectivity Cables, Installation, Testing and Commissioning	Job	1
4.08	Rack mount switch, 24 network port.	Nos	1
4.09	17" LED display, 16-port USB switcher to manage 16 servers. VGA interface, 1U rack mount.	Nos	1
5	Power Cables		
5.01	From MDP To UPS and Bypass - A & B 50 mmsq 4C CU/PVC/PVC Std X 1	meters	40
5.02	From AC DB To DataCenter Cooling Indoor Unit - A & B 10 mmsq 4C CU/PVC/PVC Std X 2	meters	80
5.03	From DataCenter Cooling Indoor Unit to Outdoor Unit - A & B 2.5 mmsq 4C CU/PVC/PVC Std X 2	meters	120
5.04	From MGB to Server Room Precision cooling Outdoor Unit - ECCA & B 2.5 mmsq SC CU/PVC std X 2	meters	180
5.05	From MGB to Server Room and MMR Racks and cooling Units- ECCA & B 6 mmsq SC CU/PVC std X 14	meters	270
5.06	Laying, Termination & testing of Power Cables	Jobs	1
6	Fire Detection & Suppression System		
6.01	The bidder has to provide the detailed drawing and BOQ as per site requirements and industry standards	Jobs	1
6.02	dodecafluoro-2-methylpentan-3-one based Fire Suppression System (UL listed) in Power Rooms , Communication Room , DC Hall.	Jobs	1

6.03	Cylinder 120 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR	Nos	1
6.04	Cylinder 40 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR	Nos	2
6.05	Cylinder 67 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR	Nos	1
6.06	Low pressure switch	Nos	4
6.07	MH5112 (FK-5-1-12) commonly known as dodecafluoro-2-methylpentan-3-one. Specification compliance with NFPA2001 (Standard on clean agent fire extinguishing systems) and ISO14520 (Gaseous fire extinguishing systems). UL/FM approved.	kg	201
6.08	(360°) CENTRAL NOZZLE	Nos	5
6.09	CAUTION-ROOM PROTECTED	Nos	4
6.10	Fire extinguishing control modules/panels as per site requirements	Lot	1
6.11	Addressable Optical smoke detector with base (UL Listed with Flashing LED) For DC Hall, MMR, Power Rooms, Corridor, Manager Room, IT Hall, NOC Room & Kitchen	Nos	29
6.12	Electronic Sounder with Flasher	Nos	4
6.13	Fire Alarm Bell 6" High efficiency low current consumption on 24VDC motorized bells. Sound Output: 93dB @1M. Approved EN54, LPCB, CE.	Nos	4
6.14	Supply and Installation of Sch 40 pipe network for fire suppression system in Power Rooms 1 & 2, MMR and Server Room	Job	1
6.15	Programming, Testing and commissioning of Fire Detection and Suppression system	Job	1
6.16	Manual Fire extinguishers with clean agent for ABCD Classes of Fire 4kg, Type: Halotron (HCFC-123)	Each	6
6.17	Addressable Fire Alarms and Detection System with redundant loop system and central monitoring	Nos.	1
6.18	Supply and wiring of 2C, 1.5 Sq.mm fire resistant Cable in EMT conduit from fire alarm control panel to all sensors & devices including all installation accessories and paint/civil reworks where required	Job	1
6.19	Supply and Installation of tempered Glass Doors, Double Door size 7ft x 5ft with all accessories including handles, latches, locks, fittings, access control lock and frosting as per design	Nos.	1

7	Migration of Existing IT Systems		
7.01	Migration of existing IT equipment to new Data Center	Job	1
8	<ul style="list-style-type: none"> • Network Cabling Design (End of the Row Solution) • 12+12 fiber OM4 10G LC ports from MMR to EOR Network Cabinets and EOR to IT Racks including cabling, Patch frames/ODF, Patch Cords • 12+12 fiber OS2 10G LC ports from MMR to EOR Network Cabinets including cabling, Patch frames/ODF, Patch Cords • 24+24 copper ports from each rack to EOR/Network Cabinets and to MMR including Cat-6 UTP cabling, Patch Panels and othr allied accessories 		
8.01	24 Port Patch Panel Cat-06 UTP Loaded	Nos	14
8.02	Cat-06 UTP Cable Roll LSZH 23 AWG 305-meter roll (1000ft)	Nos	8
8.03	Cat-06 UTP Patch Cord 1 Meter	Nos	170
8.04	Cat-06 UTP Patch Cord 3-Meter	Nos	170
8.05	Cable Manager	Nos	28
8.06	Cable Tagging and Ties	Nos	1
8.07	Laying of Cable and Punching of Patch Panel	Job	1
8.08	Fluke Testing With DTX-1800 NVP-69	Job	168
8.09	Fiber Cable 12 Core Single Mode Flexible	meters	50
8.10	Fiber Cable 12 Core Multi Mode OM3/OM4 Flexible	meters	300
8.11	Fiber Patch Cord 3-meter OM3/OM4 LSZH	Nos	170
8.12	12 Port OFDF with LC Coupler and Pigtail OM3/OM4	Nos	6
8.13	24 Port OFDF with 12 LC/APC SM Coupler and 12 LC OM3/OM4	Nos	2
8.14	72 Port OFDF with LC Coupler and OM3/OM4 Pigtail	Nos	1
8.15	Fiber Patch Cord 3-meter OS2	Nos	24
8.16	Cable Tagging and Ties	Nos	1
8.17	Laying of Cable and Punching of Patch Panel	Job	1
8.18	Fiber Splicing and OTDR Testing With Fujikira	Job	192
8.19	Shifting and laying of Existing building passive cabling from each floor to MMR. Total 30 nodes	Job	1
8.20	Anti-Static Wrist Strap with Grounding Wire	Nos	4
8.21	Structured Cabling Compliance with ANSI/TIA/EIA 568 Standard and Cable Labeling Compliance with ANSI/TIA 606 Standard	Job	1
9	Training, Enablement & Warranty		
9.01	Provide the soft and hard copies of final network and power drawings/layouts	Job	1
9.02	Complete Operational and Maintenance Training for installed Systems and Facilities on CPPA Premises. (Five (5) Persons local onsite hands on five days training)	Job	1
10	Resident Engineer and OEM backed Extended warranty, Support and SLA		
10.01	An OEM backed Extended warranty, Support and SLA for OEM parts, as mentioned in the Bill of Quantity (BOQ) above, and an SLA with a warranty for non-OEM products, initially for one agreement year and extendable annually for up to two additional	Job	As per SLA document for "Datacenter

	years, subject to the issuance of a satisfactory performance certificate by CPPA-G. (Includes OEM-backed 24/7 support and part replacement as per timelines mentioned in table Lot A: Service Level Agreement: Annexure “B” Clause 9 (a) (vii) (Item-wise cost to be provided by the bidder.)		Facility Equipment List (Annexure B)
10.02	Resident Engineer (start from the date of issuance of Completion Certificate Issued by CPPA-G)	Nos.	1

Project Timelines

CPPA-G intends to complete the implementation and rollout in **210 days** from the date of Award of Contract. SLA will start after the issuance of the Completion Certificate issued by CPPA-G.

Quantities increase/decrease:

Quantities may be increased/ decreased up to $\pm 15\%$ of services, material & equipment.

Lot A: Service Level Agreement: Annexure “B”

-----Start of SLA-----

SLA and Support Staff for three agreement years

1. Technical Onsite Support Staff Qualification

M/sContractor name.....will be responsible to provide the support staff of equal or more qualification. In the absence of the provided staff, replacement should be approved by CPPA-G. Below are the minimum qualification requirements:

Datacenter Power/facilities/IT Supervisor:

- Education: Diploma of Associate Engineer (Electrical/Electronics) or equivalent
- Experience: 3 Years demonstrated Experience. Individuals performing work in a datacenter facility must have demonstrated experience in the maintenance of a datacenter facility with the same level of complexity as CPPA-G's datacenter.
- Should be able to handle MS Office, emails etc.
- Cell phones with adequate recharge are required for the Datacenter Facility supervisors.

2. Role Of Technical Support Staff

- Technical Support Staff is responsible to be available for the smooth working of IT Infrastructure and Data Centre.
- Technical Support Staff will investigate, document, and implement best practices for monitoring critical mechanical, electrical, and plumbing systems (what alerts / how to monitor 7X24X365).
- Performing preventative maintenance on all electrical and mechanical Datacenter systems.
- Coordinate with the Firm, if required, to resolve the issue(s) timely and in a professional manner.
- The Contractor will provide Resident Engineer (s) (Quantity to be decided by CPPA-G) to be present onsite at CPPA-G premises.
- The staff will be available in CPPA-G premises five days a week and should be available on call and provide support after duty hours.
- Trouble shooting and diagnosing equipment failures and make provisions for necessary repairs.
- Responding to emergency situations such as fire, flood, power failure, storms, etc.; initiating remedial actions as necessary and keeping CPPA-G management informed in accordance with established procedures.
- Providing checklist for daily routine facility inspection.
- CPPA-G may require the Contractor to schedule their duties according to the requirement and whatever suits the CPPA-G environment to ensure effective resolution of issues.

3. Removal and/or Replacement of Personnel

i) Except as the CPPA-G may otherwise agree, no changes shall be made in the Key Personnel. If, for any reason beyond the reasonable control of the Contractors, it becomes necessary to replace any of the Key Personnel, Contractor shall provide as a replacement a person of equivalent or better qualifications.

ii) If CPPA-G finds that any of the Personnel has; (i) committed serious misconduct or has been charged with having committed a criminal action; or (ii) has reasonable cause to be dissatisfied with the performance of any of the Personnel, then M/sContractor name.....shall, at the CPPA-G written request specifying the grounds therefore, provide as a replacement a person with qualifications and experience acceptable to CPPA-G.

iii) CPPA shall not permit any leave of Contractor employee/key personal without prior substitute. Attendance sheet of the employee must be maintained and signed at the end of each quarter.

iii) Contractor shall always be required to maintain effective control over its employees/key personal to avoid or prevent any losses to CPPA and in case of any loss arising due to the Contractor’s employee or which could have been prevented by the Contractor’s employee shall make the Contractor liable to CPPA to make good such losses.

4. POC and Escalation Matrix

Below escalation Matrix is to be provided by Bidders: -

Escalation level	Designation	Name	email	Phone #	When to Escalate
Level-1	Office Rep				On any defect or Problem
Level-2	Management Level-1				If L-1 is not responding
Level-3	Management Level-2				If L-2 can't
Level-4	Top Management				If L-3 is not available

5. Problem Classes

Depending on the effect of a problem, following are the defined three Problem Classes:

Critical Problem – A problem that is critical in nature to the operations of system. This may include issues like air condition cooling failure, ups power backup failure, major/critical alarms, fire suppression system activated, power failure due to hardware or above-mentioned issues etc.,

Major Problem - A Problem that seriously influences the performance, the operation and maintenance of the System and therefore requires fast reaction. Priority is less as in the crucial situations of Critical Problems, as there are less immediate effects on system performance, technical operation and End Users. This may include Performance degradation, system response time, issue major category alarms.

Minor Problem - A Problem which doesn't really disturb the function of the System and does not influence the System and service quality essentially. The Minor Problem may be tolerated during operation.

6. **Response Time**

No.	Service Item	Description
1	Help Desk	Available 24 hours a day, 7 days a week.
2	Physical & Remote troubleshooting	<ul style="list-style-type: none"> • Available 24 hours a day, 7 days a week. • For Priority Critical, respond within 30 minutes. • For Priority Major, respond within 60 minutes. • For Priority Minor, respond within 3 hours;
3	Advance hardware replacement	Available 24 hours a day, 7 days a week. The spare part(s) will be sent out from Principal within agreed time after principal deems a spare part is necessary.

7. **Resolution Time**

The Priorities will be decided and informed by CPPA-G Point of contact (POC) declared and M/sContractor name..... team will be informed through the call as per above mentioned POC for replies/updates as and when required by CPPA-G. The resolution time for each severity is as below: -

No.	Issue Severity	Resolution Time
1	Critical Issue	4 Hours
2	Major Issue	12 Hours
3	Minor Issue	2 Business Days

8. **Temporary restoration of services:**

M/sContractor name.....shall maintain a reasonable inventory for any or all component(s) or device(s) having potential of being non operative and in such case of failure of any component or device, if the equipment gets non operative and needs more time in relation to the severity level and resolution time as contained in Resolution Time (above) to get satisfactorily fixed, then M/sContractor name.....will provide alternate to temporary restore the service, which may include providing equipment to CPPA-G, until the

CPPA-G equipment gets satisfactorily fixed and gets operational at CPPA-G premise. CPPA shall stand indemnified by the Contractor against any or all loss or damage arising due to the handling, installation or energization of component(s) or devices(s) owing to non-operative trouble shooting.

9. Periodic Service Level

M/sContractor name.....shall provide services for periodic maintenance (01 time each quarter) and operations required for CPPA Data Center equipment, installed in the facility detailed as below.

Following requirements for SLA apply to this RFP for this project. The selected Bidder shall be responsible for provisioning of comprehensive parts warranty of the following equipment and shall have a 24/7 call out facility.

a) Data Center (DC):

- i. Selected Bidder shall provide onsite Warranty/Services for the DC equipment and Bidder shall ensure that DC solution and its parts supply to CPPA are new (non-refurbished and not reaching end of life in next 5-years and ensure the parts availability for next four years) and free from any sort of defects for the warranty period.
- ii. Preventive maintenance in the respect of system and its auxiliaries, NOC and all necessary civil work must be carried out on monthly basis.
- iii. Response time of the successful bidder in the context of warranted services at all days, 24 X 7, shall be as per clause # 6. The same will be valid for all non-working hours and non-workings days of CPPA.
- iv. Maximum restoration time allowed shall be as per clause # 7.
- v. It will be the responsibility of the successful bidder to deploy the equipment related firmware and any ios patch as an when released by product principle during warranty period.
- vi. Contactor will be responsible for maintaining the SLA and ensure the uptime of all the equipment on sites. In case of fault in equipment, the bidders are required to provide the Backup equipment of equal capacity and ensure the service quality as per time mention in below table.
- vii. Response & Resolution Time chart as below: -

Level	Event	Description	Response time	Maximum time for resolution
L1	Critical	Complete Outage of Service / appliance due to malfunctioning of hardware components or software components, firmware, patch cords etc.	30 min	4 Hours
L2	Major	Partial Outage of service / appliance due to malfunctioning of hardware components or software components, firmware, patch cords, spare parts etc.	One Hour	12 Hours

L3	Minor	Delay in commissioning of advance services / patches deployment / IOS up gradation / new configuration etc.	Three Hours	2 days
L4	Moderate	Tagging, reports submission, delay in preventive maintenance etc. delay in deployment of new upcoming version and patches etc.	as per listed activities	as per listed activities

Note: -Persistent violation in similar nature may lead to cancelation of contract.

- **UPS, Electrical Panels and Cooling Units:**

M/s Contractor name.....shall be responsible for the maintenance of air conditioners along with other allied components including water leakage detection.

Regular service includes cleaning/washing/replacement of air filters, indoor/outdoor units of the air conditioners and any breakdown maintenance of the air conditioners including the cost of re-filling of refrigerant gas/replacement of compressor if required, and any other accessories. The selected Bidder shall be responsible for provisioning of comprehensive parts warranty of UPS along with batteries, power panels and cables.

M/s Contractor name.....is responsible for routine cleaning of the electrical panels including circuit breakers, control equipment, battery chargers, batteries, ATS, synchronization modules, surge protectors, power transfer switches, and allied electrical accessories/equipment installed.

M/s Contractor name.....will be responsible for maintenance and fault rectification of battery monitoring units PDU's, PDF's, power monitoring equipment and energy monitoring meters.

- Preventive and corrective maintenance must be carried out on monthly basis throughout the SLA period and Quarterly Preventive Maintenance and Corrective Maintenance reports shall be submitted to CPPA on specified format in hard/email/fax.
- The selected Bidder shall be responsible to replace the batteries when gets faulty or continually degrades and should perform maintenance and operational tests of all UPS.
- The selected bidder must ensure the comprehensive parts warranty and maintenance services of parts replacement as deem necessary i.e., electrical and mechanical soundness of all UPS's, preventive maintenance, corrective maintenance, predictive maintenance, technical assistance and any other fault rectification relating to the smooth operations and safety of all the UPS's throughout the SLA period.
- Clean interior and exterior of cabinets and enclosures, ensuring that any areas of corrosion and/or deterioration are repaired as necessary.
- The selected bidders shall check the terminals, connections, relays, indication lights, UPS diagnostic systems, check environment, temperature, dust, moisture, room vents, etc.
- The selected bidder shall review maintenance logs, and log all alarm operations and output, complete a functional checkout.

Earthing Resistance should be measured and maintained along with the Preventive Maintenance (less than or equal to 1 ohm).

b) **CCTV**

M/s Contractor name.....will be responsible for the maintenance of CCTV system installed in the data center for 24/7 surveillance of the facility.

M/s Contractor name.....is responsible for routine cleaning of camera lenses and in case of any fault immediate rectification of any faulty in the CCTV and the DVR/NVR is required.

In addition to that M/s Contractor name.....is responsible for extracting the video recording if required by the CPPA management or any other requirement of CPPA-G.

d) **Other Terms**

- After problem occurrence and subsequent resolve, preventive measure(s) must be logged and be followed to avoid recurrence of the same.
- A reasonable Inventory containing some basic parts (UPS, batteries, power supplies, cords, IOs, patch cables, tools, network devices, ammeter, connectors etc.) must be maintained on site to meet the calls on daily basis. The resident support supervisor will be responsible to maintain the Inventory records.
- Routine resolution/repair will be done at CPPA site and for major repair the item will be allowed to move to the workshop of the firm at their Risk & Cost after issuing of gate pass by IT Department clearly mentioning part model number and delivery time. In such situation, interim arrangement must be provided for 24x7 operations.

c) **Preventive & corrective maintenance**

- a. The Contractor will investigate, document, and implement best practices for monitoring critical mechanical, electrical, and plumbing systems (what alerts / how to monitor 24X365).
- b. The Contractor will develop and review procedures for planned response to critical events; develop service plans and schedules, and a plan for adherence.
- c. The Contractor will develop and document a complete set of test plans that ensure all critical systems are operable and calibrated properly.

d) **Physical Plant Systems**

Follow all industry best practices for operations, maintenance, and monitoring of the following:

- i. HVAC (end to end); Uninterruptable Power Supply (UPS) (All systems, static Transfer switches, remote power panels, breakers, etc....).
- ii. Power (utility and generators - end to end).
- iii. Fire alert / suppression.
- iv. Facility security equipment.
- v. Building shell.
- vi. Water leak detection (interior / and building shell);
- vii. Datacenter piping, wiring, structure, and general condition; and,
- viii. Storm water monitoring and control.

- The Contractor will maintain complete “as-built” building drawings for data center and create schematics where they don ‘t exists.
- The Contractor will develop and maintain maintenance schedules for all equipment
- The Contractor will ensure all filters, belts, fasteners, fixtures, lubricants, and other routine maintenance items are installed, working properly.
- The Contractor/OEM will maintain a supply of maintenance and critical replacement parts/supplies, either on-site or readily available (within timelines mentioned in table Lot A: Service Level Agreement: Annexure “B” Clause 9 (a) (vii)).
- The Contractor will maintain a complete hardware set (bolts, washers, screws, nails, tie-wraps, fasteners, glues, etc.) to maintain the facility.
- The Contractor will provide complete up-to-date documentation. This documentation should include naming standards and conventions for all components, UPS, breakers, Power Distribution Units (PDUs), through to the receptacle. The documentation should include a best practice model for maintaining an accurate accounting of all circuits and what computer equipment is powered by which breaker. Detailed panel schedules will be provided to the Contractor.
- Contractor will provide a method for tracking and measuring circuit loads and capacity, as not to allow any over loading or underutilization of UPS, PDUs or circuits.
- The Contractor will provide (for new or modified equipment) and maintain interfaces into the facilities monitoring and control systems. The Contractor will ensure that all critical systems are properly monitored in real time and have a planned and documented response to critical events. The CPPA-G will review and approve all policies and methodologies.
- Contractor will perform any enhancements or break/fix repairs needed to maintain the physical plant systems.

f) Preventative Maintenance

The Contractor will use preventative maintenance as the primary approach to ensure the availability of the entire data center power train (STS, ATS & LTS, batteries, breakers and switches, PDUs, UPSs, etc....) and cooling train (Computer Room Air Conditioners (CRACs), humidifiers, etc....). The Contractor will:

- a. Maintain all preventative maintenance, whether unscheduled or scheduled
- b. Develop a calendar-based scheduled maintenance inspection for each facility during which fully trained and qualified maintenance experts observe the physical infrastructure equipment to look for changes in equipment appearance and performance and listen for changes in the sounds produced by the equipment. “Fully trained and qualified maintenance expert” is defined as individual(s) holding manufacturers certifications for equipment to be maintained.

- c. The Contractor will provide historical data for reporting usage trends, capacity demands, meantime to failure, and downtime / repair statistics.
- d. The Contractor will identify potential issues and take immediate action to prevent a future failure.
- e. The Contractor will ensure that all major equipment is maintained under either a service maintenance program or warranties provided by the original equipment manufacturer and that the preventative maintenance procedures include all manufacturers recommendations and best practices. The maintenance may include, but is not limited to, thermal scanning, calibration, adjustments, cleaning / replacing air or water filters, lubrication, and replacement of parts or updating of physical infrastructure firmware / software.
- f. Adhere to all maintenance procedures and schedules recommended in manufacturers manuals.
- g. The Contractor shall monitor, maintain, and test general maintenance items including but not limited to plumbing, lamp changes, wiring, etc.
- h. Provide and / or ensure availability of proper diagnostic tools on-site to accomplish all preventative maintenance and define efficiency goals. Continuous diagnostics used as predictive maintenance tool to prevent failures should be scheduled and documented. A diagnostic plan should include in-line troubleshooting and be non-disruptive.
- i. Thermal scans and internal temperature measurements of all electrical equipment (Panel boards, UPS modules, transfer switches, disconnects, Remote Power Panel (RPPs), etc....) will be completed annually and reported on annually.
- j. Torque connections, check fans, check capacitors, vibration test, and update firmware will be a part of the comprehensive preventative maintenance plan.
- k. The Contractor shall initiate preventative maintenance, outside of the scheduled maintenance routine, if deemed necessary to prevent an imminent outage. Whenever possible, the Contractor will provide the CPPA-G a ten (10)-day advance notice of such maintenance and any/all preventative maintenance will be completed after the CPPA-G 's approval. Prior to any work being performed, all maintenance activity will include a risk management assessment, a detailed plan with timelines, along with back-out plans, unless otherwise directed.

Disaster Recovery Assistance

In the event of a disaster, the Contractor shall provide assistance to the CPPA-G in the event either building is damaged to the extent that processing is interrupted. The assistance may include, but is not limited to, the following:

- a. Damage assessment from a mechanical, electrical, building envelope and/or structural aspect to be reported to the CPPA-G;
- b. Provide clean up assistance as required; and,
- c. Repair or replace damaged components of the physical plant and/or environmental equipment as requested by the CPPA-G.

Spare Parts

- a. The Contractor shall keep certain spare parts on site for purposes of break/fix repairs. Inventory management of these parts will be the responsibility of the Contractor. The Contractor shall ensure that sufficient spare parts are readily available, such parts shall remain the property of the Contractor until such time as they are installed at the CPPA-G Data Center as a result of a repair.
- b. Contractor will provide a recommended spare parts list for critical systems in each facility, within ninety (90) days of the Contract Start Date. The CPPA-G will review this list and may make recommendations for additional parts that shall be added. In any event, the CPPA-G will be the final arbiter of the parts that should be kept on site.

Tools

- c. Contractor is required to provide and maintain a complete tool set on-site. The Contractor must provide all tools required to perform the services including specialty tools or rental equipment (e.g., lifts, load bank, backhoe) that may be required to perform the services.

10. Fluctuation in equipment

There may be addition or deletion of hardware, software and/or systems into the list of systems/equipment/parts during the current contract and at the extension of the Contract for subsequent year. The adjustment in the cost of the contract shall be made accordingly. The total variation of the cost must be within 15% of the initial contract cost.

11. Technical Reports

M/s Contractor name.....will provide the maintenance reports performed including the routine preventive maintenance practices and faulty reports as required by the CPPA and shared between CPPA technical team and M/sContractor name..... service teams as necessary. Similarly reports required by CPPA higher management regarding the data center system status and issues will be provided by M/s Contractor name..... as and when required. Daily system health check/fault report will be provided by the technical resource at site to CPPA-G.

12. Work Procedures

The Contractor must replace or restore (at least to the original condition) any damage to floor, ceiling, walls, furniture, landscape, etc. caused by its personnel and/or operations, at the Contractor 's expense.

13. Validity & Renewal

The duration of this Agreement will initially be one (1) Agreement year, extendable for a period of one (1) Agreement year per extension, for a maximum of three (3) Agreement years, which period shall start from the renewal of licenses/support. Any extension of the duration of this Agreement shall be based on the same terms and conditions, subject to satisfactory performance by the Contractor as prescribed by CPPA-G, which shall start after the issuance of Completion Certificate issued by CPPA-G.

14. Liquidated Damages during SLA

In case of a delay in service provisioning Liquidated Damages will be calculated and imposed as per following table on Quarterly Services Charges.

Level	Event	Description	Maximum time for issue rectification	Penalty in Pakistani Rupees per volition
L1	Critical	Complete outage	4 Hours	25,000/-
L2	Major	Replacement of parts (partial outage)	12 Hours	15,000/-
L3	Minor	Preventive and corrective maintenance of equipment.	48 hours	10,000/-

15. Suspension/Termination/ of the Agreement: As per clause GCC 35

16. Datacenter Facility Equipment List

S No	Description	Unit	Qty
1	Industrial Sockets		
1.01	32A Industrial Sockets 3 pin single phase (Brand: Clipsal)	Nos.	26
2	LV Switch Gear		
2.01	250A ATS with MOR (Brand: ABB)	Nos.	2
2.02	250A MDP with Surge Protection (Brand: ABB)	Nos.	2
2.03	DB ELV and NOC (Brand: ABB)	Nos.	2
2.04	AC DB (Brand: ABB)	Nos.	2
2.05	LSP DB (Brand: ABB)	Nos.	2

2.06	UPS Output and Bypass DB (Brand: ABB)	Nos.	2
2.07	Rack Power Distribution DB (Brand: ABB)	Nos.	2
2.08	Provisioning of Electrical parameters central monitoring through energy analyzers on DCIM software (Brand: Tense)	Each	1
3	Grounding		
3.01	Grounding of less than 1 OHM through earth pits (DC Hall, Electric UPS Room, Communication Room, Generator) Chemical Enhanced Earth using 25 mm dia 10'-0" long copper rod filled with soil conditioning material (low res/bentonite) including 4" dia, boring and back filled chemical	Job	3
4	Mechanical		
4.01	2.0-ton Inverter type Comfort cooling unit for MMR Room and Power Rooms with Sequence Controller (Brand: Haier, Model: HSU-24HFCD/022USDCW)	No	6
5	Civil		
5.01	Fire Rated Doors for DC Hall, Power rooms, DC Hall, MMRs with Trim Lock, Panic Bar (Brand: SECCO)	No.	7
5.02	Anti-static (Static Dissipative) Solid Vinyl Conductive ESD flooring with thickness of 3mm of approved color, Antistatic Vinyl Tilling for DC Hall , UPS/Power Rooms and MMR/ Communication Room (Brand: DECORA, Model: Terrazzo Classic)	Sqft	900
6	CCTV & Access Control		
6.01	Ceiling mounted fixed type PoE Powered I.P Camera with day and minimum 25 fps, along with all mounting accessories (Brand: Hikvision, Model: DS-2CD1043G0-L)	Nos.	16
6.02	16 Port PoE 1-Gig Switch (Brand: Hikvision, Model=DS-3EO518P-EW)	Nos.	1
6.03	Network Video Recorder (NVR). (Brand: Hikvision, Model: DS-7616N-K2)	Nos.	1
6.04	LCD Display 55" (Brand: TCL, Model:55P635)	Nos.	2

6.05	<p>Face Pad with following features and cloud based reporting and door lock mechanism</p> <p>a) CPU: Hexa Core Processor b) OS: Android 7.1 c) Screen Resolution: 1200x600 d) Capacitive Touch Screen e) Camera: Dual, 2 MP f) Face capacity: 5,000 g) Speed: <4 secs h) Bulk Registration supported i) Ethernet: 100/10 MBPS j) Wi-Fi, USB, Relay controller & Buzzer enabled (with indication lights)</p> <p>(Face Recognition Device, Model: TR08A)</p>	Nos.	1
6.06	Access Control System (with features of Bio Metric & RFID) (Brand: ZKT ECO, Model: F22)	Job	4
7	Cabinets & POD Containment Aisles		
7.01	42U open cabinet, including front door, rear double door, top panel, bottom panel, 9-folded frame, wheels and stand-levels, Side door with insulation, for Closed Cabinet, 600mm(width)*1200mm(depth)*2000mm(height)	Nos.	6
7.02	3 in 1 Rack access control reader, supporting fingerprint, RFID card, and pin.	Nos	10
8	InRow Precision Cooling and Thermal Management System		
8.01	Inrow split indoor unit, w/ Heat & Hum, inverter compressor, 380-415V/3P/50Hz-60Hz. with SNMP with Air Cooled Condenser Single Circuit OR Equivalent cooling system $\{(N+1) = (17KW+1)\}$	Nos	2
9	Power System		
9.01	UPS 400V3P 60kVA capacity or above, with provisioning of 5- 6 pcs Power Modules, hot-swap bypass module, power efficiency >95.5%, back up batteries: 32~44, rack mount with SNMP Card. Power modules as per load $\{(N+1) = 30KVA (20KVA+1)\}$, Output PF 1.0	Nos	2
9.02	Rack mount battery package. Hot swappable type battery sub-assembly (Minimum 20-25 mins backup at 80% load)	Nos	8
9.03	32A Rack Mount STS/LTS/ATS with 12 x C13 + 4 x C19 sockets	Nos	1
9.04	Rack PDU rated input current 32A, 16-bit C13 output socket, 8-bit C19 output socket with indicator, with total meter (hot-swapped IP-2017 digital current meter), vertical mount, with web, RS485 or SNMP protocol	Nos	16

9.05	LTS in MMR racks	Nos	1
10	Data Center Infrastructure Monitoring		
10.01	Integrated monitoring host with built in minimum 10-inch display, communicates with sensors (temperature & humidity, smoke, leaking, door open) and equipment (cooling, ups and power meters). Web portal and Modbus-TCP port. Wall mounting type.	Nos	1
10.02	SNMP reporting port for higher level DCIM/BMS/NMS integration	Nos	1
10.03	Temperature and humidity sensor, RS-485 type	Nos	6
10.04	Water flooding sensor, none positioning type.	Nos	2
10.05	Rack mount switch, 24 network port.	Nos	1
10.06	Smoke sensor, dry contact type with alarm light.	Nos	2
10.07	Access controller, management of users, logs and access authorization, 2 door type.	Nos	10
10.09	17" LED display, 16-port USB switcher to manage 16 servers. VGA interface, 1U rack mount.	Nos	1
11	Fire Detection & Suppression System		
	dodecafluoro-2-methylpentan-3-one based Fire Suppression System (UL listed) in Power Rooms, Communication Room , DC Hall.		
11.01	Cylinder 120 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR	Nos	1
11.02	Cylinder 40 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR	Nos	2
11.03	Cylinder 67 Liters Valve included Manual Operated Actuator 24 Vdc.Solenoid valve Wall Mounting Bracket Discharge Hose and Adapter TPED CERTIFICATED SEAMLESS STEEL CYLINDER 42 BAR	Nos	1
11.04	Low pressure switch	Nos	4

11.05	MH5112 (FK-5-1-12) commonly known as dodecafluoro-2-methylpentan-3-one. Specification compliance with NFPA2001 (Standard on clean agent fire extinguishing systems) and ISO14520 (Gaseous fire extinguishing systems). UL/FM approved.	kg	201
11.06	(360°) CENTRAL NOZZLE	Nos	5
11.07	CAUTION-ROOM PROTECTED	Nos	4
11.08	Fire extinguishing control modules/panels as per site requirements	Lot	1
11.09	Addressable Optical smoke detector with base (UL Listed with Flashing LED) For DC Hall, MMR, Power Rooms, Corridor, Manager Room, IT Hall, NOC Room & Kitchen	Nos	29
11.10	Electronic Sounder with Flasher	Nos	4
11.11	Fire Alarm Bell 6" High efficiency low current consumption on 24VDC motorized bells. Sound Output: 93dB @ 1M. Approved EN54, LPCB, CE.	Nos	4
11.12	Addressable Fire Alarms and Detection System with redundant loop system and central monitoring	Nos.	1

17. FIXED PAYMENT FORM-B

First Agreement Year						
Line Item N°	Description of Goods/Services	Unit	Qty	Unit price DELIVERED DUTY PAID (DDP) [CPPA-G office Islamabad]	GST on Unit price delivered duty paid (DDP) [CPPA-G office Islamabad]	Total Price in PKR
Will be updated as per price schedule submitted by successful bidder						
Grand Total						
Second Agreement Year						

Line Item N°	Description of Goods/Services	Unit	Qty	Unit price DELIVERED DUTY PAID (DDP) [CPPA-G office Islamabad]	GST on Unit price delivered duty paid (DDP) [CPPA-G office Islamabad]	Total Price in PKR
Will be updated as per price schedule submitted by successful bidder						
Grand Total						
Third Agreement Year						
Line Item N°	Description of Goods/Services	Unit	Qty	Unit price DELIVERED DUTY PAID (DDP) [CPPA-G office Islamabad]	GST on Unit price delivered duty paid (DDP) [CPPA-G office Islamabad]	Total Price in PKR
Will be updated as per price schedule submitted by successful bidder						
Grand Total						

Notes:

- i) All rates are inclusive of the cost(s) of inspection, delivery, installation charges, services, transportation, all applicable taxes, import duties if any and other levies.
- ii) All prices are quoted in PKR.
- iii) The annual price in PKR shall remain firm and final and shall not subject to any escalation during the contractual year.

SPECIAL CONDITIONS

- i) M/S successful bidder shall be responsible for completing the task(s) prescribed in the work order in accordance with the methodology and in the time period as specified in the Agreement.

- Should M/S successful bidder fail to do so it shall be liable for liquidated damages as per the Agreement.
- ii) M/S successful bidder shall be responsible for all expenses for service and delivery and for any other software, license utility software, third party tool etc. required for the delivery of service(s) under the Agreement.

18. Terms of Payment

The Payment (including GST) will be made by MINISTRY OF ENERGY (POWER DIVISION) on production of following documents:

- i) Invoice
- ii) Monthly Attendance certificate of support staff, signed by CIO-CPPA-G or his authorized officer
- iii) Invoice verification/certification by CPPA-G
- iv) On Provision of S.R.O, Tax will not be deducted
- v) Payment mentioned at Fixed payment form for the agreement year will be done in four quarterly installments after successful delivery of services/parts. Repair or part charges will not be paid separately.
- vi) Deductions for defective services as per the Liquidated Damages shall be made as defined in this agreement.

-----**END of SLA**-----

Lot A Annexure “D”
COMPLIANCE SHEET OF TECHNICAL SPECIFICATIONS FOR LOT A

Sr.	Description-1.1	Compliance	Document Reference
1	Modular and Scalable Uninterruptible Power System 90KVA or higher		
1.1	General Safety requirements of the UPS EN62040-1/IEC62040-1/AS62040-1		
1.2	EMC requirement of the UPS EN62040-2/IEC62040-2/AS62040-2(CLASS C3)		
1.3	Method of performance and test requirements of the UPS EN62040-3/IEC62040-3/AS62040-3(VFI SS 111)		
2	Fire Detection & Suppression System		
2.1	Contractor to provide the detailed drawing and BOQ as per site requirements and industry standards for Datacentre Hall, Communication Room, Power Rooms, Corridor, Manager Room, IT Hall & NOC Room		
2.2	UL/FM approved		
3	Structured Cabling & LAN		
3.1	Contractor to provide the detailed drawing as per site requirements and industry standards as per BOQ requirements		
3.2	Structured Cabling Compliance with ANSI/TIA/EIA 568 Standard		
3.3	Cable Labeling Compliance with ANSI/TIA 606 Standard schema to be submitted		
4	Manufacturer’s Qualifications		
4.1	More than 5 years experience in the design, manufacture and testing of solid-state UPS systems shall be required.		
4.2	The quality system for the engineering and manufacturing facility shall be certified to conform to Quality System Standard ISO 9001 for the design and manufacture of power protection systems for computers and other sensitive electronics		
5	SLA Document		
	The bidder have read and understood the SLA document provided in this tender document		
6	Compliance to RFP		
	Participating firm should comply to all RFP specifications & clauses		
7	Proposal Submittals		
7.1	Descriptions of equipment to be furnished, including deviations from the specifications in BOQ.		
7.2	Document showing the efficiency certification by certified agency.		
7.3	System configuration with single-line diagrams.		
7.4	Detailed layouts of customer power and control connections.		
7.5	Functional relationship of equipment, including weights, dimensions and heat dissipation.		
7.6	Information to allow distribution system coordination.		
8	Warranty		
8.1	All provided equipment / services must be covered under warranty for One year after date of issuance of Completion Certificate issued by CPPA-G.		
8.2	Selected Bidder shall provide onsite Warranty/Services for the DC equipment and Bidder shall ensure that DC solution and its parts supply to CPPA are new (non-refurbished and not reaching end of life in next 5-years and ensure the parts availability for next four years) and free from any sort of defects for the warranty period.		

LOT B: TECHNICAL SPECIFICATIONS- DATA BACKUP SOLUTION

Integrated Backup Appliance: Qty=01	
	Criteria
Architecture	Purpose built disk-based integrated backup appliance with native capability of data deduplication.
Capacity	Min. 8TB usable capacity (post-RAID capacity ignoring dedupe factor) with global deduplication (i.e., global deduplication irrespective of number of logical containers or backup devices created/used in the system)
Scalability	Should provide data in place upgrade and scalability to 80TB or more post-RAID capacity or more. Disk capacity for full scalability should be shipped upfront with only desired capacity activated. Can use object storage as external tier for long term retention.
Protection and Fault Tolerance	Must have robust FT and self-healing mechanism. E.g., RAID with hot spare, end-to-end verification without performance degradation, NVRAM, snapshots to protect against physical and logical failures.
Cleanup/Housekeeping	System should have seamless self-maintenance and housekeeping mechanism (e.g., cleanup, garbage collection) without affecting routine backup/recovery and replication operations.
Deduplication Technology	Solution should offer In-line variable length and global deduplication. Solution must also support source side deduplication and any required deduplication license(s) must be included.
Connectivity	Should have 10G/1GbE. Must support IPv4, IPv6.
Protocols	Should support multiple backup protocols (NFS, CIFS, NDMP and any other recommended proprietary protocol) simultaneously. All protocol licenses must be included.
Throughput	Can handle 8TB/Hr. or more throughput using the proposed protocol(s)
Application/DB Direct Integration Support	Should support direct integration with industry leading native utilities (Oracle RMAN, BR*Tools, MSSQL backup) without backup software and with source side deduplication
Platforms Compatibility	Should support integration with open systems, and any other specialized platforms
Security and Encryption	Should support strong encryption of data-at-rest/in replication. Required license should be included. Solution must meet compliance standards for data. Should also support locking the data from deletion and forging. Must be able to extend to a cyber recovery solution with automated airgap isolation.
Replication	Network optimized replication with capability of bandwidth throttling. Solution must support 1:1, many:1, 1: many, and

	cascaded replication. Required replication license(s) should be included for entire capacity. Solution should support immediate replication of backups to maximize DR readiness and minimize lag between production and DR.
Features and clients	Licensing should include entitlement of all software features and unlimited number of backup servers and clients.
OS/Platform Support	Must support physical and virtual servers' backups. VMware, Hyper-V, Windows, AIX, Linux, Solaris, and NAS backup.
Applications and DB Integration	Should support application consistent backups of all major DBs and Apps including Oracle, MS SQL, Microsoft Exchange, DB2, SAP with granular recovery.
Efficiency	<ul style="list-style-type: none"> - Synthetic/Virtual Synthetic/Always Full backups, Immediate replication, Dense filesystem backups, Passive node backups in cluster configurations. - Flexible and scalable image level backups with CBT for VMware backup and recovery. Guest level backup/recovery for application consistency.
Scalability	Proposed solution must be able handle growth and large scale of clients under a single control server.
Management and Monitoring	<p>Should have simple to define and use workflows for automation of data protection. Should have centralized user interface for managing and monitoring end to end backup environment from a single dashboard.</p> <ul style="list-style-type: none"> - Advance/comprehensive monitoring and reporting capability is desirable with score cards and end-to-end visibility of environment and recoverability. - Should provide an intuitive search interface to perform file search across all the stored backup images and fetch search results for recovery. Should provide single/consolidated software release train for upgrades and patches to avoid any compatibility or management issues.
Support	Three (03) years 24/7 OEM Warranty and support and next business day Part & Repair replacement.
OEM Technical Training	Two (2) Persons (International hands on five days training including traveling, lodging and boarding)

LOT C: TECHNICAL SPECIFICATIONS- DATA INSTITUTIONALIZATION PROJECT – BIG DATA SOLUTION

1. Objectives

The primary objectives of this project are as follows:

- Develop a highly scalable big data solution to cater to the evolving data demands of the CPPA.
- Leverage open-source products to minimize costs and enhance flexibility.
- Establish a comprehensive framework for seamless data collection, validation, storage, security, and sharing among stakeholders within the power sector as well as outside the sector.
- Accommodate diverse data formats and frequencies originating from different data sources.
- Implement stringent data governance protocols to ensure regulatory compliance, data quality, and accountability.

2. Solution Components

The big data solution should (but not limited) comprise the following interconnected components:

2.1. Data Capturing:

- Design and implement flexible data ingestion pipelines capable of handling real-time and batch data from various sources including internal and external systems.
- Develop connectors and adapters to seamlessly integrate both structured data (CSV, JSON) and unstructured data (documents, images).
- Implement data transformation processes to standardize incoming data formats, ensuring consistency and reliability.

2.2. Data Validation

- Develop comprehensive data validation rules to identify anomalies, inconsistencies, and errors in the incoming data.
- Implement automated data quality checks tailored to different data types and templates.
- Create mechanisms to flag and route invalid or suspicious data points for further review and resolution.

2.3. Data Storage

- Select and configure suitable data storage technologies, considering factors such as data volume, access patterns, and future scalability.
- Implement distributed storage solutions like Hadoop HDFS or cloud-based options for accommodating the growing dataset.
- Ensure efficient data partitioning, indexing, and compression strategies to optimize storage and retrieval performance.

2.4. Data Security

- Implement robust security measures to safeguard sensitive power sector data across its lifecycle.

- Apply end-to-end encryption for both data transmission and storage, adhering to industry-standard encryption protocols.
- Establish a comprehensive authentication and authorization framework to control data access based on predefined roles and permissions.

2.5. Data Governance

- Develop and enforce data governance policies to ensure compliance with industry regulations and internal data handling standards.
- Define data ownership, stewardship roles, and responsibilities to maintain accountability and data quality.
- Implement data lifecycle management practices, including archiving, retention, and secure deletion protocols.

2.6. Data Sharing

- Design and implement secure data sharing mechanisms to facilitate collaborative efforts with other entities in the power sector.
- Develop APIs and protocols that ensure controlled data sharing while maintaining data privacy and security.
- Incorporate data anonymization techniques to facilitate information sharing while protecting sensitive data.

2.7. Integration with Business Applications

- Integrate the big data solution with existing business applications used within the CPPA.
- Establish data pipelines and connectors to enable seamless data flow between the big data solution and core business applications, enhancing cross-functional efficiency.

2.8. Email Notifications

Implement an email notification system that automatically notifies stakeholders of the success or failure of data processing. Configure customizable email templates to provide timely updates on data processing outcomes, ensuring efficient communication.

3. Implementation Phases

The project should (but not limited to) be executed through a series of well-defined phases:

3.1. Requirements Gathering:

Collaborate closely with the CPPA to gather detailed insights into data source characteristics, data formats, and frequency requirements. Identify potential data sharing partners and their unique data needs to ensure seamless compatibility.

3.2. Solution Design

Develop a comprehensive architecture detailing the end-to-end data flow, storage mechanisms, security layers, governance components, and integration points. Carefully select appropriate open-source tools and technologies based on their alignment with each aspect of the solution.

3.3. Development

Implement the solution components in accordance with the established design, ensuring robustness and scalability. Develop data pipelines to ensure seamless data flow, covering

aspects from data ingestion to storage and sharing. Create validation scripts, transformation processes, and data quality algorithms to maintain data accuracy and consistency.

3.4. Testing

Conduct rigorous testing across multiple stages to ensure the reliability, accuracy, and security of the solution. Perform unit testing to validate the functionality of individual components. Execute integration testing to ensure seamless interactions between different solution components. Undertake performance testing to assess the efficiency and scalability of the solution under varying loads.

3.5. Deployment and Scaling

Deploy the solution within a production environment, closely monitoring its performance and scalability. Fine-tune and optimize solution components to ensure efficient resource utilization as data volumes grow. Implement scaling strategies to accommodate increased data inflow and user demands.

3.6. Documentation and Training

Develop comprehensive documentation providing detailed instructions for the setup, configuration, and ongoing maintenance of the solution. Create user guides and training materials to empower stakeholders with the knowledge required to effectively use and manage the solution. Conduct training sessions to equip relevant personnel with the skills needed to operate and maintain the solution.

4. Schedule of Requirements/Bill of Quantity

Following are the details of the items other than hardware required for the implementation of the solution with the estimated cost:

#	Item	Description
1	Big Data Solution Licenses	One Year Subscription
2	Project implementation	Six (6) Months
3	Support After Implementation	One Year
4	Principal Training (Local hands on five days training including traveling, lodging and boarding)	Five (05) Users

5. Conclusion

This exhaustive scope of work outlines the holistic approach for developing a scalable big data solution that caters to the complex data requirements of the CPPA. Through the integration with business applications and the inclusion of email notifications, the solution aims to enhance operational efficiency, collaboration, and communication. By leveraging open-source tools, adhering to industry best practices, and prioritizing scalability, the solution endeavors to establish a robust data management infrastructure that fosters collaboration, efficiency, and data-driven decision-making across the power sector.

**LOT D: TECHNICAL SPECIFICATIONS- INFORMATION SECURITY
ENHANCEMENT**

ONE TIME DEPLOYMENT SERVICES REQUIREMENT		
Sr No.	Description	Quantity
1	BloxOne DDI Backup Virtual Appliance. (On-Prem DNS Server)	1
2	Virtual Appliance deployment of Blox1DDI and provisioning of the conditional forwarding for the visibility of internal corporate users.	2
3	One Year on Site Support after deployment	1
4	International hands on five days training including traveling, lodging and boarding (training and knowledge transfer to CPPA-G's personnel for all components. The training should cover the deployment, configuration, management, upgrade and reporting aspects)	2
3	<p><u>Guidelines for deployment of Sr. No. 1 & 2</u></p> <ol style="list-style-type: none"> 1. Responsible for deployment and configuration of all the components 2. Suggest and implement new policies in line of standard best practices according to CPPA-G's environment. 3. Provide the following documentation: <ul style="list-style-type: none"> • Deployment documentation & Network Diagram • Details about how to handle day-to-day administrative activities. 4. Provide training and knowledge transfer to CPPA-G's personnel for all components. The training should cover the deployment, configuration, management, upgrade and reporting aspects. 	
EXISTING LICENSING & DEPLOYMENT		
Sr No.	Description	Quantity
1	BloxOne DDI Virtual Appliance. (On-Prem DNS Server)	1
2	Infoblox BloxOne DDI Advanced Software Annual Subscription. (Management & Reporting on Cloud)	2
3	BloxOne Threat Defence Advance License. (Grid-Wide Security License).	1

5. Inspections and Tests

The following inspections and tests shall be performed:

Inspection as per given technical specifications after delivery:

- i. For Equipment: After installation, testing, commissioning and training.
- ii. For services: After installation, testing, commissioning and training

Note: Verification Certificate will be issued by Chief Information officer or his nominee, CPPA-G.

PART 3 - Contract

Section VIII. General Conditions of Contract

Table of Clauses

1. Definitions	125
2. Contract Documents	126
3. Corrupt and Fraudulent Practices	126
4. Interpretation	126
5. Language	127
6. Joint Venture, Consortium or Association	128
7. Eligibility	128
8. Notices	128
9. Governing Law	128
10 Settlement of Disputes	129
11. Inspections and Audit by the Bank	129
12. Scope of Supply	130
13. Delivery and Documents	130
14. Supplier's Responsibilities	130
15 Contract Price	130
16. Terms of Payment	130
17. Taxes and Duties	131
18. Performance Security	131
19. Copyright	131

20. Confidential Information	131
21. Subcontracting	132
22. Specifications and Standards	133
23. Packing and Documents	133
24. Insurance	133
25. Transportation and Incidental Services.....	134
26. Inspections and Tests.....	134
27. Liquidated Damages	135
28. Warranty	136
29. Patent Indemnity.....	137
30 Limitation of Liability	138
31. Change in Laws and Regulations	138
32. Force Majeure	138
33. Change Orders and Contract Amendments.....	139
34. Extensions of Time.....	140
35. Termination.....	140
36. Assignment.....	141
37. Export Restriction.....	141

Section VIII. General Conditions of Contract

1. Definitions

1.1 The following words and expressions shall have the meanings hereby assigned to them:

- (a) “Bank” means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (b) “Contract” means the Contract 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 payable to the Supplier as specified in the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- (e) “Day” means calendar day.
- (f) “Completion” means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Contract.
- (g) “GCC” means the General Conditions of Contract.
- (h) “Goods/Services” means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser under the Contract.
- (i) “Purchaser’s Country” is the country specified in the Special Conditions of Contract (SCC).
- (j) “Purchaser” means the entity purchasing the Goods/Services and Related Services, as specified in the SCC.
- (k) “Related Services” means the services incidental to the supply of the Goods/Services, such as insurance, installation, training and initial maintenance and other such obligations of the Supplier under the Contract.

- (l) “SCC” means the Special Conditions of Contract.
 - (m) “Subcontractor” means any person, private or government entity, or a combination of the above, to whom any part of the Goods/Services to be supplied or execution of any part of the Related Services is subcontracted by the Supplier.
 - (n) “Supplier” means the person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Contract Agreement.
 - (o) “The Project Site,” where applicable, means the place named in the **SCC**.
- 2. Contract Documents**
- 2.1 Subject to the order of precedence set forth in the Contract Agreement, 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 and Fraudulent Practices**
- 3.1 The Bank requires compliance with its policy in regard to corrupt and fraudulent practices as set forth in Appendix to the GCC.
- 3.2 The Purchaser requires the Supplier to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the bidding process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.
- 4. Interpretation**
- 4.1 If the context so requires it, singular means plural and vice versa.
- 4.2 Incoterms
- (a) Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms.
 - (b) The terms EXW, DDP, FCA, CFR and other similar terms, when used, shall be governed by the rules prescribed in the current edition of Incoterms specified in the **SCC** and published by the International Chamber of Commerce in Paris, France.

4.3 Entire Agreement

The Contract constitutes the entire agreement between the Purchaser and the Supplier and supersedes all communications, negotiations and agreements (whether written or oral) of the parties with respect thereto made prior to the date of Contract.

4.4 Amendment

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 authorized representative of each party thereto.

4.5 No waiver

- (a) Subject to GCC Sub-Clause 4.5(b) below, 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 authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

4.6 Severability

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. Language

- 5.1 The Contract as well as all correspondence and documents relating to the Contract exchanged by the Supplier and the Purchaser, shall be written in the language specified in the **SCC**. 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 the language specified, in which case, for purposes of interpretation of the Contract, this translation shall govern.

-
- 5.2 The Supplier shall bear all costs of translation to the governing language and all risks of the accuracy of such translation, for documents provided by the Supplier.
- 6. Joint Venture, Consortium or Association**
- 6.1 If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.
- 7. Eligibility**
- 7.1 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.
- 7.2 All Goods/Services and Related Services to be supplied under the Contract and financed by the Bank shall have their origin in Eligible Countries. For the purpose of this Clause, origin means the country where the Goods/Services 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.
- 8. Notices**
- 8.1 Any notice given by one party to the other pursuant to the Contract shall be in writing to the address specified in the **SCC**. The term “in writing” means communicated in written form with proof of receipt.
- 8.2 A notice shall be effective when delivered or on the notice’s effective date, whichever is later.
- 9. Governing Law**
- 9.1 The Contract shall be governed by and interpreted in accordance with the laws of the Purchaser’s Country, unless otherwise specified in the **SCC**.
- 9.2 Throughout the execution of the Contract, the Contractor shall comply with the import of Goods/Services and services prohibitions in the Purchaser’s country when
- (a) as a matter of law or official regulations, the Borrower’s country prohibits commercial relations with that country; or
- 9.2 (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower’s Country prohibits any import of

Goods/Services from that country or any payments to any country, person, or entity in that country.

10 Settlement of Disputes

10.1 The Purchaser and the Supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the Contract.

10.2 If, after twenty-eight (28) days, the parties have failed to resolve their dispute or difference by such mutual consultation, then either the Purchaser or the Supplier may give notice to the other party of its intention to commence arbitration, as hereinafter provided, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given. Any dispute or difference in respect of which a notice of intention to commence arbitration has been given in accordance with this Clause shall be finally settled by arbitration. Arbitration may be commenced prior to or after delivery of the Goods/Services under the Contract. Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC.**

10.3 Notwithstanding any reference to arbitration herein,

(a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree; and

(b) the Purchaser shall pay the Supplier any monies due the Supplier.

11. Inspections and Audit by the Bank

11.1 The Supplier shall keep, and shall make all reasonable efforts to cause its Subcontractors to keep, accurate and systematic accounts and records in respect of the Goods/Services in such form and details as will clearly identify relevant time changes and costs.

11.2 The Supplier shall permit, and shall cause its Subcontractors to permit, the Bank and/or persons appointed by the Bank to inspect the Supplier's offices and all accounts and records relating to the performance of the Contract and the submission of the bid, and to have such accounts and records audited by auditors appointed by the Bank if requested by the Bank. The Supplier's and its Subcontractors and consultants' attention is drawn to Clause 3 [Fraud and Corruption], which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under this Sub-Clause 11.1 constitute a prohibited practice subject to contract termination (as well as to a

determination of ineligibility pursuant to the Bank's prevailing sanctions procedures)

- 12. Scope of Supply** 12.1 The Goods/Services and Related Services to be supplied shall be as specified in the Schedule of Requirements.
- 13. Delivery and Documents** 13.1 Subject to GCC Sub-Clause 33.1, the Delivery of the Goods/Services and Completion of the Related Services shall be in accordance with the Delivery and Completion Schedule specified in the Schedule of Requirements. The details of shipping and other documents to be furnished by the Supplier are specified in the **SCC**.
- 14. Supplier's Responsibilities** 14.1 The Supplier shall supply all the Goods/Services and Related Services included in the Scope of Supply in accordance with GCC Clause 12, and the Delivery and Completion Schedule, as per GCC Clause 13.
- 15 Contract Price** 15.1 Prices charged by the Supplier for the Goods/Services supplied and the Related Services performed under the Contract shall not vary from the prices quoted by the Supplier in its bid, with the exception of any price adjustments authorized in the **SCC**.
- 16. Terms of Payment**
- 16.1 The Contract Price, including any Advance Payments, if applicable, shall be paid as specified in the **SCC**.
- 16.2 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by invoices describing, as appropriate, the Goods/Services delivered and Related Services performed, and by the documents submitted pursuant to GCC Clause 13 and upon fulfillment of all other obligations stipulated in the Contract.
- 16.3 Payments shall be made promptly by the Purchaser, but in no case later than sixty (60) days after submission of an invoice or request for payment by the Supplier, and after the Purchaser has accepted it.
- 16.4 The currencies in which payments shall be made to the Supplier under this Contract shall be those in which the bid price is expressed.
- 16.5 In the event that the Purchaser fails to pay the Supplier any payment by its due date or within the period set forth in the **SCC**, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate shown in the **SCC**, for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.

17. Taxes and Duties

- 17.1 For Goods/Services manufactured outside the Purchaser's Country, the Supplier shall be entirely responsible for all taxes, stamp duties, license fees, and other such levies imposed outside the Purchaser's Country.
- 17.2 For Goods/Services Manufactured within the Purchaser's country, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods/Services to the Purchaser.
- 17.3 If any tax exemptions, reductions, allowances or privileges may be available to the Supplier in the Purchaser's Country, the Purchaser shall use its best efforts to enable the Supplier to benefit from any such tax savings to the maximum allowable extent.

18. Performance Security

- 18.1 If required as specified in the SCC, the Supplier shall, within twenty-eight (28) days of the notification of contract award, provide a performance security for the performance of the Contract in the amount specified in the SCC.
- 18.2 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.
- 18.3 As specified in the SCC, the Performance Security, if required, shall be denominated in the currency(ies) of the Contract, or in a freely convertible currency acceptable to the Purchaser; and shall be in one of the format stipulated by the Purchaser in the SCC, or in another format acceptable to the Purchaser.
- 18.4 The Performance Security shall be discharged by the Purchaser and returned to the Supplier not later than twenty-eight (28) days following the date of Completion of the Supplier's performance obligations under the Contract, including any warranty obligations, unless specified otherwise in the SCC.

19. Copyright

- 19.1 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

20. Confidential Information

- 20.1 The Purchaser and the Supplier shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any third party any documents, data, or other information furnished directly or indirectly by the other party hereto in

connection with the Contract, whether such information has been furnished prior to, during or following completion or termination of the Contract. Notwithstanding the above, the Supplier may furnish to its Subcontractor such documents, data, and other information it receives from the Purchaser to the extent required for the Subcontractor to perform its work under the Contract, in which event the Supplier shall obtain from such Subcontractor an undertaking of confidentiality similar to that imposed on the Supplier under GCC Clause 20.

20.2 The Purchaser shall not use such documents, data, and other information received from the Supplier for any purposes unrelated to the contract. Similarly, the Supplier shall not use such documents, data, and other information received from the Purchaser for any purpose other than the performance of the Contract.

20.3 The obligation of a party under GCC Sub-Clauses 20.1 and 20.2 above, however, shall not apply to information that:

- (a) the Purchaser or Supplier need to share with the Bank or other institutions participating in the financing of the Contract;
- (b) now or hereafter enters the public domain through no fault of that party;
- (c) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party; or
- (d) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

20.4 The above provisions of GCC Clause 20 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Supply or any part thereof.

20.5 The provisions of GCC Clause 20 shall survive completion or termination, for whatever reason, of the Contract.

21. Subcontracting

21.1 The Supplier shall notify the Purchaser in writing of all subcontracts awarded under the Contract if not already specified in the bid. Such notification, in the original bid or later shall not relieve the Supplier from any of its obligations, duties, responsibilities, or liability under the Contract.

21.2 Subcontracts shall comply with the provisions of GCC Clauses 3 and 7.

22. Specifications and Standards**22.1 Technical Specifications and Drawings**

- (a) The Goods/Services and Related Services supplied under this Contract shall conform to the technical specifications and standards mentioned in Section VI, Schedule of Requirements and, when no applicable standard is mentioned, the standard shall be equivalent or superior to the official standards whose application is appropriate to the Goods/Services' country of origin.
- (b) 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.
- (c) 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 Schedule of Requirements. During Contract execution, any changes in any such codes and standards shall be applied only after approval by the Purchaser and shall be treated in accordance with GCC Clause 33.

23. Packing and Documents

23.1 The Supplier shall provide such packing of the Goods/Services as is required to prevent their damage or deterioration during transit to their final destination, as indicated in the Contract. During transit, 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/Services' final destination and the absence of heavy handling facilities at all points in transit.

23.2 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, including additional requirements, if any, specified in the **SCC**, and in any other instructions ordered by the Purchaser.

24. Insurance

24.1 Unless otherwise specified in the **SCC**, the Goods/Services supplied under the Contract shall be fully insured—in a freely convertible currency from an eligible country—against loss or damage incidental to manufacture or acquisition, transportation,

storage, and delivery, in accordance with the applicable Incoterms or in the manner specified in the **SCC**.

25. Transportation and Incidental Services

- 25.1 Unless otherwise specified in the **SCC**, responsibility for arranging transportation of the Goods/Services shall be in accordance with the specified Incoterms.
- 25.2 The Supplier may be required to provide any or all of the following services, including additional services, if any, **specified in SCC**:
- (a) performance or supervision of on-site assembly and/or start-up of the supplied Goods/Services;
 - (b) furnishing of tools required for assembly and/or maintenance of the supplied Goods/Services;
 - (c) furnishing of a detailed operations and maintenance manual for each appropriate unit of the supplied Goods/Services;
 - (d) performance or supervision or maintenance and/or repair of the supplied Goods/Services, for a period of time agreed by the parties, provided that this service shall not relieve the Supplier of any warranty obligations under this Contract; and
 - (e) training of the Purchaser's personnel, at the Supplier's plant and/or on-site, in assembly, start-up, operation, maintenance, and/or repair of the supplied Goods/Services.
- 25.3 Prices charged by the Supplier for incidental services, if not included in the Contract Price for the Goods/Services, shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services

26. Inspections and Tests

- 26.1 The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods/Services and Related Services as are specified in the **SCC**.
- 26.2 The inspections and tests may be conducted on the premises of the Supplier or its Subcontractor, at point of delivery, and/or at the Goods/Services' final destination, or in another place in the Purchaser's Country as specified in the **SCC**. Subject to GCC Sub-Clause 26.3, if conducted on the premises of the Supplier or its Subcontractor, all reasonable facilities and assistance, including access to drawings and production data, shall be furnished to the inspectors at no charge to the Purchaser.

- 26.3 The Purchaser or its designated representative shall be entitled to attend the tests and/or inspections referred to in GCC Sub-Clause 26.2, provided that the Purchaser bear all of its own costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.
- 26.4 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.
- 26.5 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/Services 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 impedes 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.
- 26.6 The Supplier shall provide the Purchaser with a report of the results of any such test and/or inspection.
- 26.7 The Purchaser may reject any Goods/Services 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/Services 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 pursuant to GCC Sub-Clause 26.4.
- 26.8 The Supplier agrees that neither the execution of a test and/or inspection of the Goods/Services or any part thereof, nor the attendance by the Purchaser or its representative, nor the issue of any report pursuant to GCC Sub-Clause 26.6, shall release the Supplier from any warranties or other obligations under the Contract.

27. Liquidated Damages

- 27.1 Except as provided under GCC Clause 32, if the Supplier fails to deliver any or all of the Goods/Services by the Date(s) of delivery or perform the Related Services within the period

specified in the Contract, the Purchaser may 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 **SCC** of the delivered price of the delayed Goods/Services or unperformed 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 **SCC**. Once the maximum is reached, the Purchaser may terminate the Contract pursuant to GCC Clause 35.

28. Warranty

- 28.1 The Supplier warrants that all the Goods/Services are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract.
- 28.2 Subject to GCC Sub-Clause 22.1(b), the Supplier further warrants that the Goods/Services shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in the country of final destination.
- 28.3 Unless otherwise specified in the **SCC**, the warranty shall remain valid for twelve (12) months after the Goods/Services, or any portion thereof as the case may be, have been delivered to and accepted at the final destination indicated in the **SCC**, or for eighteen (18) months after the date of shipment from the port or place of loading in the country of origin, whichever period concludes earlier.
- 28.4 The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- 28.5 Upon receipt of such notice, the Supplier shall, within the period specified in the **SCC**, expeditiously repair or replace the defective Goods/Services or parts thereof, at no cost to the Purchaser.
- 28.6 If having been notified, the Supplier fails to remedy the defect within the period specified in the **SCC**, the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.

**29. Patent
Indemnity**

29.1 The Supplier shall, subject to the Purchaser's compliance with GCC Sub-Clause 29.2, indemnify and hold harmless the Purchaser and its employees and officers from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Purchaser may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of:

- (a) the installation of the Goods/Services by the Supplier or the use of the Goods/Services in the country where the Site is located; and
- (b) the sale in any country of the products produced by the Goods/Services.

Such indemnity shall not cover any use of the Goods/Services or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, neither any infringement resulting from the use of the Goods/Services or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Supplier, pursuant to the Contract.

29.2 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Sub-Clause 29.1, the Purchaser shall promptly give the Supplier a notice thereof, and the Supplier may at its own expense and in the Purchaser's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

29.3 If the Supplier fails to notify the Purchaser within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Purchaser shall be free to conduct the same on its own behalf.

29.4 The Purchaser shall, at the Supplier's request, afford all available assistance to the Supplier in conducting such proceedings or claim, and shall be reimbursed by the Supplier for all reasonable expenses incurred in so doing.

29.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims,

demands, losses, damages, costs, and expenses of any nature, including attorney's fees and expenses, which the Supplier may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Purchaser.

30 Limitation of Liability

- 30.1 Except in cases of criminal negligence or willful misconduct,
- (a) 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, provided that this exclusion shall not apply to any obligation of the Supplier to pay liquidated damages to the Purchaser and
 - (b) the aggregate liability of the Supplier to the Purchaser, whether under the Contract, in tort or otherwise, 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 indemnify the purchaser with respect to patent infringement

31. Change in Laws and Regulations

- 31.1 Unless otherwise specified in the Contract, if after the date of 28 days prior to date of Bid submission, any law, regulation, ordinance, order or bylaw having the force of law is enacted, promulgated, abrogated, or changed in the place of the Purchaser's country where the Site is located (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. Notwithstanding the foregoing, such additional or reduced cost shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with GCC Clause 15.

32. Force Majeure

- 32.1 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.

32.2 For purposes of this Clause, “Force Majeure” means an event or situation beyond the control of the Supplier that is not foreseeable, is unavoidable, and its origin is not due to negligence or lack of care on the part of the Supplier. Such events may include, but not be limited to, acts of the Purchaser in its sovereign capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, and freight embargoes.

32.3 If a Force Majeure situation arises, the Supplier shall promptly notify the Purchaser in writing of such condition and the cause thereof. Unless otherwise directed by the Purchaser in writing, the Supplier shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

**33. Change Orders
and Contract
Amendments**

33.1 The Purchaser may at any time order the Supplier through notice in accordance GCC Clause 8, to make changes within the general scope of the Contract in any one or more of the following:

- (a) drawings, designs, or specifications, where Goods/Services to be furnished under the Contract are to be specifically manufactured for the Purchaser;
- (b) the method of shipment or packing;
- (c) the place of delivery; and
- (d) the Related Services to be provided by the Supplier.

33.2 If any such change causes an increase or decrease in the cost of, or the time required for, the Supplier’s performance of any provisions under the Contract, an equitable adjustment shall be made in the Contract Price or in the Delivery/Completion Schedule, or both, and the Contract shall accordingly be amended. Any claims by the Supplier for adjustment under this Clause must be asserted within twenty-eight (28) days from the date of the Supplier’s receipt of the Purchaser’s change order.

33.3 Prices to be charged by the Supplier for any Related Services that might be needed but which were not included in the Contract shall be agreed upon in advance by the parties and shall not exceed the prevailing rates charged to other parties by the Supplier for similar services.

33.4 Subject to the above, no variation in or modification of the terms of the Contract shall be made except by written amendment signed by the parties.

34. Extensions of Time

34.1 If at any time during performance of the Contract, the Supplier or its subcontractors should encounter conditions impeding timely delivery of the Goods/Services or completion of Related Services pursuant to GCC Clause 13, the Supplier shall promptly notify the Purchaser in writing of the delay, its likely duration, and its cause. As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may at its discretion extend the Supplier's time for performance, in which case the extension shall be ratified by the parties by amendment of the Contract.

34.2 Except in case of Force Majeure, as provided under GCC Clause 32, 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 pursuant to GCC Clause 26, unless an extension of time is agreed upon, pursuant to GCC Sub-Clause 34.1.

35. Termination

35.1 Termination for Default

- (a) The Purchaser, without prejudice to any other remedy for breach of Contract, by written notice of default sent to the Supplier, may terminate the Contract in whole or in part:
 - (i) if the Supplier fails to deliver any or all of the Goods/Services within the period specified in the Contract, or within any extension thereof granted by the Purchaser pursuant to GCC Clause 34;
 - (ii) if the Supplier fails to perform any other obligation under the Contract; or
 - (iii) if the Supplier, in the judgment of the Purchaser has engaged in fraud and corruption, as defined in GCC Clause 3, in competing for or in executing the Contract.
- (b) In the event the Purchaser terminates the Contract in whole or in part, pursuant to GCC Clause 35.1(a), the Purchaser may procure, upon such terms and in such manner as it deems appropriate, Goods/Services 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/Services or Related Services.

However, the Supplier shall continue performance of the Contract to the extent not terminated.

35.2 Termination for Insolvency.

- (a) The Purchaser may at any time terminate the Contract by giving notice to the Supplier if the Supplier becomes bankrupt or otherwise insolvent. In such event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy that has accrued or will accrue thereafter to the Purchaser

35.3 Termination for Convenience.

- (a) The Purchaser, by notice sent to the Supplier, may terminate the Contract, in whole or in part, at any time for its convenience. The notice of termination shall specify that 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.
- (b) The Goods/Services that are complete and ready for shipment within twenty-eight (28) days after the Supplier's receipt of notice of termination shall be accepted by the Purchaser at the Contract terms and prices. For the remaining Goods/Services, the Purchaser may elect:
 - (i) to have any portion completed and delivered at the Contract terms and prices; and/or
 - (ii) to cancel the remainder and pay to the Supplier an agreed amount for partially completed Goods/Services and Related Services and for materials and parts previously procured by the Supplier.

36. Assignment

- 36.1 Neither the Purchaser nor the Supplier shall assign, in whole or in part, their obligations under this Contract, except with prior written consent of the other party.

**37. Export
Restriction**

- 37.1 Notwithstanding any obligation under the Contract to complete all export formalities, any export restrictions attributable to the Purchaser, to the country of the Purchaser, or to the use of the products/Goods/Services, systems or services to be supplied, which arise from trade regulations from a country supplying those products/Goods/Services, systems or services, and which

substantially impede the Supplier from meeting its obligations under the Contract, shall release the Supplier from the obligation to provide deliveries or services, always provided, however, that the Supplier can demonstrate to the satisfaction of the Purchaser and of the Bank that it has completed all formalities in a timely manner, including applying for permits, authorizations and licenses necessary for the export of the products/Goods/Services, systems or services under the terms of the Contract. Termination of the Contract on this basis shall be for the Purchaser's convenience pursuant to Sub-Clause 35.3.

APPENDIX TO GENERAL CONDITIONS

Bank's Policy- Corrupt and Fraudulent Practices

(text in this Appendix shall not be modified)

Guidelines for Procurement of Goods/Services, Works, and Non-Consulting Services under IBRD Loans and IDA Credits & Grants by World Bank Borrowers, dated January 2011:

“Fraud and Corruption:

1.16 It is the Bank's policy to require that Borrowers (including beneficiaries of Bank loans), bidders, suppliers, contractors and their agents (whether declared or not), sub-contractors, sub-consultants, service providers or suppliers, and any personnel thereof, observe the highest standard of ethics during the procurement and execution of Bank-financed contracts.¹⁰ In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) “corrupt practice” is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;¹¹;
 - (ii) “fraudulent practice” is any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;¹²
 - (iii) “collusive practice” is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;¹³

¹⁰ In this context, any action to influence the procurement process or contract execution for undue advantage is improper.

¹¹ For the purpose of this sub-paragraph, “another party” refers to a public official acting in relation to the procurement process or contract execution. In this context, “public official” includes World Bank staff and employees of other organizations taking or reviewing procurement decisions.

¹² For the purpose of this sub-paragraph, “party” refers to a public official; the terms “benefit” and “obligation” relate to the procurement process or contract execution; and the “act or omission” is intended to influence the procurement process or contract execution.

¹³ For the purpose of this sub-paragraph, “parties” refers to participants in the procurement process (including public officials) attempting either themselves, or through another person or entity not participating in the procurement or selection process, to simulate competition or to establish bid prices at artificial, non-competitive levels, or are privy to each other's bid prices or other conditions.

- (iv) “coercive practice” is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;¹⁴
- (v) "obstructive practice" is:
 - (aa) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive or collusive practice; and/or threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or
 - (bb) acts intended to materially impede the exercise of the Bank’s inspection and audit rights provided for under paragraph 1.16(e) below.
- (b) will reject a proposal for award if it determines that the bidder recommended for award, or any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- (c) will declare misprocurement and cancel the portion of the loan allocated to a contract if it determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement or the implementation of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- (d) will sanction a firm or individual, at any time, in accordance with the prevailing Bank’s sanctions procedures,¹⁵ including by publicly declaring such firm or individual ineligible, either indefinitely or for a stated period of time: (i) to be awarded a Bank-financed contract; and (ii) to be a nominated¹⁶;

¹⁴ For the purpose of this sub-paragraph, “party” refers to a participant in the procurement process or contract execution.

¹⁵ A firm or individual may be declared ineligible to be awarded a Bank financed contract upon: (i) completion of the Bank’s sanctions proceedings as per its sanctions procedures, including, inter alia, cross-debarment as agreed with other International Financial Institutions, including Multilateral Development Banks, and through the application the World Bank Group corporate administrative procurement sanctions procedures for fraud and corruption; and (ii) as a result of temporary suspension or early temporary suspension in connection with an ongoing sanctions proceeding. See footnote 14 and paragraph 8 of Appendix 1 of these Guidelines.

¹⁶ A nominated sub-contractor, consultant, manufacturer or supplier, or service provider (different names are used depending on the particular bidding document) is one which has either been: (i) included by the bidder

- (e) will require that a clause be included in bidding documents and in contracts financed by a Bank loan, requiring bidders, suppliers and contractors, and their sub-contractors, agents, personnel, consultants, service providers, or suppliers, to permit the Bank to inspect all accounts, records, and other documents relating to the submission of bids and contract performance, and to have them audited by auditors appointed by the Bank.”
-

in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

Section IX. Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement and / or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC.

GCC 1.1(i)	The Purchaser's country is: Pakistan
GCC 1.1(j)	The Purchaser is: Central Power Purchasing Agency (CPPA-G), PIU-EDEIP, Ministry of Energy (Power Division)
GCC 1.1 (o)	The Project Site(s)/Final Destination(s) is/are: OFFICE OF THE CHIEF EXECUTIVE OFFICER (CEO), CPPA-G, Shaheen Plaza, Plot 73-A West, Fazlul Haq Road Blue Area, Islamabad. UAN:111-922-772 EXT: 235
GCC 4.2 (a)	The meaning of the trade terms shall be as prescribed by Incoterms. If the meaning of any trade term and the rights and obligations of the parties thereunder shall not be as prescribed by Incoterms, they shall be as prescribed by:
GCC 4.2 (b)	The version edition of Incoterms shall be INCOTERMS (2020 Edition): DDP (DELIVERED DUTY PAID)
GCC 5.1	The language shall be: English
GCC 8.1	For notices , the Purchaser's address shall be: CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED, SHAHEEN PLAZA, PLOT 73-A WEST, FAZLUL HAQ ROAD BLUE AREA, ISLAMABAD City: Islamabad Email: farrukh.nawaz@cpga.gov.pk Mob: 0321-5196385
GCC 9.1	The governing law shall be the law of: Islamic Republic of Pakistan
GCC 10.2	The rules of procedure for arbitration proceedings pursuant to GCC Clause 10.2 shall be as follows: In the case of a dispute between the Purchaser and a Supplier, the dispute shall be referred to adjudication or arbitration in accordance with the Arbitration Act of 1940.
GCC 13.1	Details of Shipping and other Documents to be furnished by the Supplier are <i>a non-negotiable sea way bill, a railway consignment note or a road consignment note, insurance certificate, Manufacturer's or Supplier's warranty certificate, inspection certificate issued by a nominated inspection agency, Supplier's factory shipping details.</i> The above documents shall be received by the Purchaser before arrival of the Goods/Services and, if not received, the Supplier will be responsible for any consequent expenses.
GCC 14	

<p>GCC 15.1</p>	<p>The prices charged for the Goods/Services supplied and the related Services performed “shall not,” be adjustable.</p>													
<p>GCC 16.1</p>	<p>Payment of the Equipment, Software and Support will be made directly by consignees within thirty days, from the date of receipt of invoice, on production of following documents:</p> <p>For Lot A (Except SLA & Support Staff):</p> <ul style="list-style-type: none"> i) submission of Invoice having NTN & Sales Tax ii) Inspection/ Verification/Acceptance Certificate issued by CPPA-G. iii) Import Documents (Bill of lading; Packing list; Performa Invoice; Insurance etc.) iv) Warranty Certificate v) On Provision of relevant S.R.O, Tax will not be deducted <p>For Lot A (SLA & Support Staff)</p> <ul style="list-style-type: none"> i) submission of quarterly invoice having NTN & Sales Tax with monthly attendance sheet of resident engineer ii) for Second and third agreement years Satisfactory performance Certificate issued by CPPA-G. iii) Payment of repair or part charges will not be paid separately. iv) Deductions for defective services as per the Liquidated Damages shall be made as defined in this agreement. v) In case rate of sales tax is revised invoice will be adjusted accordingly. <p>For Lot B:</p> <ul style="list-style-type: none"> i) submission of Invoice having NTN & Sales Tax ii) Inspection/ Verification/Acceptance Certificate issued by CPPA-G. iii) Import Documents (Bill of lading; Packing list; Performa Invoice; Insurance etc.) iv) Warranty Certificate v) On Provision of relevant S.R.O, Tax will not be deducted <p>For Lot C:</p> <ul style="list-style-type: none"> i) submission of Invoice having NTN & Sales Tax ii) Inspection/ Verification/Acceptance Certificate issued by CPPA-G. iii) License(s) Password and keys will remain confidential to avoid any misuse. A protocol will be agreed between the supplier and CPPA-G. iv) Non-Disclosure certificate by the supplier <table border="1" data-bbox="431 1402 1364 1757"> <thead> <tr> <th data-bbox="431 1402 732 1465">Project Phase</th> <th data-bbox="732 1402 1247 1465">Deliverable / Phase Output</th> <th data-bbox="1247 1402 1364 1465">Payment %</th> </tr> </thead> <tbody> <tr> <td data-bbox="431 1465 732 1545">Project Planning</td> <td data-bbox="732 1465 1247 1545"> <ul style="list-style-type: none"> • Project Charter • Project Plan • Project Communication Plan </td> <td data-bbox="1247 1465 1364 1545">25%</td> </tr> <tr> <td data-bbox="431 1545 732 1682">Gap Analysis (Evaluation of the CPPA-G SOP's and prepare CPM, FPM and Gap Analysis for configuration of solution with CRP Sessions)</td> <td data-bbox="732 1545 1247 1682"> <ul style="list-style-type: none"> • Current Process Model (CPM) • Future Process Model (FPM) and Gap Analysis & Solution • Reports List and finalized Formats • Data Conversion Strategy for UAT </td> <td data-bbox="1247 1545 1364 1682">20%</td> </tr> <tr> <td data-bbox="431 1682 732 1757">Prototype of the Solution</td> <td data-bbox="732 1682 1247 1757"> <ul style="list-style-type: none"> • Prototype Sessions • Updated Future Process Model (FPM) and Gap Analysis & Solution </td> <td data-bbox="1247 1682 1364 1757">20%</td> </tr> </tbody> </table>		Project Phase	Deliverable / Phase Output	Payment %	Project Planning	<ul style="list-style-type: none"> • Project Charter • Project Plan • Project Communication Plan 	25%	Gap Analysis (Evaluation of the CPPA-G SOP's and prepare CPM, FPM and Gap Analysis for configuration of solution with CRP Sessions)	<ul style="list-style-type: none"> • Current Process Model (CPM) • Future Process Model (FPM) and Gap Analysis & Solution • Reports List and finalized Formats • Data Conversion Strategy for UAT 	20%	Prototype of the Solution	<ul style="list-style-type: none"> • Prototype Sessions • Updated Future Process Model (FPM) and Gap Analysis & Solution 	20%
Project Phase	Deliverable / Phase Output	Payment %												
Project Planning	<ul style="list-style-type: none"> • Project Charter • Project Plan • Project Communication Plan 	25%												
Gap Analysis (Evaluation of the CPPA-G SOP's and prepare CPM, FPM and Gap Analysis for configuration of solution with CRP Sessions)	<ul style="list-style-type: none"> • Current Process Model (CPM) • Future Process Model (FPM) and Gap Analysis & Solution • Reports List and finalized Formats • Data Conversion Strategy for UAT 	20%												
Prototype of the Solution	<ul style="list-style-type: none"> • Prototype Sessions • Updated Future Process Model (FPM) and Gap Analysis & Solution 	20%												

	User Acceptance Testing	<ul style="list-style-type: none"> • Test Plan (Testing Requirements and Strategy) • Business Test Scenarios List • Test Cases & Results • User Acceptance Testing Sign-Off (individual process) • Integration Testing Sign Off (individual process) • Defects/Issue Log Resolution Sign Off • System Performance/Stress Testing Sign Off • Data Conversion Strategy for Production • End User Training Plan • Source Code Delivery of Complete Solution 	25%
	End User Training	<ul style="list-style-type: none"> • Role Based End User Training Material (Soft Copy) • End User Training Sessions 	
	Transition to Production and Go Live	<ul style="list-style-type: none"> • Go Live and Roll-out Strategy • Data Conversion • Technical documentation • Complete Production Environment • Defects/Issue Log Resolution Sign Off (individual issue) after Go-Live • Source Code Delivery of Complete Solution • On Site Warranty Support Start 	30%
	Final Acceptance Test (FAT) Certificate (3 months from the Go-Live date)	<ul style="list-style-type: none"> • Final Acceptance Test Certificate • Project Closure Report 	
	Annual Support (Post FAT Production)		25% of annual support (quarterly at the end of each Quart)
	<p>For Lot D:</p> <ul style="list-style-type: none"> i) submission of Invoice having NTN & Sales Tax ii) Inspection/ Verification/Acceptance Certificate issued by CPPA-G. iii) License(s) Password and keys will remain confidential to avoid any misuse. A protocol will be agreed between the supplier and CPPA-G. iv) Non-Disclosure certificate by the supplier 		
GCC 16.5	<p>The payment-delay period after which the Purchaser shall pay interest to the supplier shall be thirty (30) days.</p> <p>The interest rate that shall be applied as per Policy Rate subject to the availability of funds by Ministry of energy (Power Division)</p>		
GCC 18.1	<p>A Performance Security shall be submitted by the successful bidder/bidders within twenty-eight (28) days of the notification of contract award, The amount of the Performance Security shall be: 10% of the contract value</p>		
GCC 18.3	<p>Performance Security shall be in the form of: Bank Guarantee (from any scheduled bank)</p>		

GCC 18.4	<p>Discharge of the Performance Security shall take place:</p> <ul style="list-style-type: none"> • For Lot A, after 365 days from issuance date of successful completion certificate. • For Lot B, after 365 days from issuance date of successful completion certificate. • For Lot C after 365 days from issuance date of successful completion certificate. • For Lot D after 365 days from issuance date of successful completion certificate.
GCC 23.2	The packing, marking and documentation within and outside the packages shall be: <i>Required</i> where applicable
GCC 24.1	The insurance coverage till project site (CPPA-G office Islamabad) and during installation, testing and commissioning shall be applicable.
GCC 25.1	Responsibility for transportation of the Goods/Services shall be the responsibility of the supplier till project site (CPPA-G office Islamabad) and during installation, testing and commissioning.
GCC 25.2	<p>Incidental/ancillary services to be provided are:</p> <p>All services are required to supply, installation, testing and commissioning of the equipment. No extra payment for incidental /ancillary services shall be made. Cost of incidental/ancillary services shall be deemed included in the quoted prices.</p>
GCC 26.1	Pre-Shipment inspection: N/A.
GCC 26.2	The Post-Shipment Inspections and tests shall be conducted at: OFFICE OF THE CHIEF EXECUTIVE OFFICER (CEO) CPPA-G, Shaheen Plaza, Plot 73-A West, Fazlul Haq Road Blue Area, Islamabad
GCC 26.3	Not Applicable.
GCC 27.1	The liquidated damage shall be: 0.5 % of contract value per week
GCC 27.1	The maximum amount of liquidated damages shall be: 10%
GCC 28.3	<p>The period of validity of the Warranty shall be:</p> <ul style="list-style-type: none"> • For Lot A, one year from issuance date of successful completion certificate. • For Lot B, Three years from issuance date of successful completion certificate. • For Lot C: Not Applicable (on account of open source) • For Lot C: One Year Subscription (On account of paid subscription) • For Lot D: Not Applicable <p>For purposes of the Warranty, the place(s) of final destination (s) shall be: OFFICE OF THE CHIEF INFORMATION OFFICER (CIO) CPPA-G, Shaheen Plaza, Plot 73-A West, Fazlul Haq Road Blue Area, Islamabad</p>
GCC 28.5	The period for repair or part replacement shall be: <i>As per terms and condition specified in each lot.</i>

Section X. Contract Forms

This Section contains forms which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

Table of Forms

Letter of Acceptance	152
Contract Agreement	153
Performance Security	155
Advance Payment Security	157

Letter of Acceptance

[letterhead paper of the Purchaser]

[date]

To: *[name and address of the Supplier]*

Subject: **Notification of Award Contract No.**

This is to notify you that your Bid dated *[insert date]* for execution of the
. *[insert name of the contract and identification number, as given in the SCC]* . . .
. for the Accepted Contract Amount of *[insert amount in numbers and
words and name of currency]*, as corrected and modified in accordance with the
Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance with
the Conditions of Contract, using for that purpose the of the Performance Security Form
included in Section X, Contract Forms, of the Bidding Document.

Authorized Signature: _____
Name and Title of Signatory: _____
Name of Agency: _____

Attachment: Contract Agreement

Contract Agreement

[The successful Bidder shall fill in this form in accordance with the instructions indicated]

THIS AGREEMENT made

the *[insert: **number**]* day of *[insert: **month**]*, *[insert: **year**]*.

BETWEEN

- (1) *[insert complete name of Purchaser]*, a *[insert description of type of legal entity, for example, an agency of the Ministry of ... of the Government of { insert name of Country of Purchaser }, or corporation incorporated under the laws of { insert name of Country of Purchaser }]* and having its principal place of business at *[insert address of Purchaser]* (hereinafter called “the Purchaser”), of the one part, and
- (2) *[insert name of Supplier]*, a corporation incorporated under the laws of *[insert: country of Supplier]* and having its principal place of business at *[insert: address of Supplier]* (hereinafter called “the Supplier”), of the other part :

WHEREAS the Purchaser invited bids for certain Goods/Services and ancillary services, viz., *[insert brief description of Goods/Services and Services]* and has accepted a Bid by the Supplier for the supply of those Goods/Services and Services

The Purchaser and the Supplier agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other contract documents.
 - (a) the Letter of Acceptance
 - (b) the Letter of Bid
 - (c) the Addenda Nos. _____ (if any)
 - (d) Special Conditions of Contract
 - (e) General Conditions of Contract
 - (f) the Specification (including Schedule of Requirements and Technical Specifications)
 - (g) the completed Schedules (including Price Schedules)

- (h) any other document listed in GCC as forming part of the Contract
3. In consideration of the payments to be made by the Purchaser to the Supplier as specified in this Agreement, the Supplier hereby covenants with the Purchaser to provide the Goods/Services and Services and to remedy 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/Services and 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 *[insert the name of the Contract governing law country]* on the day, month and year indicated above.

For and on behalf of the Purchaser

Signed: *[insert signature]*
in the capacity of *[insert title or other appropriate designation]*
in the presence of *[insert identification of official witness]*

For and on behalf of the Supplier

Signed: *[insert signature of authorized representative(s) of the Supplier]*
in the capacity of *[insert title or other appropriate designation]*
in the presence of *[insert identification of official witness]*

Performance Security

(Bank Guarantee)

[The bank, as requested by the successful Bidder, shall fill in this form in accordance with the instructions indicated]

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of Purchaser]*

Date: *_ [Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *_ [insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the supply of *_ [insert name of contract and brief description of Goods/Services and related Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (_____) *[insert amount in words]*,¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of, 2...², and any demand for payment under it must be received by us at this office indicated above on or before that date.

¹ *The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Acceptance, and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.*

² *Insert the date twenty-eight days after the expected completion date as described in GC Clause 18.4. The Purchaser should note that in the event of an extension of this date for completion of the Contract, the Purchaser would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Purchaser might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six*

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

Advance Payment Security

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Insert name and Address of Purchaser]*

Date: *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called “the Applicant”) has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of Goods/Services and related Services]* (hereinafter called “the Contract”).

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (_____) *[insert amount in words]*¹ upon receipt by us of the Beneficiary’s complying demand supported by the Beneficiary’s statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) has used the advance payment for purposes other than toward delivery of Goods/Services; or
- (b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary’s bank stating that the advance payment referred to above

¹ *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Purchaser.*

has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2 *[insert year]*, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No.758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final

Invitation for Bids

Procuring Agency: CPPA-G, PIU-EDEIP, Ministry of Energy (Power Division)

Country: Pakistan

Name of Project: Electricity Distribution Efficiency Improvement Project (EDEIP)

Contract Title: Data Center Equipment for hosting of Market Management System (For Supply, Installation, Testing & Commissioning of Tier III Data Center Facility/equipment at CPPA-G & Migration of Existing IT Systems, Data Backup Solution, Data Institutionalization Project – Big Data Solution, Information Security Enhancement)

Reference No. PK-MOE-350499-GO-RFB

Loan No.: 9318-PK (P170230)

1. The Government of Pakistan has received a loan from the International Development Association (World Bank Group) for the implementation of *Ministry of Energy (Power Division)/ Data Center Equipment for hosting of Market Management System (For Supply, Installation, Testing & Commissioning of Tier III Data Center Facility/equipment at CPPA-G & Migration of Existing IT Systems, Data Backup Solution, Data Institutionalization Project – Big Data Solution, Information Security Enhancement)* and intends to support a contract that may be awarded as per criteria mentioned in bidding documents. We invite sealed bids from eligible bidders for the “**Data Center Equipment for hosting of Market Management System (For Supply, Installation, Testing & Commissioning of Tier III Data Center Facility/equipment at CPPA-G & Migration of Existing IT Systems, Data Backup Solution, Data Institutionalization Project – Big Data Solution, Information Security Enhancement)**” at CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED, SHAHEEN PLAZA, PLOT 73-A WEST, FAZLUL HAQ ROAD BLUE AREA, ISLAMABAD. Bids evaluation and contract award will be done through single stage one envelope method.

Equipment/ Software/ Services	
LOT A	For Supply, Installation, Testing & Commissioning of Tier III Data Center Facility/equipment at CPPA-G & Migration of Existing IT Systems
LOT B	Data Backup Solution
LOT C	Data Institutionalization Project – Big Data Solution
LOT D	Information Security Enhancement

Note: Bidders may submit bids lot-wise, and evaluation as well as award of contract will be lot-wise.

Bidding will be conducted through National Competitive Bidding (NCB). Procurement shall be done in accordance with “**World Bank Procurement Regulations for IPF Borrowers (November 2020)**”.

Interested eligible bidders may obtain further information from CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED, SHAHEEN PLAZA, PLOT 73-A WEST, FAZLUL HAQ ROAD BLUE AREA, ISLAMABAD.

or by emailing farrukh.nawaz@cpga.gov.pk Mob: 0321-5196385, during office hours 0900 to 1600 hours. Bidding documents can be downloaded from www.cpga.gov.pk free of cost.

A **Pre-bid meeting** will be held on **21st January 2025 at 11:00 AM** AT CENTRAL POWER PURCHASING AGENCY (GUARANTEE) LIMITED, SHAHEEN PLAZA, PLOT 73-A WEST, FAZLUL HAQ ROAD BLUE AREA, ISLAMABAD. Kindly send a request through email at farrukh.nawaz@cpga.gov.pk to attend the pre-bid meeting.

Bids must be delivered to the above office address on or before **11th February 2025 by 11:00 AM** and must be accompanied by a bid security.

Bid Security will be submitted by bidders in favor of “**Electricity Distribution Efficiency Improvement Project (EDEIP)**” in shape of CDR, SDR, Pay Order, Demand Draft, Banker’s Cheque, or Unconditional Bank Guarantee @**3% of total bid value for each lot**, bidder is participating, issued by a scheduled Bank in Pakistan.

Bids will be publicly opened in presence of the Bidders’ designated representative and anyone who chooses to attend at the address below on **11th February 2025 by 11:30 AM**. Late submission of bids shall not be considered.

Bidder may contact at farrukh.nawaz@cpga.gov.pk at following postal address for any query.

**OFFICE OF THE CHIEF EXECUTIVE OFFICER (CEO) CENTRAL POWER
PURCHASING AGENCY (GUARANTEE) LIMITED, SHAHEEN PLAZA, PLOT 73-A
WEST, FAZLUL HAQ ROAD BLUE AREA, ISLAMABAD.**

Attention: CHIEF INFORMATION OFFICER

111-922-772 EXT: 235, 226