

Request for Proposals Information Systems

Design, Supply and Installation

(Two-Envelope Procurement Process)

(Without Prequalification)

Procurement of:

**Supply, Installation and Commissioning for IT
Hardware, Software and Related Services of
BCC DR Cloud**

Purchaser: Bangladesh Computer Council (BCC)

Project: Enhancing Digital Government and Economy (EDGE) Project

Contract title Supply, Installation and Commissioning for IT Hardware, Software and Related Services of BCC DR Cloud

Country: Bangladesh

Loan No. Credit No. : 6675-BD

RFP No: EDGE-G10

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PART 1 – REQUEST FOR PROPOSALS PROCEDURES

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SECTION I - INSTRUCTIONS TO PROPOSERS (ITP)

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Section I - Instructions to Proposers

A. GENERAL

- 1. Scope of Proposal**
- 1.1. The Purchaser, as indicated in the PDS, or its duly authorized Purchasing Agent if so specified in the PDS (interchangeably referred to as “the Purchaser” issues this request for proposals document for the supply and installation of the Information System as specified in Section VII, Purchaser’s Requirements. The name, identification and number of lots (contracts) of this RFP are specified in the PDS.
- 1.2. Unless otherwise stated, throughout this request for proposals document definitions and interpretations shall be as prescribed in the Section VIII, General Conditions of Contract.

Throughout this request for proposals document:

- (a) the term “in writing” means communicated in written form (e.g. by mail, e-mail, fax, including if specified in the PDS, distributed or received through the electronic-procurement system used by the Purchaser) with proof of receipt;
- (b) if the context so requires, “singular” means “plural” and vice versa; and
- (c) “Day” means calendar day, unless otherwise specified as “Business Day”. A Business Day is any day that is an official working day of the Borrower. It excludes the Borrower’s official public holidays.
- (d) “ES” means environmental and social (including Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH));
- (e) “Sexual Exploitation and Abuse” “(SEA)” means the following:

Sexual Exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;

Sexual Abuse is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions.

- (f) “Sexual Harassment” “(SH)” is defined as unwelcome sexual advances, requests for sexual favors, and other verbal

or physical conduct of a sexual nature by the Supplier's Personnel with other Supplier's Personnel or Purchaser's Personnel.

(g) "Supplier's Personnel" is as defined in GCC Clause 1.1; and

(h) "Purchaser's Personnel" is as defined in GCC Clause 1.1.

A non-exhaustive list of (i) behaviors which constitute SEA and (ii) behaviors which constitute SH is attached to the Code of Conduct form in Section IV

2. Source of Funds

2.1. The Borrower or Recipient (hereinafter called "Borrower") indicated in the PDS 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 the PDS toward the project named in the PDS. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this request for proposals document is issued.

2.2. Payments 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 between the Borrower and the Bank (hereinafter called the Loan Agreement), and will be subject in all respects to the terms and conditions of that Loan (or other financing) Agreement. The Loan (or other financing) Agreement prohibits a withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of equipment, materials or any other goods, if such payment or import is prohibited by a 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 funds.

3. Fraud and Corruption

3.1. The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Section VI.

3.2. In further pursuance of this policy, Proposers shall permit and shall cause their agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit the Bank to inspect all accounts, records and other documents relating to any initial selection process,

prequalification process, bid submission, proposal submission and contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

4. Eligible Proposers 4.1.

A Proposer may be a firm that is a private entity, a state-owned enterprise or institution subject to ITP 4.6, 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 procurement process and, in the event the JV is awarded the Contract, during contract execution. Unless specified in the PDS, there is no limit on the number of members in a JV.

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

- (a) directly or indirectly controls, is controlled by or is under common control with another Proposer; or
- (b) receives or has received any direct or indirect subsidy from another Proposer; or
- (c) has the same legal representative as another Proposer; or
- (d) has a relationship with another Proposer, directly or through common third parties, that puts it in a position to influence the Proposal of another Proposer, or influence the decisions of the Purchaser regarding this procurement process; or
- (e) any of its affiliates participates as a consultant in the preparation of the design or technical specifications of the Information System that are the subject of the Proposal; or
- (f) or any of its affiliates has been hired (or is proposed to be hired) by the Purchaser or Borrower as Project Manager for the Contract implementation; or
- (g) would be providing goods, works, or non-consulting services resulting from or directly related to consulting services for the preparation or implementation of the

project specified in the PDS ITP 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

- (h) 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 request for proposals document or specifications of the Contract, and/or the Proposal 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 firm that is a Proposer (either individually or as a JV member) shall not participate as a Proposer or as JV member in more than one Proposal except for permitted alternative Proposals. Such participation shall result in the disqualification of all Proposals in which the firm is involved. However, this does not limit the participation of a Proposer as subcontractor in another Proposal or of a firm as a subcontractor in more than one Proposal.

4.4. A Proposer may have the nationality of any country, subject to the restrictions pursuant to ITP 4.8. A Proposer shall be deemed to have the nationality of a country if the Proposer 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.

- 4.5. A Proposer that has been sanctioned by the Bank, pursuant to the Bank's Anti-Corruption Guidelines, and in accordance with its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework as described in Section VI paragraph 2.2 d., shall be ineligible to be initially selected for, prequalified for, bid for, propose 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 PDS.
- 4.6. Proposers that are state-owned enterprises or institutions in the Purchaser's Country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they (i) are legally and financially autonomous (ii) operate under commercial law, and (iii) are not under supervision of the Purchaser.
- 4.7. A Proposer shall not be under suspension from bidding or submitting proposals by the Purchaser as the result of the operation of a Bid-Securing Declaration or Proposal-Securing Declaration.
- 4.8. 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 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 or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
- 4.9. This request for proposal process is open for all eligible Proposers, unless otherwise specified in ITP 15.2.
- 4.10. A Proposer shall provide such documentary evidence of eligibility satisfactory to the Purchaser, as the Purchaser shall reasonably request.
- 4.11. A firm that is under a sanction of debarment by the Borrower from being awarded a contract is eligible to participate in this procurement, unless the Bank, at the Borrower's request, is satisfied that the debarment; (a) relates to fraud or corruption,

and (b) followed a judicial or administrative proceeding that afforded the firm adequate due process.

5. Eligible Goods and Services

- 5.1. The Information Systems 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 the purposes of this request for proposals document, the term “Information System” means all:
- (a) the required information technologies, including all information processing and communications-related hardware, software, supplies, and consumable items that the Supplier is required to design, supply and install under the Contract, plus all associated documentation, and all other materials and goods to be designed, supplied, installed, integrated, and made operational; and
 - (b) the related software development, transportation, insurance, installation, customization, integration, commissioning, training, technical support, maintenance, repair, and other services necessary for proper operation of the Information System to be provided by the selected Proposer and as specified in the Contract.
- 5.3. For purposes of ITP 5.1 above, “origin” means the place where the goods and services making the Information System are produced in or supplied from. An Information System is deemed to be produced in a certain country when, in the territory of that country, through software development, manufacturing, or substantial and major assembly or integration of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components.

B. CONTENTS OF THE REQUEST FOR PROPOSALS DOCUMENT

6. Sections of the Request for Proposals Document

- 6.1. The request for proposals document consists 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 ITP 8:

PART 1 - Request for Proposals Procedures

Section I - Instructions to Proposers (ITP)

Section II - Proposal Data Sheet (PDS)

Section III - Evaluation and Qualification Criteria

Section IV - Proposal Forms

Section V - Eligible Countries

Section VI - Fraud and Corruption

PART 2 - Purchaser's Requirements

Section VII - Requirements of the IS, including:

- Technical Requirements
- Implementation Schedule
- System Inventory Tables
- Background and Informational Materials

PART 3 - Contract

Section VIII - General Conditions of Contract

Section IX -Special Conditions of Contract

Section X - Contract Forms

- 6.2. The Specific Procurement Notice – Request for Proposals (RFP) issued by the Purchaser is not part of this request for proposals 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-Proposal meeting (if any), or Addenda to the request for proposals document in accordance with ITP 8. In case of any contradiction, documents obtained directly from the Purchaser shall prevail.
- 6.4. The Proposer is expected to examine all instructions, forms, terms, and specifications in the request for proposals document and to furnish with its Proposal all information or documentation as is required by the request for proposals document.

7. Clarification of Request for Proposals Document, Site Visit, Pre-Proposal Meeting

- 7.1. A Proposer requiring any clarification of the request for proposals document shall contact the Purchaser in writing at the Purchaser's address specified in the PDS or raise its enquiries during the pre-Proposal meeting if provided for in accordance with ITP 7.4. The Purchaser will respond in writing to any request for clarification, provided that such request is received prior to the deadline for submission of Proposals within a period specified in the PDS. The Purchaser's shall forward copies of its response to all Proposers who have acquired the request for proposals document in accordance with ITP 6.3, including a description of the inquiry but without identifying its source. If so specified in the PDS, the Purchaser shall also promptly publish its response at the web page identified in the PDS. Should the Purchaser deem it necessary to amend the request for proposals document as a result of a request for clarification, it shall do so following the procedure under ITP 8 and ITP 23.2.
- 7.2. The Proposer may wish to visit and examine the site where the Information System is to be installed and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Proposal and entering into a contract. The costs of visiting the site shall be at the Proposer's own expense.
- 7.3. The Proposer and any of its personnel or agents will be granted permission by the Purchaser to enter upon its premises and lands for the purpose of such visit, but only upon the express condition that the Proposer, its personnel, and agents will release and indemnify the Purchaser and its personnel and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
- 7.4. The Proposer's designated representative is invited to attend a pre-Proposal meeting and/or a site visit, if provided for in the PDS. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 7.5. The Proposer is requested, as far as possible, to submit any questions in writing, to reach the Purchaser not later than one week before the meeting.
- 7.6. Minutes of the pre-Proposal meeting, including the text of the questions raised without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Proposers who have acquired the request for proposals document in accordance with ITP 6.3. Any

modification to the request for proposals document that may become necessary as a result of the pre-Proposal meeting shall be made by the Purchaser exclusively through the issue of an Addendum pursuant to ITP 8 and not through the minutes of the pre-Proposal meeting.

- 7.7. Nonattendance at the pre-Proposal meeting will not be a cause for disqualification of a Proposer.
- 8. Amendment of Request for Proposals Document**
- 8.1. At any time prior to the deadline for submission of Proposals, the Purchaser may amend the request for proposals document by issuing addenda.
- 8.2. Any addendum issued shall be part of the request for proposals document and shall be communicated in writing to all who have obtained the request for proposals document from the Purchaser in accordance with ITP 6.3. The Purchaser shall also promptly publish the addendum on the Purchaser's web page in accordance with ITP 7.1.
- 8.3. To give prospective Proposers reasonable time in which to take an addendum into account in preparing their Proposals, the Purchaser may, at its discretion, extend the deadline for the submission of Proposals, pursuant to ITP 23.2.

C. PREPARATION OF PROPOSALS

- 9. Cost of Proposals**
- 9.1. The Proposer shall bear all costs associated with the preparation and submission of its Proposal, and the Purchaser shall not be responsible or liable for those costs, regardless of the conduct or outcome of the Request for Proposals process.
- 10. Language of Proposal**
- 10.1. The Proposal, as well as all correspondence and documents relating to the Proposal exchanged by the Proposer and the Purchaser, shall be written in the language specified in the PDS. Supporting documents and printed literature that are part of the Proposal may be in another language provided they are accompanied by an accurate translation of the relevant passages in the language specified in the PDS, in which case, for purposes of interpretation of the Proposal, such translation shall govern.
- 11. Documents Comprising the Proposal**
- 11.1. The Proposal shall comprise two Parts, namely the Technical Part and the Financial Part. These two Parts shall be submitted simultaneously in two separate sealed envelopes (two-envelope procurement process). One envelope shall contain only information relating to the Technical Part and the other, only information relating to the Financial Part. These two envelopes

shall be enclosed in a separate sealed outer envelope marked “Original Proposal”.

11.2. The Technical Part shall contain the following:

- (a) **Letter of Proposal**-Technical Part, **prepared** in accordance with ITP 12;
- (b) **Proposal Security or Proposal-Securing Declaration** in accordance with ITP 20;
- (c) **Alternative Proposal**- Technical Part: if permissible, in accordance with ITP 13, the Technical Part of any Alternative Proposal;
- (d) **Authorization**: written confirmation authorizing the signatory of the Proposal to commit the Proposer, in accordance with ITP 21.3;
- (e) **Eligibility of Information System**: documentary evidence established in accordance with ITP 14.1 that the Information System offered by the Proposer in its Proposal or in any alternative Proposal, if permitted, are eligible;
- (f) **Proposer’s Eligibility and qualifications**: documentary evidence in accordance with ITP 15 establishing the Proposer’s eligibility and qualifications to perform the contract if its Proposal is accepted;
- (g) **Conformity**: documentary evidence established in accordance with ITP 16 that the Information System offered by the Proposer conform to the **request for proposals** document;
- (h) **Subcontractors**: list of subcontractors, in accordance with ITP 16.4;
- (i) **Intellectual Property**: a list of: Intellectual Property as defined in GCC Clause 15;
 - (i) all Software included in the Proposal, assigning each item to one of the software categories defined in GCC Clause 1.1 (c):
 - a. System, General Purpose, and Application Software;
or
 - b. Standard and Custom Software;
 - (ii) all Custom Materials, as defined in GCC Clause 1.1 (c), included in the Proposal;

All Materials not identified as Custom Materials shall be deemed Standard Materials, as defined in GCC Clause 1.1 (c);

Re-assignments among the Software and Materials categories, if necessary, will be made during the implementation of the Contract according to GCC Clause 39 (Changes to the Information System); and

- (j) any other document required **in the PDS**.

11.3. The Financial Part shall contain the following:

- (a) Letter of Proposal – Financial Part: prepared in accordance with ITP 12 and ITP 17;
- (b) Schedule: Price Schedules completed in accordance with ITP 12 and ITP 17;
- (c) Alternative Proposal - Financial Part: if permissible in accordance with ITP 13, the Financial Part of any Alternative Proposal; and
- (d) any other document required in the PDS.

11.4. The Technical Part shall not include any information related to the Proposal price. Where material financial information related to the Proposal price is contained in the Technical Part the Proposal shall be declared non-responsive.

11.5. In addition to the requirements under ITP 11.2, Proposals submitted by a JV shall include in the Technical Part a copy of the Joint Venture Agreement entered into by all members indicating at least the parts of the Information System to be executed by the respective members. Alternatively, a letter of intent to execute a Joint Venture Agreement in the event of a successful Proposal shall be signed by all members and submitted with the Proposal, together with a copy of the proposed Agreement indicating at least the parts of the Information System to be executed by the respective members.

11.6. The Proposer shall furnish in the Letter of Proposal - Financial Part information on commissions and gratuities, if any, paid or to be paid to agents or any other party relating to this procurement process.

12. Letters of Proposal and Price Schedules

12.1. The Letter of Proposal - Technical Part, Letter of Proposal-Financial Part and Price Schedules shall be prepared using the relevant forms furnished in Section IV, Proposal Forms. The forms must be completed without any alterations to the text, and no

substitutes shall be accepted except as provided under ITP 21.3. All blank spaces shall be filled in with the information requested.

13. Alternative Proposals

- 13.1. The PDS indicates whether alternative Proposals are allowed. If they are allowed, the PDS will also indicate whether they are permitted in accordance with ITP 13.3, or invited in accordance with ITP 13.2 and/or ITP 13.4.
- 13.2. When alternatives to the Time Schedule are explicitly invited, a statement to that effect will be included in the PDS, and the method of evaluating different time schedules will be described in Section III, Evaluation and Qualification Criteria.
- 13.3. Except as provided under ITP 13.4 below, Proposers wishing to offer technical alternatives to the Purchaser's requirements as described in the request for proposals document must also provide: (i) a price at which they are prepared to offer an Information System meeting the Purchaser's requirements; and (ii) all information necessary for a complete evaluation of the alternatives by the Purchaser, including drawings, design calculations, technical specifications, breakdown of prices, and proposed installation methodology and other relevant details. Only the technical alternatives, if any, of the Proposer with the Most Advantageous Proposal conforming to the basic technical requirements shall be considered by the Purchaser.
- 13.4. When Proposers are invited in the PDS to submit alternative technical solutions for specified parts of the system, such parts shall be described in Section VII, Purchaser's Requirements. Technical alternatives that comply with the performance and technical criteria specified for the Information System shall be considered by the Purchaser on their own merits, pursuant to ITP 32.

14. Documents Establishing the Eligibility of the Information System

- 14.1. To establish the eligibility of the Information System in accordance with ITP 5, Proposers shall complete the country of origin declarations in the Price Schedule Forms, included in Section IV, Proposal Forms.

15. Documents Establishing the Eligibility and Qualifications of the Proposer

- 15.1. To establish its eligibility and qualifications to perform the Contract in accordance with Section III, Evaluation and Qualification Criteria, the Proposer shall provide the information requested in the corresponding information sheets included in Section IV, Proposal Forms.
- 15.2. In the event that prequalification of potential Proposers has been undertaken as stated in the PDS, only Proposals from prequalified

Proposers shall be considered for award of Contract. These qualified Proposers should submit with their Proposals any information updating their original prequalification applications or, alternatively, confirm in their Proposals that the originally submitted prequalification information remains essentially correct as of the date of Proposal submission.

- 15.3. Any change in the structure or formation of a Proposer after being prequalified and invited to submit Proposals, if applicable, (including, in the case of a JV, any change in the structure or formation of any member and also including any change in any specialized subcontractor whose qualifications were considered to prequalify the Applicant) shall be subject to the written approval of the Purchaser prior to the deadline for submission of Proposals. Such approval shall be denied if (i) a Proposer proposes to associate with a disqualified Proposer or in case of a disqualified joint venture, any of its members; (ii) as a consequence of the change, the Proposer no longer substantially meets the qualification criteria; or (iii) in the opinion of the Purchaser, the change may result in a substantial reduction in competition. Any such change should be submitted to the Purchaser not later than fourteen (14) days after the date of the notice for RFP sent to the prequalified Proposers.

**16. Documents
Establishing
Conformity of
the
Information
System**

- 16.1. Pursuant to ITP 11.2 (g), the Proposer shall furnish, as part of its Proposal, documents establishing the conformity to the request for proposals documents of the Information System that the Proposer proposes to design, supply and install under the Contract.
- 16.2. The documentary evidence of conformity of the Information System to the request for proposals documents including:
- (a) Preliminary Project Plan describing, among other things, the methods by which the Proposer will carry out its overall management and coordination responsibilities if awarded the Contract, and the human and other resources the Proposer proposes to use. The Preliminary Project Plan must also address any other topics specified in the PDS. In addition, the Preliminary Project Plan should state the Proposer's assessment of what it expects the Purchaser and any other party involved in the implementation of the Information System to provide during implementation and how the Proposer proposes to coordinate the activities of all involved parties;
 - (b) written confirmation that the Proposer accepts responsibility for the successful integration and inter-operability of all

- components of the Information System as required by the request for proposals documents;
- (c) an item-by-item commentary on the Purchaser's Technical Requirements, demonstrating the substantial responsiveness of the Information System offered to those requirements. In demonstrating responsiveness, the Proposer should use the Technical Responsiveness Checklist (or Checklist Format) in the Sample Proposal Forms (Section IV). The commentary shall include explicit cross-references to the relevant pages in the supporting materials included in the Proposal. Whenever a discrepancy arises between the item-by-item commentary and any catalogs, technical specifications, or other preprinted materials submitted with the Proposal, the item-by-item commentary shall prevail;
 - (d) support material (e.g., product literature, white papers, narrative descriptions of technologies and/or technical approaches), as required and appropriate; and
 - (e) any separate and enforceable contract(s) for Recurrent Cost items which the PDS ITP 17.2 requires Proposers to propose.
- 16.3. References to brand names or model numbers or national or proprietary standards designated by the Purchaser in the request for proposals documents are intended to be descriptive and not restrictive. Except as specified in the PDS for specific items or standards, the Proposer may substitute alternative brand/model names or standards in its Proposal, provided that it demonstrates to the Purchaser's satisfaction that the use of the substitute(s) will result in the Information System being able to perform substantially equivalent to or better than that specified in the Technical Requirements.
- 16.4. For major items of the Information System as listed by the Purchaser in Section III, Evaluation and Qualification Criteria, which the Proposer intends to purchase or subcontract, the Proposer shall give details of the name and nationality of the proposed subcontractors, including manufacturers, for each of those items. In addition, the Proposer shall include in its Proposal information establishing compliance with the requirements specified by the Purchaser for these items. Quoted rates and prices will be deemed to apply to whichever subcontractor is appointed, and no adjustment of the rates and prices will be permitted.
- 16.5. The Proposer shall be responsible for ensuring that any subcontractor proposed complies with the requirements of ITP 4, and that any goods or services to be provided by the subcontractor comply with the requirements of ITP 5 and ITP 16.1.

- 17. Proposal Prices**
- 17.1. All Goods and Services identified in the Supply and Installation Cost Sub-Tables in System Inventory Tables in Section VII, and all other Goods and Services proposed by the Proposer to fulfill the requirements of the Information System, must be priced separately and summarized in the corresponding cost tables in the Sample Proposal Forms (Section IV), in accordance with the instructions provided in the tables and in the manner specified below.
- 17.2. Unless otherwise specified in the PDS, the Proposer must also propose Recurrent Cost Items specified in the Technical Requirements, Recurrent Cost Sub-Table of the System Inventory Tables in Section VII (if any). These must be priced separately and summarized in the corresponding cost tables in the Sample Proposal Forms (Section IV), in accordance with the instructions provided in the tables and in the manner specified below:
- (a) if specified **in the PDS**, the Proposer must also propose separate enforceable contracts for the Recurrent Cost Items not included in the main Contract;
 - (b) prices for Recurrent Costs are all-inclusive of the costs of necessary Goods such as spare parts, software license renewals, labor, etc., needed for the continued and proper operation of the Information System and, if appropriate, of the Proposer's own allowance for price increases;
 - (c) prices for Recurrent Costs beyond the scope of warranty services to be incurred during the Warranty Period, defined in GCC Clause 29.4 and prices for Recurrent Costs to be incurred during the Post-Warranty Period, defined in SCC Clause 1.1. (e) (xiii), shall be quoted as Service prices on the Recurrent Cost Sub-Table in detail, and on the Recurrent Cost Summary Table in currency totals.
- 17.3. Unit prices must be quoted at a level of detail appropriate for calculation of any partial deliveries or partial payments under the contract, in accordance with the Implementation Schedule in Section VII), and with GCC and SCC Clause 12 – Terms of Payment. Proposers may be required to provide a breakdown of any composite or lump-sum items included in the Cost Tables
- 17.4. The price of items that the Proposer has left blank in the cost tables provided in the Sample Proposal Forms (Section IV) shall be assumed to be included in the price of other items. Items omitted altogether from the cost tables shall be assumed to be omitted from the Proposal and, provided that the Proposal is substantially

responsive, an adjustment to the Proposal price will be made during Proposal evaluation in accordance with ITP 34.1.

17.5. The prices for Goods components of the Information System are to be expressed and shall be defined and governed in accordance with the rules prescribed in the edition of Incoterms specified in the PDS, as follows:

(a) Goods supplied from outside the Purchaser's country:

Unless otherwise specified **in the PDS**, the prices shall be quoted on a CIP (named place of destination) basis, exclusive of all taxes, stamps, duties, levies, and fees imposed in the Purchaser's country. The named place of destination and special instructions for the contract of carriage are as specified in the SCC for GCC 1.1 (e) (iii). In quoting the price, the Proposer shall be free to use transportation through carriers registered in any eligible countries. Similarly, the Proposer may obtain insurance services from any eligible source country;

(b) Locally supplied Goods:

Unit prices of Goods offered from within the Purchaser's Country, shall be quoted on an EXW (ex factory, ex works, ex warehouse or off-the-shelf, as applicable) basis, including all customs duties, levies, fees, sales and other taxes incurred until delivery of the Goods, but excluding all VAT or sales and other taxes and duties/fees incurred for the Goods at the time of invoicing or sales transaction, if the Contract is awarded;

(c) Inland transportation.

17.6. Unless otherwise stated in the PDS, inland transportation, insurance and related local costs incidental to the delivery of the Goods to the designated Project Sites must be quoted separately as a Service item in accordance with ITP 17.5, whether the Goods are to be supplied locally or from outside the Purchaser's country, except when these costs are already included in the price of the Goods, as is, e.g., the case, when ITP 17.5 (a) specifies CIP, and the named places of destination are the Project Sites.

17.7. The price of Services shall be separated into their local and foreign currency components and where appropriate, broken down into unit prices. Prices must include all taxes, duties, levies and fees whatsoever, except only VAT or other indirect taxes, or stamp duties, that may be assessed and/or apply in the Purchaser's country on/to the price of the Services invoiced to the Purchaser, if the Contract is awarded.

17.8. Unless otherwise specified in the PDS, the prices must include all costs incidental to the performance of the Services, as incurred by the Supplier, such as travel, subsistence, office support, communications, translation, printing of materials, etc. Costs incidental to the delivery of the Services but incurred by the Purchaser or its staff, or by third parties, must be included in the price only to the extent such obligations are made explicit in these request for proposals documents (as, e.g., a requirement for the Proposer to include the travel and subsistence costs of trainees).

17.9. Unless otherwise specified in the PDS, prices quoted by the Proposer shall be fixed during the Proposer's performance of the Contract and not subject to increases on any account. Proposals submitted that are subject to price adjustment will be rejected.

18. Currencies of Proposal and Payment

18.1. The currency(ies) of the Proposal and currencies of payment shall be the same. The Proposer shall quote in the currency of the Purchaser's Country the portion of the Proposal price that corresponds to expenditures incurred in the currency of the Purchaser's Country, unless otherwise specified in the PDS.

18.2. The Proposer may express the Proposal price in any currency. If the Proposer 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.

19. Period of Validity of Proposals

19.1. Proposals shall remain valid until the date specified in the PDS or any extended date if amended by the Purchaser in accordance with ITP 8. A Proposal that is not valid until the date specified in the PDS, or any extended date if amended by the Purchaser in accordance with ITP 8, shall be rejected by the Purchaser as nonresponsive.

19.2. In exceptional circumstances, prior to the date of expiry of the Proposal validity, the Purchaser may request Proposers to extend the date of validity until a specified date. The request and the responses shall be made in writing. If a Proposal Security is requested in accordance with ITP 20, it shall also be extended for twenty-eight days (28) beyond the deadline of the extended validity period. A Proposer may refuse the request without forfeiting its Proposal Security. A Proposer granting the request shall not be required or permitted to modify its Proposal, except as provided in ITP 19.3.

19.3. If the award is delayed by a period exceeding fifty-six (56) days beyond the expiry of the initial Proposal validity specified in

accordance with ITP 19.1, the Contract price shall be determined as follows:

- (a) in case of fixed price contracts, the contract price shall be the Proposal price adjusted by a factor or factors specified **in the PDS**;
- (b) in the case of an adjustable price contracts, no adjustments shall be made;
- (c) in any case, Proposal evaluation shall be based on the Proposal Price without taking into consideration the applicable correction from those indicated above.

20. Proposal Security

- 20.1. The Proposer shall furnish as part of the Technical Part of its Proposal, either a Proposal-Securing Declaration or a Proposal Security as specified in the PDS, in original form and, in the case of a Proposal Security, in the amount and currency specified in the PDS.
- 20.2. A Proposal-Securing Declaration shall use the form included in Section IV, Proposal Forms.
- 20.3. If a Proposal Security is specified pursuant to ITP 20.1, the Proposal security shall be a demand guarantee in any of the following forms at the Proposer's option:
 - (a) an unconditional guarantee issued by a non-bank 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 indicated **in the PDS**,

from a reputable source from an eligible country. If an unconditional guarantee is issued by a non-bank financial institution located outside the Purchaser's Country the issuing non-bank financial institution shall have a correspondent financial institution located in the Purchaser's Country to make it enforceable unless the Purchaser has agreed in writing, prior to Proposal submission, that a correspondent financial institution is not required. In the case of a bank guarantee, the Proposal Security shall be submitted either using the Proposal Security Form included in Section IV, Proposal Forms or in another substantially similar format approved by the Purchaser prior to Proposal submission. In either case, the form must include the complete name of the Proposer. The Proposal Security shall be valid for twenty-eight (28) days beyond the original date of expiry of the Proposal validity, or beyond any extended date if requested under ITP 19.2.

- 20.4. If a Proposal Security or a Proposal-Securing Declaration is specified pursuant to ITP 20.1, any Proposal not accompanied by a substantially responsive Proposal Security or Proposal-Securing Declaration shall be rejected by the Purchaser as non-responsive.
- 20.5. If a Proposal Security is specified pursuant to ITP 20.1, the Proposal Security of unsuccessful Proposers shall be returned as promptly as possible upon the successful Proposer's furnishing of the Performance Security pursuant to ITP 48.
- 20.6. The Proposal Security of the successful Proposer shall be returned as promptly as possible once the successful Proposer has signed the Contract and furnished the required Performance Security.
- 20.7. The Proposal Security may be forfeited:
 - (a) if a Proposer withdraws its Proposal prior to the expiry date of Proposal validity specified by the Proposer on the Letter of Proposal or any extended date provided by the Proposer; or
 - (b) if the successful Proposer fails to:
 - (i) sign the Contract in accordance with ITP 47; or
 - (ii) furnish a performance security in accordance with ITP 48.

20.8. The Proposal Security or the Proposal-Securing Declaration of a JV shall be in the name of the JV that submits the Proposal. If the JV has not been legally constituted into a legally enforceable JV at the time of submission of Proposals, the Proposal Security or the Proposal-Securing Declaration shall be in the names of all future members as named in the letter of intent referred to in ITP 4.1 and ITP 11.5.

- 20.9. If a Proposal Security is not required in the PDS, and;
- (a) if a Proposer withdraws its Proposal prior to the expiry date of the Proposal validity specified by the Proposer on the Letter of Proposal, or any extended date provided by the Proposer; or
 - (b) if the successful Proposer fails to: sign the Contract in accordance with ITP 47; or furnish a Performance Security in accordance with ITP 48;

the Purchaser may, if provided for **in the PDS**, declare the Proposer disqualified to be awarded a contract by the Purchaser for a period of time as stated **in the PDS**.

**21. Format and
Signing of
Proposal**

21.1. The Proposer shall prepare one original and copies/sets of the documents comprising the Proposal as described in ITP 11 and Proposer22.

21.2. Proposers shall mark as “CONFIDENTIAL” information in their Proposals which is confidential to their business. This may include proprietary information, trade secrets, or commercial or financially sensitive information.

21.3. The original and all copies of the Proposal shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Proposer. This authorization shall consist of a written confirmation as specified in the PDS and shall be attached to the Proposal. The name and position held by each person signing the authorization must be typed or printed below the signature. All pages of the Proposal where entries or amendments have been made shall be signed or initialed by the person signing the Proposal.

- 21.4. In case the Proposer is a JV, the Proposal 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.
- 21.5. Any interlineations, erasures, or overwriting shall be valid only if they are signed or initialed by the person signing the Proposal.

D. SUBMISSION OF PROPOSALS

22. Submission, Sealing and Marking of Proposals

- 22.1. The Proposer shall deliver the Proposal in two separate, sealed envelopes (the Technical Part and the Financial Part). These two envelopes shall be enclosed in a separate sealed outer envelope marked “Original PROPOSAL”. In addition, the Proposer shall submit copies of the Proposal in the number specified in the PDS. Copies of the Technical Part shall be placed in a separate sealed envelope marked “COPIES: TECHNICAL PART”. Copies of the Financial Part shall be placed in a separate sealed envelope marked “COPIES: FINANCIAL PART”. The Proposer shall place both of these envelopes in a separate, sealed outer envelope marked “PROPOSAL COPIES”. In the event of any discrepancy between the original and the copies, the original shall prevail.
- 22.2. If alternative Proposals are permitted in accordance with ITP 14, the alternative Proposals shall be submitted as follows: the original of the alternative Proposal Technical Part shall be placed in a sealed envelope marked “ALTERNATIVE PROPOSAL – TECHNICAL PART” and the Financial Part shall be placed in a sealed envelope marked “ALTERNATIVE PROPOSAL – FINANCIAL PART” and these two separate sealed envelopes then enclosed within a sealed outer envelope marked “ALTERNATIVE PROPOSAL – ORIGINAL”, the copies of the alternative Proposal will be placed in separate sealed envelopes marked “ALTERNATIVE PROPOSAL – COPIES OF TECHNICAL PART”, and “ALTERNATIVE PROPOSAL – COPIES OF FINANCIAL PART” and enclosed in a separate sealed outer envelope marked “ALTERNATIVE PROPOSAL - COPIES.
- 22.3. The envelopes marked “ORIGINAL PROPOSAL” and “PROPOSAL COPIES” (and, if appropriate, a third envelope marked “ALTERNATIVE PROPOSAL”) shall be enclosed in a separate sealed outer envelope for submission to the Purchaser.
- 22.4. The inner and outer envelopes shall:
 - (a) bear the name and address of the Proposer;
 - (b) be addressed to the Purchaser in accordance with ITP 23.1;

- (c) bear the specific identification of this request for proposals process indicated in accordance with ITP 1.1; and
 - (d) bear a warning not to open before the time and date for Proposal opening.
 - 22.5. If all envelopes are not sealed and marked as required, the Purchaser will assume no responsibility for the misplacement or premature opening of the Proposal.
- 23. Deadline for Submission of Proposals**
 - 23.1. Proposals must be received by the Purchaser at the address and no later than the date and time indicated in the PDS. When so specified in the PDS, Proposers shall have the option of submitting their Proposals electronically. Proposers submitting Proposals electronically shall follow the electronic Proposal submission procedures specified in the PDS.
 - 23.2. The Purchaser may, at its discretion, extend this deadline for submission of Proposals by amending the request for proposals documents in accordance with ITP 8, in which case all rights and obligations of the Purchaser and Proposers will thereafter be subject to the deadline as extended.
- 24. Late Proposals**
 - 24.1. The Purchaser shall not consider any Proposal that arrives after the deadline for submission of Proposals, in accordance with ITP 23. Any Proposal received by the Purchaser after the deadline for submission of Proposals shall be declared late, rejected, and returned unopened to the Proposer.
- 25. Withdrawal, Substitution, and Modification of Proposals**
 - 25.1. A Proposer may withdraw, substitute, or modify its Proposal after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITP 21.3, (except that withdrawal notices do not require copies). The corresponding substitution or modification of the Proposal must accompany the respective written notice. All notices must be:
 - (a) prepared and submitted in accordance with ITP 21 and ITP 22 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked “WITHDRAWAL,” “SUBSTITUTION,” “MODIFICATION;” and
 - (b) received by the Purchaser prior to the deadline prescribed for submission of Proposals, in accordance with ITP 23.

- 25.2. Proposals requested to be withdrawn in accordance with ITP 25.1 shall be returned unopened to the Proposers.

No Proposal may be withdrawn, substituted, or modified in the interval between the deadline for submission of Proposals and the date of expiry of the Proposal validity specified by the Proposer on the Letter of Proposal or any extended date thereof.

E. PUBLIC OPENING OF TECHNICAL PARTS OF PROPOSALS

26. Public Opening of Technical Parts of Proposals

- 26.1. Except as in the cases specified in ITP 24 and ITP 25.2, the Purchaser shall conduct the Proposal opening in public, in the presence of Proposers` designated representatives and anyone who chooses to attend, and at the address, date and time specified in the PDS. Any specific electronic Proposal opening procedures required if electronic submission of proposals is permitted in accordance with ITP 23.1, shall be as specified in the PDS.
- 26.2. First, envelopes marked “Withdrawal” shall be opened and read out and the envelope with the corresponding Proposal shall not be opened but returned to the Proposer. No Proposal withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at Proposal opening.
- 26.3. Next, envelopes marked “Substitution” shall be opened and read out and exchanged with the corresponding Proposal being substituted, and the substituted Proposal shall not be opened, but returned to the Proposer. No Proposal substitution shall be permitted unless the corresponding substitution notice contains a valid authorization to request the substitution and is read out at Proposal opening.
- 26.4. Envelopes marked “Modification” shall be opened and read out with the corresponding Proposal. No Proposal modification shall be permitted unless the corresponding modification notice contains a valid authorization to request the modification and is read out at Proposal opening. Only Proposals that are opened and read out at Proposal opening shall be considered further.
- 26.5. Next, all other envelopes marked “Technical Part” shall be opened one at a time. All envelopes marked “Second Envelope: Financial Part” shall remain sealed and kept by the Purchaser in safe custody until they are opened at a later public opening, following the evaluation of the Technical Part parts of the Proposals. On opening the envelopes marked “Technical Part” the Purchaser shall read out: the name of the Proposer, the presence or the absence of a Proposal Security, or Proposal-Securing Declaration, if required,

and whether there is a modification; and Alternative Proposal - Technical Part; and any other details as the Purchaser may consider appropriate.

- 26.6. Only Technical Parts of Proposals and Alternative Proposal - Technical Parts that are read out at Proposal opening shall be considered further for evaluation. The Letter of Proposal-Technical Part and the separate sealed envelope marked “Second Envelope: Financial Part” are to be initialed by representatives of the Purchaser attending Proposal opening in the manner specified in the PDS.
- 26.7. The Purchaser shall neither discuss the merits of any Proposal nor reject any Proposal (except for late Proposals, in accordance with ITP 24.1).
- 26.8. The Purchaser shall prepare a record of the Proposal opening that shall include, as a minimum:
 - (a) the name of the Proposer and whether there is a withdrawal, substitution, or modification;
 - (b) any alternative Proposals; and
 - (c) the presence or absence of a Proposal Security or a Proposal-Securing Declaration.
- 26.9. The Proposers’ representatives who are present shall be requested to sign the record. The omission of a Proposer’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 Proposers.

F. EVALUATION OF PROPOSALS- GENERAL PROVISIONS

- 27. Confidentiality**
- 27.1. Information relating to the evaluation of the Technical Part shall not be disclosed to Proposers or any other persons not officially concerned with the procurement process until the notification of evaluation of the Technical Part in accordance with ITP 33. Information relating to the evaluation of Financial Part, the evaluation of combined Technical Part and Financial Part, and recommendation of contract award shall not be disclosed to Proposers or any other persons not officially concerned with the RFP process until the Notification of Intention to Award the Contract is transmitted to Proposers in accordance with ITP 42ProposerProposer.
 - 27.2. Any effort by a Proposer to influence the Purchaser in the evaluation of the Proposals or Contract award decisions may result in the rejection of its Proposal.

27.3. Notwithstanding ITP 27.2, from the time of Proposal opening to the time of Contract award, if any Proposer wishes to contact the Purchaser on any matter related to the procurement process, it should do so in writing.

28. Clarification of Proposals

28.1. To assist in the examination, evaluation, and comparison of the Proposals, and qualification of the Proposers, the Purchaser may, at its discretion, ask any Proposer for a clarification of its Proposal. Any clarification submitted by a Proposer 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 in the prices or substance of the Proposal shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Purchaser in the evaluation of the Proposals, in accordance with ITP 35.

28.2. If a Proposer does not provide clarifications of its Proposal by the date and time set in the Purchaser's request for clarification, its Proposal may be rejected.

29. Deviations, Reservations, and Omissions

29.1. During the evaluation of Proposals, the following definitions apply:

- (a) "Deviation" is a departure from the requirements specified in the request for proposals document;
- (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the request for proposals document; and
- (c) "Omission" is the failure to submit part or all of the information or documentation required in the request for proposals document.

29.2. Provided that a Proposal is substantially responsive, the Purchaser may waive any nonmaterial nonconformities in the Proposal.

Provided that a Proposal is substantially responsive, the Purchaser may request that the Proposer submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Proposal related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the price of the Proposal. Failure of the Proposer to comply with the request may result in the rejection of its Proposal.

G. EVALUATION OF TECHNICAL PART OF PROPOSALS

30. Determination of Responsiveness

- 30.1. The Purchaser's determination of the Technical Part's responsiveness shall be based on the contents of the Proposal, as specified in ITP 11.
- 30.2. Preliminary examination of the Technical Part shall be carried out to identify proposals that are incomplete, invalid or substantially nonresponsive to the requirements of the request for proposals documents. A substantially responsive Proposal is one that materially confirms to the requirements of the request for proposals document 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 Works specified in the Contract; or
 - (ii) limit in any substantial way, inconsistent with the request for proposals document, the Purchaser's rights or the Proposer's obligations under the proposed Contract; or
 - (iii) limit in any substantial way, inconsistent with the request for proposals document, the Purchaser's rights or the Proposer's obligations under the proposed Contract; or
 - (b) if rectified, would unfairly affect the competitive position of other Proposers presenting substantially responsive Proposals.
- 30.3. If the Technical Part is not substantially responsive to the requirements of the request for proposals document, it shall be rejected by the Purchaser and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

31. Eligibility and Qualifications of the Proposer

- 31.1. The Purchaser shall determine to its satisfaction whether the Proposers that have been assessed to have submitted substantially responsive Proposals are eligible, and either continue to meet (if prequalification applies) or meet (if prequalification has not been carried out), the qualifying criteria specified in Section III, Evaluation and Qualification Criteria.
- 31.2. The determination shall be based upon an examination of the documentary evidence of the Proposer's eligibility and

qualifications submitted by the Proposer, pursuant to ITP 15. The determination shall not take into consideration the qualifications of other firms such as the Proposer’s subsidiaries, parent entities, affiliates, subcontractors (other than Specialized Subcontractors if permitted in the request for proposals document), or any other firm.

- 31.3. Prior to Contract award, the Purchaser will verify that the successful Proposer (including each member of a JV) is not disqualified by the Bank due to noncompliance with contractual SEA/SH prevention and response obligations. The Purchaser will conduct the same verification for each subcontractor proposed by the successful Proposer. If any proposed subcontractor does not meet the requirement, the Purchaser will require the Proposer to propose a replacement subcontractor.
- 31.4. Only substantially responsive Proposals submitted by eligible and qualified Proposers shall proceed to the detailed technical evaluation specified in ITP 32.
- 31.5. The Purchaser’s evaluation of Technical Part will be carried out as specified in Section III, Evaluation and Qualification Criteria.

**32. Detailed
Evaluation of
Technical Part**

- 32.1. The scores to be given to technical factors and sub factors are specified in the PDS.

**H. NOTIFICATION OF EVALUATION OF TECHNICAL PARTS
AND PUBLIC OPENING OF FINANCIAL PARTS**

**33. Notification of
Evaluation of
Technical Parts
and Public
Opening of
Financial Parts**

- 33.1. Following the completion of the evaluation of the Technical Parts of the Proposals, the Purchaser shall notify in writing those Proposers whose Proposals were considered substantially non-responsive to the request for proposals document or failed to meet the eligibility and qualification requirements, advising them of the following information:
 - (a) the grounds on which their Technical Part of Proposal failed to meet the requirements of the request for proposals document;
 - (b) their envelopes marked “SECOND ENVELOPE: FINANCIAL PART” will be returned to them unopened after the completion of the selection process and the signing of the Contract; and

(c) Option 1: when BAFO or negotiations is not to be applied notify them of the date, time and location of the public opening of the envelopes marked ‘Financial Part’’, or;

Option 2: when BAFO or negotiations apply as specified in the PDS, notify them that: (i) the envelopes marked ‘Financial Part’ will not be opened in public, but in the presence of a probity auditor appointed by the Purchaser, and that (ii) the announcement of the names of the Proposers whose Financial Parts will be opened and the total Proposal prices will be deferred to the time that the Notification of Intention to Award the contract is issued.

33.2. The Purchaser shall, simultaneously, notify in writing those Proposers whose Technical Part have been evaluated as substantially responsive to the request for proposals document and met the eligibility and qualification requirements, advising them of the following information:

33.3. their Proposal has been evaluated as substantially responsive to the request for proposals document and met the eligibility and qualification requirements;

33.4. Option 1: when BAFO or negotiations is not to be applied notify them of the date, time and location of the public opening of the envelopes marked ‘Financial Part’’, or;

Option 2: when BAFO or negotiations apply as specified in the PDS, notify them that: (i) the envelopes marked ‘Financial Part’ will not be opened in public, but in the presence of a probity auditor appointed by the Purchaser, and that (ii) the announcement of the names of the Proposers whose Financial Parts will be opened and the total Proposal prices will be deferred to the time that the Notification of Intention to Award the contract is issued.

33.5. When BAFO or negotiations do not apply as specified in the PDS, the Financial Part of the Proposal shall be opened publicly in the presence of Proposers’ designated representatives and anyone who chooses to attend.

33.6. The opening date shall be not less than ten (10) Business Days from the date of notification of the results of the technical evaluation, specified in ITP 33.1 and 33.2. However, if the Purchaser receives a complaint on the results of the technical evaluation within the ten (10) Business Days, the opening date shall be subject to ITP 50.1.

- 33.7. At this public opening, the Financial Parts will be opened by the Purchaser in the presence of Proposers, or their designated representatives and anyone else who chooses to attend. Proposers who met the eligibility and qualification requirements and whose Proposals were evaluated as substantially responsive will have their envelopes marked “SECOND ENVELOPE: FINANCIAL PART” opened at the second public opening. Each of these envelopes marked “SECOND ENVELOPE: FINANCIAL PART” shall be inspected to confirm that they have remained sealed and unopened. These envelopes shall then be opened by the Purchaser. The Purchaser shall read out the names of each Proposer, the technical score and the total Proposal prices, per lot (contract) if applicable, including any discounts and Alternative Proposal - Financial Part, and any other details as the Purchaser may consider appropriate.
- 33.8. Only envelopes of Financial Part of Proposals, Financial Parts of Alternative Proposals and discounts that are opened and read out at Proposal opening shall be considered further for evaluation. The Letter of Proposal – Financial Part and the Price Schedules are to be initialed by a representative of the Purchaser attending the Proposal opening in the manner specified in the PDS.
- 33.9. The Purchaser shall neither discuss the merits of any Proposal nor reject any envelopes marked “SECOND ENVELOPE: FINANCIAL PART” at this public opening.
- 33.10. The Purchaser shall prepare a record of the Financial Part of the Proposal opening that shall include, as a minimum: (a) the name of the Proposer whose Financial Part was opened; (b) the Proposal price, per lot (contract) if applicable, including any discounts; and (c) if applicable, any Alternative Proposal – Financial Part.
- 33.11. The Proposers whose envelopes marked “SECOND ENVELOPE: FINANCIAL PART” have been opened or their representatives who are present shall be requested to sign the record. The omission of a Proposer’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 Proposers.
- 33.12. When, as specified in the PDS, BAFO or negotiations apply the Financial Parts will not be opened in public and will be opened in the presence of a probity auditor appointed by the Purchaser.
- 33.13. At the opening each of the envelopes marked “Financial Part” shall be inspected to confirm that they have remained sealed and unopened. These envelopes shall then be opened by the Purchaser. The Purchaser shall record the names of each Proposer, and the total Proposal prices and any other details as the Purchaser may consider appropriate. The Letter of Proposal - Financial Part and

the Price Schedules are to be initialed by a representative of the Purchaser attending the opening and by the probity auditor.

- 33.14. The Purchaser shall prepare a record of the opening of the Financial Part envelopes that shall include, as a minimum:
- (a) the name of the Proposers whose Financial Part was opened;
 - (b) the Proposal prices including any discounts. and
 - (c) The Probity Auditor’s report of the opening of the Financial Part.
- 33.15. The probity auditor shall sign the record. The contents of the envelopes marked ‘Financial Part’ and the record of the opening shall be kept in safe custody by the Purchaser and not disclosed to anyone until the time of the transmission of the Notification of Intention to Award the contract.

I. EVALUATION OF FINANCIAL PART OF PROPOSALS

34. Adjustments for Non-material Noconformities

- 34.1. Provided that a Proposal is substantially responsive, the Purchaser shall rectify quantifiable nonmaterial nonconformities related to the Proposal Price. To this effect, the Proposal Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component by adding the average price of the item or component quoted by substantially responsive Proposers. If the price of the item or component cannot be derived from the price of other substantially responsive Proposers, the Purchaser shall use its best estimate.

35. Correction of Arithmetic Errors

- 35.1. In evaluating the Financial Part of each Proposal, the Purchaser shall correct arithmetical errors on the following basis:
- (a) where there are errors between the total of the amounts given under the column for the price breakdown and the amount given under the Total Price, the former shall prevail and the latter will be corrected accordingly;
 - (b) where there are errors between the total of the amounts of Schedule Nos. 1 to 5 and the amount given in Schedule No. 6 (Grand Summary), the former shall prevail and the latter will be corrected accordingly; 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.

35.2. Proposers shall be requested to accept correction of arithmetical errors. Failure to accept the correction in accordance with ITP 35.1, shall result in the rejection of the Proposal.

36. Evaluation of Proposals Financial Part

36.1. To evaluate the Financial Part, the Purchaser shall consider the following:

- (a) the Proposal price, excluding provisional sums and the provision, if any, for contingencies in the Price Schedules;
- (b) price adjustment for correction of arithmetic errors in accordance with ITP 35.1;
- (c) price adjustment due to discounts offered in accordance with ITP 26;
- (d) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITP 34.1;
- (e) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITP 36.2; and
- (f) the evaluation factors indicated in the PDS and detailed in Section III, Evaluation and Qualification Criteria.

36.2. For evaluation and comparison purposes, the currency(ies) of the **Proposal** shall be converted into a single currency **as specified in the PDS**.

36.3. No margin of domestic preference shall apply.

36.4. If price adjustment is allowed in accordance with ITP 17.7, 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 Proposal evaluation.

36.5. If this request for proposals document allows Proposers to quote separate prices for different lots (contracts), each lot will be evaluated separately to determine the Most Advantageous Proposal using the methodology specified in Section III, Evaluation and Qualification Criteria. Discounts that are conditional on the award of more than one lot or slice shall not be considered for Proposal evaluation.

36.6. The Purchaser will evaluate and compare the Proposals. The evaluation will be performed assuming either that:

- (a) the Contract will be awarded to the Most Advantageous Proposal for the entire Information System; or
- (b) if specified **in the PDS**, Contracts will be awarded to the Proposers for each individual Subsystem, lot, or slice defined in the Technical Requirements whose Proposals result in the Most Advantageous Proposal/Proposals for the entire System.

In the latter case, discounts that are conditional on the award of more than one Subsystem, lot, or slice may be offered in Proposals. Such discounts will be considered in the evaluation of Proposals as specified **in the PDS**.

37. Abnormally Low Proposals

- 37.1. An Abnormally Low Proposal is one where the Proposal price in combination with other constituent elements of the Proposal appears unreasonably low to the extent that the Proposal price raises material concerns as to the capability of the Proposer to perform the Contract for the offered Proposal Price.
- 37.2. In the event of identification of a potentially Abnormally Low Proposal, the Purchaser shall seek written clarifications from the Proposer, including detailed price analyses of its Proposal price in relation to the subject matter of the contract, scope, proposed methodology, schedule, allocation of risks and responsibilities and any other requirements of the request for proposals document.
- 37.3. After evaluation of the price analyses, in the event that the Purchaser determines that the Proposer has failed to demonstrate its capability to perform the Contract for the offered Proposal Price, the Purchaser shall reject the Proposal.

38. Unbalanced or Front Loaded Proposals

- 38.1. If the Proposal that is evaluated as the lowest evaluated cost is, in the Purchaser's opinion, seriously unbalanced or front loaded the Purchaser may require the Proposer to provide written clarifications. Clarifications may include detailed price analyses to demonstrate the consistency of the Proposal prices with the scope of information systems, installations, proposed methodology, schedule and any other requirements of the request for proposals document.
- 38.2. After the evaluation of the information and detailed price analyses presented by the Proposer, the Purchaser may:
 - (a) accept the Proposal; or

- (b) if appropriate, require that the total amount of the Performance Security be increased, at the expense of the Proposer, to a level not exceeding twenty percent (20%) of the Contract Price; or
- (c) reject the Proposal.

J. EVALUATION OF COMBINED TECHNICAL AND FINANCIAL PARTS, MOST ADVANTAGEOUS PROPOSAL AND NOTIFICATION OF INTENTION TO AWARD

39. Evaluation of combined Technical and Financial Parts, Most Advantageous Proposal

- 39.1. The Purchaser's evaluation of responsive Proposals will take into account technical factors, in addition to cost factors in accordance with Section III Evaluation and Qualification Criteria. The weight to be assigned for the Technical factors and cost is specified in the PDS. The Purchaser will rank the Proposals based on the evaluated Proposal score (B).
- 39.2. Best and Final Offer (BAFO): After completion of the combined technical and financial evaluation of proposals, If specified in the PDS, the Purchaser may invite those Proposers to submit their BAFOs. The procedure for submitting BAFOs will be specified in the PDS. BAFO is a final opportunity for Proposers to improve their Proposals without changing the specified business function and performance requirements in accordance with the invitation to Submit Second Stage Combined Technical and Financial Proposals, Proposers are not obliged to submit a BAFO. Where BAFO is used there will be no negotiation after BAFO.
- 39.3. BAFO will apply a two envelope procurement process. The submission of BAFOs, opening of the Technical Parts and Financial Parts and the evaluation of Proposals will follow the procedures described for the Technical, Financial and Combined evaluation above, as appropriate.
- 39.4. The Purchaser shall determine the Most Advantageous Proposal. The Most Advantageous Proposal is the Proposal of the Proposer that meets the Qualification Criteria and whose Proposal has been determined to be substantially responsive to the request for proposals document and is the Proposal with the highest combined technical and financial score.
- 39.5. If specified in the PDS, the Purchaser may conduct negotiations following the evaluation of the proposals and before the final

contract award. The procedure of the negotiations will be specified in the PDS.

- 39.6. Negotiations shall be held in the presence of probity auditor appointed by the Purchaser.
- 39.7. Negotiations may address any aspect of the contract so long as they do not materially change the specified business function and performance requirements.
- 39.8. The Purchaser may negotiate first with the Proposer that has the Most Advantageous Proposal. If the negotiations are unsuccessful the Purchaser may negotiate with the Proposer that has the next best Most Advantageous Proposal, and so on down the list until a successful negotiated outcome is achieved.
- 39.9. Unless otherwise specified in the PDS, the Purchaser will NOT carry out tests prior to Contract award, to determine that the performance or functionality of the Information System offered meets those stated in the Technical Requirements. However, if so specified in the PDS the Purchaser may carry out such tests as detailed in the PDS.
- 39.10. Proposer.
- 39.11. Prior to Contract award, the Purchaser may carry out visits or interviews with the Proposer's clients referenced in its Proposal and site inspections.
- 39.12. The capabilities of the manufacturers and subcontractors proposed by the Proposer that is determined to have offered the Most Advantageous Proposal for identified major items of supply or services will also be evaluated for acceptability in accordance with Section III, Evaluation and Qualification Criteria. Their participation should be confirmed with a letter of intent between the parties, as needed. Should a manufacturer or subcontractor be determined to be unacceptable, the Proposal will not be rejected, but the Proposer will be required to substitute an acceptable manufacturer or subcontractor without any change to the Proposal price. Prior to signing the Contract, the corresponding Appendix to the Contract Agreement shall be completed, listing the approved manufacturers or subcontractors for each item concerned.

**40. Purchaser's
Right to Accept
Any Proposal,
and to Reject
Any or All
Proposals**

- 40.1. The Purchaser reserves the right to accept or reject any Proposal, and to annul the procurement process and reject all Proposals at any time prior to contract award, without thereby incurring any liability to Proposers. In case of annulment, all Proposals submitted and specifically, Proposal securities, shall be promptly returned to the Proposers.

- 41. Standstill Period** 41.1. The Contract shall not be awarded earlier than the expiry of the Standstill Period. The Standstill Period shall be ten (10) Business Days unless extended in accordance with ITP 46. The Standstill Period commences the day after the date the Purchaser has transmitted to each Proposer the Notification of Intention to Award the Contract. Where only one Proposal is submitted, or if this contract is in response to an emergency situation recognized by the Bank, the Standstill Period shall not apply.
- 42. Notification of Intention to Award** 42.1. The Purchaser shall send to each Proposer the Notification of Intention to Award the Contract to the successful Proposer. The Notification of Intention to Award shall contain, at a minimum, the following information:
- (a) the name and address of the Proposer submitting the successful Proposal;
 - (b) the Contract price of the successful Proposal;
 - (c) the total combined score of the successful Proposal;
 - (d) the names of all Proposers who submitted Proposals, and their Proposal prices as readout and as evaluated prices and technical scores;
 - (e) a statement of the reason(s) the Proposal (of the unsuccessful Proposer to whom the notification is addressed) was unsuccessful;
 - (f) the expiry date of the Standstill Period; and
 - (g) instructions on how to request a debriefing or submit a complaint during the standstill period;

K. AWARD OF CONTRACT

- 43. Award Criteria** 43.1. Subject to ITP 40, the Purchaser shall award the Contract to the successful Proposer. This is the Proposer whose Proposal has been determined to be the Most Advantageous Proposal..
- Proposer.
- 44. Purchaser's Right to Vary Quantities at Time of Award** 44.1. The Purchaser reserves the right at the time of Contract award to increase or decrease, by the percentage(s) for items as indicated in the PDS.

45. Notification of Award

- 45.1. Prior to the date of expiry of the Proposal validity and upon expiry of the Standstill Period, specified in ITP 41.1 or any extension thereof, and, upon satisfactorily addressing any complaint that has been filed within the Standstill Period, the Purchaser shall notify the successful Proposer, in writing, that its Proposal has been accepted. The notification letter (hereinafter and in the Contract Forms called the “Letter of Acceptance”) shall specify the sum that the Purchaser will pay the Supplier in consideration of the execution of the Contract (hereinafter and in the Conditions of Contract and Contract Forms called “the Contract Price”).
- 45.2. Within ten (10) Business days after the date of transmission of the Letter of Acceptance, the Purchaser shall publish the Contract Award Notice which shall contain, at a minimum, the following information:
- (a) name and address of the Purchaser;
 - (b) name and reference number of the contract being awarded, and the selection method used;
 - (c) names of all Proposers that submitted Proposals, and their Proposal prices as read out at Proposal opening, and as evaluated;
 - (d) name of Proposers whose Proposals were rejected and the reasons for their rejection;
 - (e) the name of the successful Proposer, the final total contract price, the contract duration and a summary of its scope; and
 - (f) successful Proposer’s Beneficial Ownership Disclosure Form.
- 45.3. The Contract Award Notice shall be published on the Purchaser’s website with free access if available, or in at least one newspaper of national circulation in the Purchaser’s Country, or in the official gazette. The Purchaser shall also publish the Contract Award Notice in UNDB online.
- 45.4. Until a formal contract is prepared and executed, the Notification of Award shall constitute a binding Contract.

46. Debriefing by the Purchaser

- 46.1. On receipt of the Purchaser’s Notification of Intention to Award referred to in ITP 42, an unsuccessful Proposer has three (3) Business Days to make a written request to the Purchaser for a debriefing. The Purchaser shall provide a

debriefing to all unsuccessful Proposers whose request is received within this deadline.

- 46.2. Where a request for debriefing is received within the deadline, the Purchaser shall provide a debriefing within five (5) Business Days, unless the Purchaser decides, for justifiable reasons, to provide the debriefing outside this timeframe. In that case, the standstill period shall automatically be extended until five (5) Business Days after such debriefing is provided. If more than one debriefing is so delayed, the standstill period shall not end earlier than five (5) Business Days after the last debriefing takes place. The Purchaser shall promptly inform, by the quickest means available, all Proposers of the extended standstill period.
- 46.3. Where a request for debriefing is received by the Purchaser later than the three (3) Business Day deadline, the Purchaser should provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of Public Notice of Award of contract. Requests for debriefing received outside the three (3)-day deadline shall not lead to extension of the standstill period.
- 46.4. Debriefings of unsuccessful Proposers may be done in writing or verbally. The Proposer shall bear their own costs of attending such a debriefing meeting.

47. Signing of Contract

- 47.1. The Purchaser shall send to the successful Proposer the Letter of Acceptance including the Contract Agreement, and a request to submit the Beneficial Ownership Disclosure Form providing additional information on its beneficial ownership. The Beneficial Ownership Disclosure Form shall be submitted within eight (8) Business Days of receiving this request.
- 47.2. The successful Proposer shall sign, date and return to the Purchaser, the Contract Agreement within twenty-eight (28) days of its receipt.
- 47.3. Notwithstanding ITP 47.2 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 Information System to be supplied, where such export restrictions arise from trade regulations from a country supplying those Information System, the Proposer shall not be bound by its Proposal, always provided, however, that the Proposer 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 Proposer in completing any formalities, including applying for permits, authorizations and licenses necessary for the export of the Information System under the terms of the Contract.

48. Performance Security

- 48.1. Within twenty-eight (28) days of the receipt of the Letter of Acceptance from the Purchaser, the successful Proposer shall furnish the performance security in accordance with the General Conditions, subject to ITP 38.2 (b), 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 Proposer is in the form of a bond, it shall be issued by a bonding or insurance company that has been determined by the successful Proposer to be acceptable to the Purchaser. A foreign institution providing a Performance Security shall have a correspondent financial institution located in the Purchaser's Country.
- 48.2. Failure of the successful Proposer 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 Proposal Security. In that event the Purchaser may award the Contract to the Proposer offering the next Most Advantageous Proposal.

49. Adjudicator

- 49.1. Unless the PDS states otherwise, the Purchaser proposes that the person named in the PDS be appointed as Adjudicator under the Contract to assume the role of informal Contract dispute mediator, as described in GCC Clause 43.1. In this case, a résumé of the named person is attached to the PDS. The proposed hourly fee for the Adjudicator is specified in the PDS. The expenses that would be considered reimbursable to the Adjudicator are also specified in the PDS. If a Proposer does not accept the Adjudicator proposed by the Purchaser, it should state its non-acceptance in its Proposal Form and make a counterproposal of an Adjudicator and an hourly fee, attaching a résumé of the alternative. If the successful Proposer and the Adjudicator nominated in the PDS happen to be from the same country, and this is not the country of the Purchaser too, the Purchaser reserves the right to cancel the Adjudicator nominated in the PDS and propose a new one. If by the day the Contract is signed, the Purchaser and the successful Proposer have not agreed on the appointment of the Adjudicator, the Adjudicator shall be appointed, at the request of either party, by the Appointing Authority specified in the

SCC clause relating to GCC Clause 43.1.4, or if no Appointing Authority is specified there, the Contract will be implemented without an Adjudicator.

**50. Procurement
Related
Complaint**

- 50.1. The procedures for making a Procurement-related Complaint are as specified in the PDS.

Unofficial Copy

SECTION II - PROPOSAL DATA SHEET (PDS)

The following specific data for the Information System to be procured shall complement, supplement, or amend the provisions in the Instructions to Proposers (ITP). Whenever there is a conflict, the provisions in the PDS shall prevail over those in ITP.

ITP Reference	A. General
ITP 1.1	<p>The reference number of the Request for Proposals is: EDGE-G10</p> <p>The Purchaser is: Bangladesh Computer Council (BCC), Represented by Project Director, Enhancing Digital Government and Economy (EDGE) Project</p> <p>The name of the RFP is: Supply, Installation and Commissioning for IT Hardware, Software and Related Services of BCC DR Cloud.</p> <p>The Purchaser shall not accept Proposal for multiple lots under this request for proposals document.</p> <p>The lots are: Not applicable.</p>
ITP 1.3 (a)	<p>Electronic Procurement shall not be applicable to this procurement.</p> <p>The Purchaser shall use the following electronic-procurement system to manage this procurement process: not applicable.</p> <p>The electronic-procurement system shall be used to manage the following aspects of the Procurement process: not applicable.</p>
ITP 2.1	<p>The Borrower is: The People’s Republic of Bangladesh</p> <p>Loan or Financing Agreement amount: US\$ 235.00 Million</p> <p>The name of the Project is: Enhancing Digital Government and Economy (EDGE) Project</p>
ITP 4.1	Maximum number of members in the JV shall be: Four (04).
ITP 4.5	A list of debarred firms and individuals is available on the Bank’s external website: http://www.worldbank.org/debarr .
B. Request for proposals Document	
ITP 7.1	<p>For <u>Clarification of Proposal purposes</u> only, the Purchaser’s address is:</p> <p>Address: Youth Tower (Level 5), 822/2, Rokeya Sarani, Dhaka-1216, Bangladesh</p>

	<p>Telephone: +88 02 4100174</p> <p>Facsimile number: +88-02-55006791</p> <p>Electronic mail address: piu.edge@bcc.gov.bd and copy pd.edge@bcc.gov.bd</p> <p>Requests for clarification should be received by the Purchaser no later than: 14 days from publication of Request for Proposals.</p>
ITP 7.1	Web page: www.bcc.gov.bd
ITP 7.4	<p>A Pre-Proposal meeting shall take place at the following date, time and place:</p> <p>Date: 13 January 2025</p> <p>Time: 11.00 hours Bangladesh Standard Time (BST= GMT + 6:00 hours).</p> <p>Address: Youth Tower (Level 5), 822/2, Rokeya Sarani, Dhaka-1216, Bangladesh</p> <p>A site visit conducted by the Purchaser shall not be organized.</p>
C. Preparation of Proposals	
ITP 10.1	<p>The language of the Proposal is: English.</p> <p>All correspondence exchange shall be in English language.</p> <p>Language for translation of supporting documents and printed literature is English.</p>
ITP 11.2 (j)	<p>The Proposer shall submit with its Proposal the following additional documents the Technical Part of its Proposal:</p> <p>j.1: Declaration confirming that all hardware, software, tool, systems would be in the name of purchaser "Bangladesh Computer Council" during sourcing and supply. The Proposer must follow the authorized OEM's channel for the end purchaser's territory to ensure originality of the supplied products and future support services and warranty/replacement.</p> <p>j.2: Code of Conduct for Supplier's Personnel (ES)</p> <p>The Proposer shall submit its Code of Conduct that will apply to the Supplier's Personnel (as defined in GCC Clause 1.1) employed in the execution of the Contract at the Project Site/s to ensure compliance with the Supplier's Environmental and/or Social obligations under the Contract, as applicable. The Proposer shall use for this purpose the Code of Conduct form provided in Section IV. No substantial modifications shall be made to this form, except that the Proposer may</p>

	<p>introduce additional requirements, including as necessary to take into account specific Contract issues/risks.</p> <p>j.3: Management Strategies and Implementation Plans (MSIP) to manage the (ES) risks</p> <p>The Proposer shall submit Management Strategies and Implementation Plans (MSIPs) to manage the following key Environmental and Social (ES) risks:</p> <p>Sexual Exploitation, and Abuse (SEA) and Sexual Harassment (SH) prevention and response action plan.</p>
ITP 11.3(d)	The Proposer shall submit the following additional documents in the Financial Part of its Proposal: no additional document.
ITP 13.1	Alternative Proposals are not permitted.
ITP 13.2	<p>Alternatives to the Time Schedule are not permitted.</p> <p>If alternatives to the Time Schedule are permitted, the evaluation method will be as specified in Section III, Evaluation and Qualification Criteria.</p>
ITP 13.4	Alternative technical solutions shall be permitted for the following parts of the Information System: none.
ITP 15.2	Prequalification has not been undertaken.
ITP 16.2 (a)	<p>In addition to the topics described in ITP Clause 16.2 (a), the Preliminary Project Plan must address the following topics:</p> <ul style="list-style-type: none"> (i) Project Organization and Management Sub-Plan, including management authorities, responsibilities, and contacts, as well as task, time and resource-bound schedules (in GANTT format); (ii) Implementation Sub-Plan; (iii) Training Sub-Plan; (iv) Testing and Quality Assurance Sub-Plan; (v) Warranty Defect Repair and Technical Support Service Sub-Plan
ITP 16.3	In the interest of effective integration, cost-effective technical support, and reduced re-training and staffing costs, Proposers shall offer the following items: None.
ITP 17.2	The Proposer must not propose Recurrent Cost Items

ITP 17.2	The Proposer must not propose for contracts for Recurrent Cost Items not included in the main Contract.
ITP 17.5	The Incoterms edition is: Incoterms 2020.
ITP 17.5 (a)	<p>Named place of destination is: Software Technology Park, Jashore</p> <p>Customs duties and Value Added Taxes (CD-VAT) of the imported Goods under the Contract (incurred at the port of entry) will be paid by the Purchaser. However, customs formalities including appointment of, and payment to, Clearing and Forwarding (C&F) Agent shall be done by the Supplier. Port dues and all other charges shall be borne by the Supplier.</p> <p>The Supplier shall send the CD-VAT Assessment Report (Assessment Notice) of Customs Authorities to the Purchaser. The Purchaser will pay the assessed amount (CD -VAT) to the Government within 2 (two) weeks from received of assessment report.</p> <p>The Supplier shall submit the supporting documents including appointment of, and payment to, Clearing and Forwarding (C&F) Agent and the Purchaser will reimburse the same, within 30 days.</p>
ITP 17.6	<p>Named place of final destination (or Project site) is: Software Technology Park, Jashore</p>
ITP 17.8	ITP 17.8 is modified as follows: There are no modifications to ITP 17.8.
ITP 17.9	The prices quoted by the Proposer shall not be subject to adjustment during the performance of the Contract.
ITP 18.1	The Proposer is required to quote in the currency of the Purchaser's Country the portion of the Proposal price that corresponds to expenditures incurred in that currency.
ITP 19.1	The Proposal shall be valid until: 180 days from the date of proposal submission.
ITP 19.3 (a)	The Proposal price shall be adjusted by the following factor(s): not applicable.
ITP 20.1	<p>A Proposal Security shall be required.</p> <p>The amount and currency of the Proposal Security shall be United States Dollar (US\$) 200,000 (US\$ Two Hundred Thousand only) or an equivalent amount in any freely convertible currency or Bangladesh</p>

	<p>Taka (BDT) 23,400,000 (BDT Twenty-Three Four Hundred Thousand Million Only).</p> <p>Proposal Security shall be issued by an internationally reputable Bank or Financial Institution. If an unconditional guarantee is issued by a Financial Institution located outside the Employer's Country, the issuing Financial Institution shall have a correspondent financial institution located in the Purchaser's Country to make security enforceable.</p> <p>Proposal Security shall be submitted using the Proposal Security Form included in Section IV.</p> <p>The Proposer shall furnish the Proposal Security in favour of: Project Director, Enhancing Digital Government and Economy (EDGE) Project.</p>
ITP 20.3 (d)	Other types of acceptable securities: None.
ITP 20.9	Not Applicable.
ITP 21.3	<p>The written confirmation of authorization to sign on behalf of the Proposer shall consist of:</p> <p>(a) In case of proposal signed by the Proposer's Director, Manager or other Officer, whose authority to commit the Proposer is granted by the Company Charter, Articles of Association, or equivalent statutory document: an extract from the Trade License indicating the name, position and authorization of proposal's signatory; or a copy of the Company Charter (or equivalent statutory document), accompanied by a copy of Resolution, Order, Minutes of Board Meeting, or equivalent document evidencing appointment of Proposal's signatory to the position in question.</p> <p>(b) In case of Proposal signed by any person whose authority to commit the Proposer is not granted by the Company Charter, Articles of Association, or equivalent statutory document then the person shall have an appropriate Power of Attorney issued on Proposer's letterhead.</p>
D. Submission and Opening of Proposals	
ITP 22.1	<p>In addition to the original of the Proposal, the number of copies is: Three (03).</p> <p>In addition, the original proposal shall include an electronic copy of the proposal on a Flash Drive. In case of any discrepancy in between the paper-based proposal and the electronic copy of the proposal, the paper-based proposal shall prevail.</p>

ITP 23.1	<p>For Proposal submission purposes_only, the Purchaser’s address is: Attention: Project Director, Enhancing Digital Government and Economy (EDGE) Project Address: Youth Tower (Level-5), 822/2, Rokeya Sarani, Dhaka-1216, Bangladesh The deadline for Proposal submission is: Date: 12 February 2025 Time: 12.00 hours Bangladesh Standard Time (BST= GMT + 6:00 hours)</p>
ITP 23.1	<p>Proposers shall not have the option of submitting their Proposals electronically. The electronic proposals submission procedures shall be: not applicable.</p>
E. Public Opening of Technical Parts of Proposals	
ITP 26.1	<p>The Proposal opening shall take place at: Address: Youth Tower (Level 5), 822/2, Rokeya Sarani, Dhaka-1216, Bangladesh Date: 12 February 2025 Time: 12.30 hours Bangladesh Standard Time (BST= GMT + 6:00 hours)</p>
ITP 26.1	<p>The electronic Proposal opening procedures shall be: not applicable.</p>
G. Evaluation of Technical Part of Proposals	
ITP 32.2	<p>The Purchaser’s evaluation of responsive Proposals will not take into account scored technical factors, in addition to cost factors as specified in Section III- Evaluation and Qualification Criteria.</p>
H. Notification of Evaluation of Technical Parts and Public Opening of Financial Parts	
ITP 33.8	<p>The Letter of Proposal - Financial Part and the Price Schedules shall be initialed by all representatives of the Purchaser conducting Proposal opening. Each Financial Part of Proposal shall be initialed by all representatives and shall be numbered, any modification to the unit or total price shall be initialed by the Representative of the Purchaser, etc.</p>

I. Evaluation of Financial Part of Proposals	
36.1(f)	The adjustments shall be determined using the following criteria, from amongst those set out in Section III, Evaluation and Qualification Criteria: Not Applicable.
ITP 36.2	<p>The currency(ies) of the Proposal shall be converted into a single currency as follows: Bangladesh Taka (BDT)</p> <p>The currency that shall be used for Proposal evaluation and comparison purposes to convert all Proposal prices expressed in various currencies into a single currency is: Bangladesh Taka (BDT)</p> <p>The source of exchange rate shall be: Bangladesh Bank (web site: https://www.bb.org.bd/en/index.php/econdata/exchangerate)</p> <p>The date for the exchange rate shall be: Fourteen (14) days prior to the date of proposal submission.</p>
ITP 36.6	<p>Proposals for Subsystems, lots, or slices of the overall Information System will not be accepted.</p> <p>Discount that are conditional on the award of more than one Subsystem, lot, or slice may be offered in Proposals and such discounts shall not be considered in the price evaluation.</p>
J. Evaluation of Combined Technical and Financial Parts and Most Advantageous Proposal	
ITP 39.1	<p>The weight to be given for cost is: Not Applicable.</p> <p>Discount Rate (I) for net present value calculations of recurrent costs - Not Applicable.</p>
ITP 39.2	<p>BAFO does not apply.</p> <p>If BAFO applies, the procedure will be: Not Applicable.</p>
ITP 39.5	<p>Negotiation does not apply.</p> <p>If negotiation applies, the procedure: Not Applicable.</p>
ITP 39.9	As additional qualification measures, the Information System (or components/parts of it) offered by the Proposer with the Most Advantageous Proposal may be subjected to the following tests and performance benchmarks prior to Contract award: none.
K. AWARD OF CONTRACT	

ITP 44	<p>The maximum percentage by which quantities may be increased is: 20%.</p> <p>The maximum percentage by which quantities may be decreased is: 20%.</p> <p>The items for which the Purchaser may increase or decrease the quantities are the following: all Item.</p>
ITP 49	<p>The proposed Adjudicator is: Prof. Md. Mostofa Akbar, Dept. of CSE, BUET, Dhaka 1000, Bangladesh.</p> <p>The proposed hourly fee is BDT 5,000.00. The reimbursable expenses are travel, lodging, food, etc.</p>
ITP 50.1	<p>The procedures for making a Procurement-related Complaint are detailed in the “Procurement Regulations for IPF Borrowers (Annex III).” A Procurement-related Complaint may challenge any of the following:</p> <ol style="list-style-type: none"> 1. The terms of the request for proposals document; 2. the Purchaser’s decision to exclude a Proposer from the procurement process prior to the award of contract; and 3. The Purchaser’s decision to award the contract. <p>If a Proposer wishes to make a Procurement-related Complaint, the Proposer should submit its complaint following these procedures, in writing (by the quickest means available, that is either by email or fax), to:</p> <p>For the attention: Md Shakhawat Hossain</p> <p>Title/position: Project Director, Enhancing Digital Government and Economy (EDGE) Project</p> <p>Purchaser: Bangladesh Computer Council (BCC)</p> <p>Email address: piu.edge@bcc.gov.bd</p> <p>Fax number: Not applicable</p>

Résumé of the proposed Adjudicator.

The biographical data of the proposed Adjudicator is as follows:

Professor Prof. Md. Mostofa Akbar

Department of Computer Science and Engineering
Bangladesh University of Engineering and Technology
Dhaka 1000, Bangladesh.

Academic Background:

Ph.D., 2002, University of Victoria, Canada

M.Sc. in Computer Science and Engineering, 1998, BUET

B.Sc. in Computer Science and Engineering, 1996, BUET.

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SECTION III - EVALUATION AND QUALIFICATION CRITERIA (WITHOUT PREQUALIFICATION)

This Section contains all the criteria that the Purchaser shall use to evaluate Proposals and qualify Proposers. No other factors, methods or criteria shall be used. The Proposer shall provide all the information requested in the forms included in Section IV, Proposal Forms.

1. Qualification

1.1 Qualification Requirements

The Proposer's qualification shall be assessed in accordance with the Qualification table included in this section.

1.2 Financial Resources

The Proposer's financial resources shall be assessed in accordance with the Qualification table included in this section.

1.3 Key Personnel

The Proposer must demonstrate that it will have suitably qualified key personnel. The Proposer shall complete the relevant Forms in Section IV, Proposal Forms.

1.3.1 Key Personnel

No.	Position	Qualification and Experience
1	Team leader (1)	Master's degree in Computer Science, Information Technology, or related fields. 10 years of experience in IT project management, including 5 years in leadership roles on projects related to IT infrastructure, preferably including DR facilities.
2	Project governance and management specialist (1)	Bachelor's or Master's degree in Business Administration, IT Management, or related fields. 8 years of experience in IT project governance and management, with expertise in strategic planning, risk management, and project lifecycle management.

3	Expert in DR Cloud (1):	Bachelor's degree in Computer Science, Information Systems, or related fields, with specialization in disaster recovery planning being an advantage. 7 years of experience in designing, implementing, and managing DR facilities, including a strong background in DR strategies, business continuity planning, and related technologies.
4	Expert in DR Cloud Management (1):	Bachelor's degree in Computer Science, Information Systems, or related fields, with certification in DR management (e.g., DRII, CBCP) preferred. 7 years of experience in operational management of DR facilities, including hands-on experience with DR procedures, testing, and maintenance.
5	Expert in Cloud computing (1):	Bachelor's degree in Computer Science, Information Systems, or related fields, with specialization in cloud being an advantage. 7 years of experience in designing, implementing, and managing cloud facilities, including a strong background in cloud strategies, business continuity planning, and related technologies.
6	Expert in Cloud Service Management (1):	Bachelor's degree in Computer Science, Information Systems, or related fields, with certification in cloud management (e.g., AWS, Azure, GCP) preferred. 7 years of experience in operational management of cloud facilities, including hands-on experience with cloud procedures, testing, and maintenance.
7	Expert in Server & Storage (1):	Bachelor's degree in computer science, Computer Engineering, or related fields, with certifications in server and storage solutions (e.g., VMware, Cisco) preferred. 7 years of experience in server and storage infrastructure, specializing in designing, implementing, and managing server and storage solutions for high availability and disaster recovery.
8	Expert in Networking (1):	Bachelor's degree in Computer Science, Telecommunications, or related fields, with networking certifications (e.g.,

		CCNA, CCNP) highly desirable. 7 years of experience in network infrastructure, focusing on designing, implementing, and managing robust network solutions that support DR requirements and ensure business continuity.
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The Proposer shall provide details of the proposed personnel and their experience records in the relevant Forms included in Section IV, Proposal Forms.

1.4 Subcontractors/vendors/manufacturers

Subcontractors/vendors/manufacturers for the following additional major items of supply or services must meet the following minimum criteria, herein listed for that item:

Item No.	Description of Item	Minimum Criteria to be met
1	Containment and rack system	Must be operating in the international market for a minimum of 3 (three) years. The product should have been implemented by at least one (1) customer / organization.
2	Hardware Security Machine	
3	Hybrid- Flash Production Storage	
4	All- Flash Production Storage	
5	Storage TOR Switch	
6	Border Firewall	
7	Non-GPU Computing Node Server	
8	Object Storage Node Server	
9	Management Node server	
10	Core Switch	
11	Next generation Firewall	
12	Email Security Gateway Virtual Appliance	

Failure to comply with this requirement will result in the rejection of the subcontractor.

1.5 Manufacturer’s authorization

For all powered (active) hardware and/or software components of the Information System which the Proposer does not itself produce, by submission of documentary evidence in its Proposal, the Proposer must establish to the Purchaser’s satisfaction that it is not prohibited to supply those components in

the Purchaser's country under the Contract(s) that may result from this procurement.

- (i) In the case of powered (active) hardware and other powered equipment, this must be documented by including Manufacturer's Authorizations in the Proposal (based on the sample found in the Sample Proposal Forms in Section IV.);
- (ii) In the case of proprietary commercial software (i.e., excluding open source or "freeware" software) that the Proposer does not manufacture itself and for which the Proposer has or will establish an Original Equipment Manufacturer (OEM) relationship with the manufacturer, the Proposer must provide Manufacturer's Authorizations;
- (iii) In the case of proprietary commercial software (i.e., excluding open source or "freeware" software) that the Proposer does not manufacture itself and for which the Proposer does not or will not establish an OEM relationship with the manufacturer, the Proposer must document to the Purchaser's satisfaction that the Proposer is not excluded from sourcing these items from the manufacturer's distribution channels and proposing offering these items for supply in the Borrower's Country.
- (iv) In the case of open-source software, the Proposer must identify the software item as open source and provide copies of the relevant open-source license(s).

The Proposer is responsible for ensuring that the manufacturer or producer complies with the requirements of ITP 4 and ITP 5 and meets the minimum criteria listed above for that item.

1.6 Local Representative

In the case of a Proposer not doing business within the Purchaser's country, the Proposer shall submit documentary evidence in its Proposal to establish to the Purchaser's satisfaction that it is or will be (if awarded the Contract) represented by an agent in that country who is equipped and able to carry out / manage the Proposer's maintenance, technical support, training, and warranty repair obligations specified in the Purchaser's Requirements (including any response time, problem-resolution norms or other aspects that may be specified in the Contract).

2. Technical Evaluation

2.1 Assessment of adequacy of Technical Proposal with Requirements in accordance with ITP 32.1

Proposer must meet Purchaser's Technical Requirements mentioned in Section VII.

2.2 Technical Evaluation (ITP 32.2) – Not Applicable

3. Technical alternatives

If invited in accordance with ITP 13.4, will be evaluated as follows: **none**.

4. Financial Evaluation

The following factors and methods will apply:

(a) Time Schedule:

The number of weeks, from the effective date specified in Article 3 of the Contract Agreement, to achieve Operational Acceptance must be no more than: 32 (thirty-two) weeks.

A Proposal offering to achieve Operational Acceptance earlier than the maximum number of weeks shall not be given credit for proposal evaluation purposes. The proposal offering to achieve Operational Acceptance of more than 32 weeks for shall be treated as non-responsive.

(b) Recurrent Costs: Not Applicable

(c) Specific additional criteria

The relevant evaluation method, if any, shall be as follows: **Not Applicable**

5. Combined Evaluation: Not Applicable

1. Qualification

Factor	1.1 ELIGIBILITY					
Sub-Factor	Criteria					Documentation Required
	Requirement	Proposer				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
1.1 <u>Nationality</u>	Nationality in accordance with ITP 4.4.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Form ELI –1.1 and 1.2, with attachments
1.2 <u>Conflict of Interest</u>	No- conflicts of interests as described in ITP 4.2.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Letter of Proposal
1.3 <u>Bank Ineligibility</u>	Not having been declared ineligible by the Bank as described in ITP 4.5.	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Letter of Proposal
1.4 <u>State owned Entity of the Borrower country</u>	Compliance with conditions of ITP 4.6	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Form ELI –1.1 and 1.2, with attachments

Factor	1.1 ELIGIBILITY					
Sub-Factor	Criteria					Documentation Required
	Requirement	Proposer				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
1.1.5 United Nations resolution or Borrower's country law	Not having been excluded as a result of prohibition in the Borrower's country laws or official regulations against commercial relations with the Proposer's country, or by an act of compliance with UN Security Council resolution, both in accordance with ITP 4.8	Must meet requirement	Must meet requirement	Must meet requirement	N / A	Letter of Proposal

Factor	1.2 Historical Contract Non-Performance						
Sub-Factor	Criteria					Documentation Required	
	Requirement	Proposer					
		Single Entity	Joint Venture (existing or intended)				
			All members combined	Each member	At least one member		
1.2.1 History of non-performing contracts	Non-performance of a contract ¹ did not occur as a result of Proposer’s default since 1 st January 2021.	Must meet requirement by itself or as member to past or existing JV	N / A	Must meet requirement ²	N / A	Form CON - 2	
1.2.2 Suspension	Not under suspension based on execution of a Proposal Securing Declaration or Proposal Securing Declaration pursuant to ITP 4.7 and ITP 20.10	Must meet requirement	N / A	Must meet requirement	N / A	Letter of Proposal	
1.2.3 Pending Litigation	Proposer’s financial position and prospective long term profitability still sound according to criteria established in 2.3.1 below and assuming that all pending litigation will be	Must meet requirement by itself or as member to past or existing JV	N / A	Must meet requirement	N / A	Form CON – 2	

¹ Nonperformance, as decided by the Purchaser, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) contracts that were so challenged but fully settled against the contractor. Nonperformance shall not include contracts where Purchaser decision was overruled by the dispute resolution mechanism. Nonperformance must be based on all information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the applicant have been exhausted.

² This requirement also applies to contracts executed by the Applicant as JV member.

Factor	1.2 Historical Contract Non-Performance					
Sub-Factor	Criteria					Documentation Required
	Requirement	Proposer				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
	resolved against the Proposer.					
1.2.4 Litigation History	No consistent history of court/arbitral award decisions against the Proposer ³ since 1 st January 2021	Must meet requirement	Must meet requirement	Must meet requirement	N/A	Form CON – 2
1.2.5 Bank's SEA and/or SH Disqualification ⁴	At the time of Contract Award, not subject to disqualification by the Bank for non-compliance with SEA/ SH obligations	Must meet requirement (including each subcontractor proposed by the Proposer)	N/A	Must meet requirement (including each subcontractor proposed by the Proposer)	N/A	Letter of Proposal, Form CON-3

³ The Proposer shall provide accurate information on the related Letter of Proposal about any litigation or arbitration resulting from contracts completed or ongoing under its execution over the last five years. A consistent history of awards against the Proposer or any member of a joint venture may result in failure of the Proposal.

Factor	1.3 FINANCIAL SITUATION					
Sub-Factor	Criteria					Documentation Required
	Requirement	Proposer				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
1.3.1 Historical Financial Performance	Submission of audited balance sheets or if not required by the law of the Proposer’s country, other financial statements acceptable to the Purchaser, for the last/latest three [3] years (FY 2022-2023, 2021-2022 and 2020-2021) to demonstrate the current soundness of the Proposers financial position and its prospective long term profitability.	Must meet requirement	N / A	Must meet requirement	N / A	Form FIN – 1.3.1 with attachments
1.3.2 Average Annual Turnover	Minimum average annual turnover of US\$ 12 Million or equivalent amount, calculated as total certified payments received for contracts in progress or completed, in best three (3) within the last five (5) years from the Proposal submission date.	Must meet requirement	Must meet requirement	Must meet 25% of the requirement	Must meet 40% of the requirement	Form FIN –1.3.2

Factor	1.3 FINANCIAL SITUATION					
Sub-Factor	Criteria					Documentation Required
	Requirement	Proposer				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
1.3.3 Financial Resources	The Proposer must demonstrate access to, or availability of, financial resources other than any contractual advance payments to meet the following cash-flow requirement: US\$ 3 million or equivalent amount. The documentary evidence shall be in the form of supporting letter(s) issued by the proposer’s bank/financial institution confirming that the above-specified minimum amount is available through lines of credit and/or funds in the proposer’s bank account for use specifically in the execution of the subject contract if awarded to the proposer.	Must meet requirement	Must meet requirement	Must meet 25% of the requirement	Must meet 40% of the requirement	Form FIN –1.3.3

Factor	1.4 EXPERIENCE					
Sub-Factor	Criteria					Documentation Required
	Requirement	Proposer				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
1.4.1 General Experience	Experience under Information System contracts in the role of prime supplier, management contractor, JV member, or subcontractor for at least the last ten [10] years prior to the proposal submission deadline.	Must meet requirement	N / A	Must meet requirement	N / A	Form EXP-1.4.1
1.4.2 Specific Experience	Participation as a prime supplier, management contractor, JV ¹ member, sub-contractor, with a minimum amount of contract value US\$ 10 million or equivalent amount under maximum two (2) similar contract(s) within the last ten (10) years prior to the proposal submission deadline, that have been successfully and substantially ²	Must meet requirement	Must meet requirements ³	N / A	N/A	Form EXP 1.4.2

¹ For contracts under which the Proposer participated as a joint venture member or sub-contractor, only the Proposer’s share, by value, and role and responsibilities shall be considered to meet this requirement.

² Substantial completion shall be based on 80% or more value completed under the contract and shall satisfy the minimum value of contract as required

³ In the case of JV, the value of contracts completed by its members shall not be aggregated to determine whether the requirement of the minimum value of a single contract has been met. Instead, each contract performed by each member shall satisfy the minimum value of a single contract as required for single entity.

Factor	1.4 EXPERIENCE					
Sub-Factor	Criteria					Documentation Required
	Requirement	Proposer				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
	<p>completed and that are similar to the proposed Information System. The contract will be treated as similar, establishment of Data Center (DC)/ Disaster Recovery (DR) contract covers the supply of similar goods and services at least sixty (60) percent of major high value items as described in Section VII Purchaser’s Requirements. The proposer shall submit documentary evidence describing the supplied items with value under the contract.</p> <p>The successfully completed similar contracts shall be documented by a copy of an Operational acceptance certificate (or equivalent documentation satisfactory to the Purchaser) issued by the purchaser(s). The successful supply completion certificate issued by the Proposer’s</p>					

In determining whether the JV meets the requirement of total number of contracts, only the number of contracts completed by all members each of value equal or more than the minimum value required shall be aggregated.

Factor	1.4 EXPERIENCE					
Sub-Factor	Criteria					Documentation Required
	Requirement	Proposer				
		Single Entity	Joint Venture (existing or intended)			
All members combined			Each member	At least one member		
	parent/subsidiary/sister/affiliate firm will not be considered for specific experience.					

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SECTION IV - PROPOSAL FORMS

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Letter of Proposal- Technical Part

INSTRUCTIONS TO PROPOSERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

The Proposer must prepare this Letter of Proposal on stationery with its letterhead clearly showing the Proposer's complete name and business address.

Note: All italicized text is to help Proposers in preparing this form.

Date of this Proposal submission: *[insert date (as day, month and year) of Proposal submission]*

RFP No.: *[insert number of RFP process]*

Alternative No.: *[insert identification No if this is a Proposal for an alternative, otherwise state "not applicable"]*

We, the undersigned, declare that:

To: *[insert complete name of Purchaser]*

- (a) **No reservations:** We have examined and have no reservations to the request for proposals document, including Addenda issued in accordance with Instructions to Proposers (ITP 8);
- (b) **Eligibility:** We meet the eligibility requirements and have no conflict of interest in accordance with ITP 4;
- (c) **Proposal-Securing Declaration:** We have not been suspended nor declared ineligible by the Purchaser based on execution of a Proposal-Securing Declaration or Proposal-Securing Declaration in the Purchaser's Country in accordance with ITP 4.7;
- (d) **Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment (SH):** *[select the appropriate option from (i) to (v) below and delete the others. In case of JV members and/or subcontractors, indicate the status of disqualification by the Bank of each JV member and/or subcontractor].*

We, including any of our subcontractors:

- (i) [have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.]
- (ii) [are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations.]
- (iii) [had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations, and were removed from the disqualification list. An arbitral award on the disqualification case has been made in our favor.]

- (e) **Conformity:** We offer to provide design, supply and installation services in conformity with the request for proposals document of the following: *[insert a brief description of the IS Design, Supply and Installation Services]*;
- (f) **Proposal Validity:** Our Proposal shall be valid until *[insert day, month and year in accordance with ITP 19.1]*, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (g) **Performance Security:** If our Proposal is accepted, we commit to obtain a Performance Security in accordance with the request for proposals document;
- (h) **One Proposal Per Proposer:** We are not submitting any other Proposal(s) as an individual Proposer, and we are not participating in any other Proposal(s) as a Joint Venture member, and meet the requirements of ITP 4.3, other than alternative Proposals submitted in accordance with ITP 13;
- (i) **Suspension and Debarment:** 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 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 Purchaser’s Country laws or official regulations or pursuant to a decision of the United Nations Security Council;
- (j) **State-owned enterprise or institution:** *[select the appropriate option and delete the other: We are not a state-owned enterprise or institution / We are a state-owned enterprise or institution but meet the requirements of ITP 4.6]*;
- (k) **Commissions, gratuities and fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the procurement 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.”]

- (l) **Binding Contract:** We understand that this Proposal, together with your written acceptance thereof included in your Letter of Acceptance, shall constitute a binding contract between us, until a formal contract is prepared and executed;

- (m) **Not Bound to Accept:** We understand that you are not bound to accept the lowest evaluated cost Proposal, the Most Advantageous Proposal or any other Proposal that you may receive; and
- (n) **Fraud and Corruption:** We hereby certify that we have taken steps to ensure that no person acting for us or on our behalf engages in any type of Fraud and Corruption.

Name of the Proposer: **[insert complete name of the Proposer]*

Name of the person duly authorized to sign the Proposal on behalf of the Proposer: ***[insert complete name of person duly authorized to sign the Proposal]*

Title of the person signing the Proposal: *[insert complete title of the person signing the Proposal]*

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

Date signed *[insert number]* day of *[insert month]*, *[insert year]*

*: In the case of the Proposal submitted by joint venture specify the name of the Joint Venture as Proposer

** : Person signing the Proposal shall have the power of attorney given by the Proposer to be attached with the Proposal

FORM ELI 1.1.1- PROPOSER INFORMATION FORM

[Note: The Proposer 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 Proposal submission]*

RFP No.: *[insert number of Request for Proposals process]*

Alternative No.: *[insert identification No if this is a Proposal for an alternative] otherwise state “not applicable”*

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1. Proposer’s Name <i>[insert Proposer’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. Proposer’s actual or intended country of registration: <i>[insert actual or intended country of registration]</i>
4. Proposer’s year of registration: <i>[insert Proposer’s year of registration]</i>
5. Proposer’s Address in country of registration: <i>[insert Proposer’s legal address in country of registration]</i>
6. Proposer’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 ITP 4.4. <input type="checkbox"/> In case of JV, letter of intent to form JV or JV agreement, in accordance with ITP 4.1. <input type="checkbox"/> In case of state-owned enterprise or institution, in accordance with ITP 4.6 documents establishing: <ul style="list-style-type: none"> • Legal and financial autonomy • Operation under commercial law

- Establishing that the Proposer is not under the supervision of the Purchaser
8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. *[The successful Proposer shall provide additional information on beneficial ownership, using the Beneficial Ownership Disclosure Form.]*

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FORM ELI 1.1.2- PROPOSER’S JV MEMBERS INFORMATION FORM

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

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

RFP No.: *[insert number of Request for Proposals process]*

Alternative No.: *[insert identification No if this is a Proposal for an alternative, otherwise state “not applicable”]*

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1. Proposer’s Name: <i>[insert Proposer’s legal name]</i>
2. Proposer’s JV Member’s name: <i>[insert JV’s Member legal name]</i>
3. Proposer’s JV Member’s country of registration: <i>[insert JV’s Member country of registration]</i>
4. Proposer’s JV Member’s year of registration: <i>[insert JV’s Member year of registration]</i>
5. Proposer’s JV Member’s legal address in country of registration: <i>[insert JV’s Member legal address in country of registration]</i>
6. Proposer’s JV Member’s authorized representative information Name: <i>[insert name of JV’s Member authorized representative]</i> Address: <i>[insert address of JV’s Member authorized representative]</i> Telephone/Fax numbers: <i>[insert telephone/fax numbers of JV’s Member authorized representative]</i> Email Address: <i>[insert email address of JV’s Member authorized representative]</i>

7. Attached are copies of original documents of *[check the box(es) of the attached original documents]*
- Articles of Incorporation (or equivalent documents of constitution or association), and/or registration documents of the legal entity named above, in accordance with ITP 4.4.
 - In case of a state-owned enterprise or institution, documents establishing legal and financial autonomy, operation in accordance with commercial law, and they are not under the supervision of the Purchaser in accordance with ITP 4.6.
8. Included are the organizational chart, a list of Board of Directors, and the beneficial ownership. *[The successful Proposer shall provide additional information on beneficial ownership for each JV member using the Beneficial Ownership Disclosure Form.]*

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FORM CON – 2- HISTORICAL CONTRACT NON-PERFORMANCE, PENDING LITIGATION AND LITIGATION HISTORY

In case a prequalification process was conducted this form should be used only if the information submitted at the time of prequalification requires updating

Proposer’s Legal Name: *[insert Proposer’s Legal Name]*

Date: _____ *[insert date]*

JV member Legal Name: *[insert JV Member Legal Name]*

RFP No.: *[insert RFP number]*

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Non-Performed Contracts in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> Contract non-performance did not occur since 1 st January <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 1.2.1.			
<input type="checkbox"/> Contract(s) not performed since 1 st January <i>[insert year]</i> specified in Section III, Evaluation and Qualification Criteria, requirement 1.2.1			
Year	Non-performed portion of contract	Contract Identification	Total Contract Amount (current value, currency, exchange rate and US\$ equivalent)
<i>[insert year]</i>	<i>[insert amount and percentage]</i>	Contract Identification: <i>[indicate complete contract name/ number, and any other identification]</i> Name of Employer: <i>[insert full name]</i> Address of Employer: <i>[insert street/city/country]</i> Reason(s) for nonperformance: <i>[indicate main reason(s)]</i>	<i>[insert amount]</i>
Pending Litigation, in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> No pending litigation in accordance with Sub-Factor 1.2.3.			
<input type="checkbox"/> Pending litigation in accordance with Sub-Factor 1.2.3 as indicated below.			

Year of dispute	Amount in dispute (currency)	Contract Identification	Total Contract Amount (currency), USD Equivalent (exchange rate)
<i>[specify year]</i>	<i>[specify amount and currency]</i>	Contract Identification: <i>[insert Contract ID]</i> Name of Employer: <i>[insert Name of Employer]</i> Address of Employer: <i>[insert Address of Employer]</i> Matter in dispute: <i>[describe Matter of dispute]</i> Party who initiated the dispute: <i>[specify Initiator of dispute]</i> Status of dispute: <i>[specify Status of dispute]</i>	<i>[specify total contract amount and currency, USD equivalent and exchange rate]</i>
<i>[specify year]</i>	<i>[specify amount and currency]</i>	Contract Identification: <i>[insert Contract ID]</i> Name of Employer: <i>[insert Name of Employer]</i> Address of Employer: <i>[insert Address of Employer]</i> Matter in dispute: <i>[describe Matter of dispute]</i> Party who initiated the dispute: <i>[specify Initiator of dispute]</i> Status of dispute: <i>[specify Status of dispute]</i>	<i>[specify total contract amount and currency, USD equivalent and exchange rate]</i>
Litigation History in accordance with Section III, Evaluation and Qualification Criteria			
<input type="checkbox"/> No Litigation History in accordance with Sub-Factor 1.2.4.			
<input type="checkbox"/> Litigation History in accordance with Sub-Factor 1.2.4 as indicated below.			
Year of award	Outcome as percentage of Net Worth	Contract Identification	Total Contract Amount (currency), USD Equivalent (exchange rate)
<i>[specify year]</i>	<i>[specify percentage of net worth]</i>	Contract Identification: <i>[insert Contract ID]</i> Name of Employer: <i>[insert Name of Employer]</i> Address of Employer: <i>[insert Address of Employer]</i>	<i>[specify total contract amount and currency, USD equivalent and exchange rate]</i>

FORM CON – 3

SEXUAL EXPLOITATION AND ABUSE (SEA) AND/OR SEXUAL HARASSMENT PERFORMANCE DECLARATION

[The following table shall be filled in by the Proposer, each member of a Joint Venture and each subcontractor proposed by the Proposer]

Proposer's Name: *[insert full name]*

Date: *[insert day, month, year]*

Joint Venture Member's or Subcontractor's Name: *[insert full name]*

RFP No. and title: *[insert RFP number and title]*

Page *[insert page number]* of *[insert total number]* pages

SEA and/or SH Declaration in accordance with Section III, Qualification Criteria, and Requirements
We: <input type="checkbox"/> (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations <input type="checkbox"/> (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations <input type="checkbox"/> (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations, and were removed from the disqualification list. An arbitral award on the disqualification case has been made in our favor.
<i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i>

FORM EXP 1.4.1- GENERAL EXPERIENCE

Proposer’s Legal Name: *[insert Proposer’s Legal Name]*

Date: *[insert Date]*

JV Member Legal Name: *[insert JV Member Legal Name]*

RFP No.: *[insert RFP number]*

Page _____ of _____ pages

Starting Month / Year	Ending Month / Year	Years *	Contract Identification	Role of Proposer
<i>[insert month / year]</i>	<i>[insert month / year]</i>	<i>[insert number of years]</i>	Contract name: <i>[insert Name of Contract]</i> Brief Description of the Information System performed by the Proposer: <i>[describe Information System]</i> Name of Purchaser: <i>[insert Name of Purchaser]</i> Address: <i>[insert Address of Purchaser]</i>	<i>[describe role of Proposer under the contract]</i>
<i>[insert month / year]</i>	<i>[insert month / year]</i>	<i>[insert number of years]</i>	Contract name: <i>[insert Name of Contract]</i> Brief Description of the Information System performed by the Proposer: <i>[describe Information System]</i> Name of Purchaser: <i>[insert Name of Purchaser]</i> Address: <i>[insert Address of Purchaser]</i>	<i>[describe role of Proposer under the contract]</i>
<i>[insert month / year]</i>	<i>[insert month / year]</i>	<i>[insert number of years]</i>	Contract name: <i>[insert Name of Contract]</i> Brief Description of the Information System performed by the Proposer: <i>[describe Information System]</i> Name of Purchaser: <i>[insert Name of Purchaser]</i> Address: <i>[insert Address of Purchaser]</i>	<i>[describe role of Proposer under the contract]</i>
<i>[insert month / year]</i>	<i>[insert month / year]</i>	<i>[insert number of years]</i>	Contract name: <i>[insert Name of Contract]</i> Brief Description of the Information System performed by the Proposer: <i>[describe Information System]</i> Name of Purchaser: <i>[insert Name of Purchaser]</i> Address: <i>[insert Address of Purchaser]</i>	<i>[describe role of Proposer under the contract]</i>

*List calendar year for years with contracts with at least nine (9) months activity per year starting with the earliest year

FORM EXP 1.4.2- SPECIFIC EXPERIENCE

Proposer’s Legal Name: *[insert Proposer’s Legal Name]*

Date: *[insert Date]*

JV Member Legal Name: *[insert JV Member Legal Name]*

RFP No.: *[insert RFP number]*

Page _____ of _____ pages

Similar Contract Number: ___ of ___ required.	Information		
Contract Identification	<i>[insert Contract ID]</i>		
Award date	<i>[insert Date of Award]</i>		
Completion date	<i>[insert Date of Completion]</i>		
Role in Contract	<input type="checkbox"/> Prime Supplier	<input type="checkbox"/> Management Contractor	<input type="checkbox"/> Subcontractor
Total contract amount			
If member in a JV or subcontractor, specify participation of total contract amount			
Purchaser’s Name:	_____		
Address:	_____		
Telephone/fax number:	_____		
E-mail:	_____		

FORM EXP 1.4.2 (CONT.)- SPECIFIC EXPERIENCE (CONT.)

Proposer’s Legal Name: *[insert Proposer’s Legal Name]*

Date: *[insert Date]*

JV Member Legal Name: *[insert JV Member Legal Name]*

RFP No.: *[insert RFP number]*

Page _____ of _____ pages

Similar Contract No. <i>[insert specific number]</i> of <i>[insert total number of contracts]</i> required	Information
Description of the similarity in accordance with Sub-Factor 1.4.2 of Section III:	
Amount	<i>[insert contract amount and currency and USD equivalent and exchange rate]</i>
Geographical Scope	<i>[describe geographic scope of the users of the information system]</i>
Functional Scope	<i>[describe the functionalities provided by the information system]</i>
Methods/Technology	<i>[describe methodologies and technologies used to implement the information system]</i>
Key Activities	<i>[describe the key activities of the Proposer under the contract]</i>

FORM CCC- SUMMARY SHEET: CURRENT CONTRACT COMMITMENTS / WORK IN PROGRESS

[Proposers and each partner to a Joint Venture should provide information on their current commitments on all contracts that have been awarded, or for which a letter of intent or acceptance has been received, or for contracts approaching completion, but for which an unqualified, full completion certificate has yet to be issued.]

Proposer’s Legal Name: *[insert Proposer’s Legal Name]*

Date: *[insert Date]*

JV Member Legal Name: *[insert JV Member Legal Name]*

RFP No.: *[insert RFP number]*

Page _____ of _____ pages

Name of contract	Purchaser, contact address/tel./fax	Value of outstanding Information System (current US\$ equivalent)	Estimated completion date	Average monthly invoicing over last six months (US\$ equivalent/month)
1. <i>[insert Name of Contract]</i>	<i>[insert Name of Purchaser, contact address, telephone / fax number]</i>	<i>[insert Total Outstanding Contract Value of the information system in USD equivalent and exchange rate]</i>	<i>[insert Estimated completion date]</i>	<i>[insert Average monthly invoices in USD equivalent and exchange rate]</i>
2. <i>[insert Name of Contract]</i>	<i>[insert Name of Purchaser, contact address, telephone / fax number]</i>	<i>[insert Total Outstanding Contract Value of the information system in USD equivalent and exchange rate]</i>	<i>[insert Estimated completion date]</i>	<i>[insert Average monthly invoices in USD equivalent and exchange rate]</i>
3. <i>[insert Name of Contract]</i>	<i>[insert Name of Purchaser, contact address, telephone / fax number]</i>	<i>[insert Total Outstanding Contract Value of the information system in USD equivalent and exchange rate]</i>	<i>[insert Estimated completion date]</i>	<i>[insert Average monthly invoices in USD equivalent and exchange rate]</i>
...				

FORM FIN 1.3.1- FINANCIAL SITUATION: HISTORICAL FINANCIAL PERFORMANCE

To be completed by the Proposer and, if JV, by each member

Proposer’s Legal Name: *[insert Proposer’s Legal Name]*

Date: *[insert Date]*

JV Member Legal Name: *[insert JV Member Legal Name]*

RFP No.: *[insert RFP number]*

Page _____ of _____ pages

Financial information in US\$ equivalent	Historic information for previous <i>[insert number]</i> years (US\$ equivalent in 000s)						
	Year 1	Year 2	Year 3	Year ...	Year n	Avg.	Avg. Ratio
Information from Balance Sheet							
Total Assets (TA)							
Total Liabilities (TL)							
Net Worth (NW)							
Current Assets (CA)							
Current Liabilities (CL)							
Information from Income Statement							
Total Revenue (TR)							
Profits Before Taxes (PBT)							

Attached are copies of financial statements (balance sheets, including all related notes, and income statements) for the years required above complying with the following conditions:

- (a) Must reflect the financial situation of the Proposer or member to a JV, and not sister or parent companies
- (b) Historic financial statements must be audited by a certified accountant
- (c) Historic financial statements must be complete, including all notes to the financial statements
- (d) Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted)

FORM FIN 1.3.2- AVERAGE ANNUAL TURNOVER

[To be completed by the Proposer and, if JV, by each member]

Proposer’s Legal Name: *[insert Proposer’s Legal Name]*

Date: *[insert Date]*

JV Member Legal Name: *[insert JV Member Legal Name]*

RFP No.: *[insert RFP number]*

Page _____ of _____ pages

Annual turnover data (applicable activities only)		
Year	Amount and Currency	US\$ equivalent
<i>[insert year]</i>	<i>[insert amount and currency]</i>	<i>[insert amount in USD equivalent and exchange rate]</i>
<i>[insert year]</i>	<i>[insert amount and currency]</i>	<i>[insert amount in USD equivalent and exchange rate]</i>
<i>[insert year]</i>	<i>[insert amount and currency]</i>	<i>[insert amount in USD equivalent and exchange rate]</i>
<i>[insert year]</i>	<i>[insert amount and currency]</i>	<i>[insert amount in USD equivalent and exchange rate]</i>
<i>[insert year]</i>	<i>[insert amount and currency]</i>	<i>[insert amount in USD equivalent and exchange rate]</i>
<i>[insert year]</i>	<i>[insert amount and currency]</i>	<i>[insert amount in USD equivalent and exchange rate]</i>
*Average Annual Turnover	<i>[insert amount and currency]</i>	<i>[insert amount in USD equivalent and exchange rate]</i>

*Average annual turnover calculated as total certified payments received for work in progress or completed, divided by the number of years specified in Section III, Evaluation and Qualification Criteria, Sub-Factor 1.3.2.

FORM FIN 1.3.3- FINANCIAL RESOURCES

To be completed by the Proposer and, if JV, by each member

Proposer’s Legal Name: *[insert Proposer’s Legal Name]*

Date: *[insert Date]*

JV Member Legal Name: *[insert JV Member Legal Name]*

RFP No.: *[insert RFP number]*

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Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total cash flow demands of the subject contract or contracts as indicated in Section III, Evaluation and Qualification Criteria

Source of financing	Amount (US\$ equivalent)
1. [describe type and source of available financing]	[insert amount of available financing in USD equivalent and exchange rate]
2. [describe type and source of available financing]	[insert amount of available financing in USD equivalent and exchange rate]
3. [describe type and source of available financing]	[insert amount of available financing in USD equivalent and exchange rate]
4. [describe type and source of available financing]	[insert amount of available financing in USD equivalent and exchange rate]

PERSONNEL CAPABILITIES- KEY PERSONNEL

To be completed by the Proposer and, if JV, by each member

Proposer’s Legal Name: *[insert Proposer’s Legal Name]*

Date: *[insert Date]*

JV Member Legal Name: *[insert JV Member Legal Name]*

RFP No.: *[insert RFP number]*

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Proposers should provide the names and details of the suitably qualified Personnel to perform the Contract. The data on their experience should be supplied using the Form PER-2 below for each candidate.

Key Personnel

1.		Title of position: <i>[insert Title of position / role in team]</i>
		Name of candidate: <i>[insert Name of Candidate]</i>
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>
2.		Title of position: <i>[insert Title of position / role in team]</i>
		Name of candidate: <i>[insert Name of Candidate]</i>
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart)]</i>

3.	Title of position: <i>[insert Title of position / role in team]</i>	
	Name of candidate: <i>[insert Name of Candidate]</i>	
	Duration of appointment:	<i>[insert the whole period (start and end dates) for which this position will be engaged]</i>
	Time commitment: for this position:	<i>[insert the number of days/week/months/ that has been scheduled for this position]</i>
	Expected time schedule for this position:	<i>[insert the expected time schedule for this position (e.g. attach high level Gantt chart]</i>

Unofficial Copy

Candidate Summary

To be completed by the Proposer and, if JV, by each member

Proposer’s Legal Name: *[insert Proposer’s Legal Name]*

Date: *[insert Date]*

JV Member Legal Name: *[insert JV Member Legal Name]*

RFP No.: *[insert RFP number]*

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Position; <i>[insert Title of Position]</i>		Prime <input type="checkbox"/> Alternate
Candidate information	Name of candidate <i>[insert Name Candidate]</i>	Date of birth <i>[insert Date of Birth]</i>
Professional qualifications <i>[describe Professional qualifications]</i>		
Present employment	Name of Employer <i>[insert Name of Present Employer]</i>	
Address of Employer <i>[insert Address of Present Employer]</i>		
Telephone <i>[insert Telephone of Contact]</i>		Contact (manager / personnel officer) <i>[insert Name]</i>
Fax <i>[insert fax of Contact]</i>		email <i>[insert email of Contact]</i>
Job title of candidate <i>[insert Job Title Candidate]</i>		Years with present Employer <i>[insert Number of years]</i>

Summarize professional experience over the last twenty years, in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From	To	Company/Project/ Position/Relevant technical and management experience
<i>[insert year]</i>	<i>[insert year]</i>	<i>[describe experience relevant to the proposed Contract under the RFP]</i>
<i>[insert year]</i>	<i>[insert year]</i>	<i>[describe experience relevant to the proposed Contract under the RFP]</i>
<i>[insert year]</i>	<i>[insert year]</i>	<i>[describe experience relevant to the proposed Contract under the RFP]</i>
<i>[insert year]</i>	<i>[insert year]</i>	<i>[describe experience relevant to the proposed Contract under the RFP]</i>

CODE OF CONDUCT FOR SUPPLIER’S PERSONNEL FORM

Note to the Purchaser:

The following minimum requirements shall not be modified. The Purchaser may add additional requirements to address identified issues, informed by relevant environmental and social assessment.

Delete this Box prior to issuance of the Request for Proposals document.

Note to the Proposer:

The minimum content of the Code of Conduct form as set out by the Purchaser shall not be substantially modified. However, the Proposer may add requirements as appropriate, including to take into account Contract-specific issues/risks.

The Proposer shall initial and submit the Code of Conduct form as part of its proposal.

CODE OF CONDUCT FOR SUPPLIER’S PERSONNEL

We are the Supplier, [*enter name of Supplier*]. We have signed a contract with [*enter name of Purchaser*] for [*enter description of the Information System*]. The Information System will be supplied to and installed at [*enter the Project Site/s*]. Our contract requires us to implement measures to address environmental and social risks.

This Code of Conduct identifies the behavior that we require from Supplier’s Personnel employed in the execution of the Contract at the Project Site/s.

Our workplace is an environment where unsafe, offensive, abusive or violent behavior will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

REQUIRED CONDUCT

Supplier’s Personnel employed in the execution of the Contract at the Project Site/s shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Supplier’s Personnel and any other person;
3. maintain a safe working environment including by:

- a. ensuring that workplaces, machinery, equipment and processes under each person’s control are safe and without risk to health;
 - b. wearing required personal protective equipment;
 - c. using appropriate measures relating to chemical, physical and biological substances and agents; and
 - d. following applicable emergency operating procedures.
4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
 5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
 6. not engage in any form of sexual harassment including unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature with other Supplier’s or Purchaser’s Personnel;
 7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;
 8. not engage in Sexual Abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;
 9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
 10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, and Sexual Exploitation and Abuse, and Sexual Harassment (SH);
 11. report violations of this Code of Conduct; and
 12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Purchaser, or who makes use of the grievance mechanism for Supplier’s Personnel or the project’s Grievance Redress Mechanism.

RAISING CONCERNS

If any person observes behavior that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in either of the following ways:

1. Contact [*enter name of the Supplier’s Social Expert with relevant experience in handling sexual exploitation, sexual abuse and sexual harassment cases, or if such person is not required under the Contract, another individual designated by the Supplier to handle these matters*] in writing at this address [] or by telephone at [] or in person at []; or
2. Call [] to reach the Supplier’s hotline (*if any*) and leave a message.

The person’s identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referrals to service providers that may help support the person who experienced the alleged incident, as appropriate.

There will be no retaliation against any person who raises a concern in good faith about any behavior prohibited by this Code of Conduct. Such retaliation would be a violation of this Code of Conduct.

CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

Any violation of this Code of Conduct by the Supplier’s Personnel may result in serious consequences, up to and including termination and possible referral to legal authorities.

FOR SUPPLIER’S PERSONNEL:

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact [*enter name of Supplier’s contact person(s) with relevant experience*] requesting an explanation.

Name of Supplier’s Personnel: [*insert name*]

Signature: _____

Date: (day month year): [*insert date*]

Countersignature of authorized representative of the Supplier:

Signature: _____

Date: (day month year): [*insert date*]

ATTACHMENT 1: Behaviors constituting SEA and behaviors constituting SH

ATTACHMENT 1 TO THE CODE OF CONDUCT FORM

BEHAVIORS CONSTITUTING SEXUAL EXPLOITATION AND ABUSE (SEA) AND BEHAVIORS CONSTITUTING SEXUAL HARASSMENT (SH)

The following non-exhaustive list is intended to illustrate types of prohibited behaviors.

(1) **Examples of sexual exploitation and abuse** include, but are not limited to:

- A Supplier's Personnel tells a member of the community that he/she can get them jobs related to the project site in exchange for sex.
- A Supplier's Personnel rapes, or otherwise sexually assaults a member of the community.
- A Supplier's Personnel denies a person access to the Project Site/s unless he/she performs a sexual favor.
- A Supplier's Personnel tells a person applying for employment under the Contract that he/she will only hire him/her if he/she has sex with him/her.

(2) **Examples of sexual harassment in a work context**

- A Supplier's Personnel comment on the appearance of another Supplier's Personnel (either positive or negative) and sexual desirability.
- When a Supplier's Personnel complains about comments made by another Supplier's Personnel on his/her appearance, the other Supplier's Personnel comment that he/she is "asking for it" because of how he/she dresses.
- Unwelcome touching of a Supplier's Personnel or Purchaser's Personnel by another Supplier's Personnel.
- A Supplier's Personnel tells another Supplier's Personnel that he/she will get him/her a salary raise, or promotion if he/she sends him/her naked photographs of himself/herself.

TECHNICAL CAPABILITIES

[Note: To be completed by the Proposer and, if JV, by each member]

Proposer's Legal Name: *[insert Proposer's Legal Name]*

Date: *[insert Date]*

JV Member Legal Name: *[insert JV Member Legal Name]*

RFP No.: *[insert RFP number]*

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The Proposer shall provide adequate information to demonstrate clearly that it has the technical capability to meet the requirements for the Information System. The Proposer should summarize important certifications, proprietary methodologies, and/or specialized technologies that the Proposer proposes to utilize in the execution of the Contract or Contracts.

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MANUFACTURER’S AUTHORIZATION

[Note: This authorization should be written on the letterhead of the Manufacturer and be signed by a person with the proper authority to sign documents that are binding on the Manufacturer.]

Invitation for Proposals Title and No.: *[Purchaser insert: **RFP Title and Number**]*

To: *[Purchaser insert: **Purchaser’s Officer to receive the Manufacture’s Authorization**]*

WHEREAS *[insert: **Name of Manufacturer**]* who are official producers of *[insert: **items of supply by Manufacturer**]* and having production facilities at *[insert: **address of Manufacturer**]* do hereby authorize *[insert: **name of Proposer or Joint Venture**]* located at *[insert: **address of Proposer or Joint Venture**]* (hereinafter, the “Proposer”) to submit a proposal and subsequently negotiate and sign a Contract with you for resale of the following Products produced by us:

We hereby confirm that, in case the request for proposals process results in a Contract between you and the Proposer, the above-listed products will come with our full standard warranty.

Name *[insert: **Name of Officer**]* in the capacity of *[insert: **Title of Officer**]*

Signed _____

Duly authorized to sign the authorization for and on behalf of: *[insert: **Name of Manufacturer**]*

Dated this *[insert: **ordinal**]* day of *[insert: **month**]*, *[insert: **year**]*.

[add Corporate Seal (where appropriate)]

SUBCONTRACTOR’S AGREEMENT

Note: This agreement should be written on the letterhead of the Subcontractor and be signed by a person with the proper authority to sign documents that are binding on the Subcontractor.

Invitation for Proposals Title and No.: *[Purchaser insert: **RFP Title and Number**]*

To: *[Purchaser insert: **Purchaser’s Officer to receive the Subcontractor’s Agreement**]*

WHEREAS *[insert: **Name of Subcontractor**]*, having head offices at *[insert: **address of Subcontractor**]*, have been informed by *[insert: **name of Proposer or Joint Venture**]* located at *[insert: **address of Proposer or Joint Venture**]* (hereinafter, the “Proposer”) that it will submit a proposal in which *[insert: **Name of Subcontractor**]* will provide *[insert: **items of supply or services provided by the Subcontractor**]*. We hereby commit to provide the above named items, in the instance that the Proposal is awarded the Contract.

Name *[insert: **Name of Officer**]* in the capacity of *[insert: **Title of Officer**]*

Signed _____

Duly authorized to sign the authorization for and on behalf of: *[insert: **Name of Subcontractor**]*

Dated this *[insert: **ordinal**]* day of *[insert: **month**]*, *[insert: **year**]*.

[add Corporate Seal (where appropriate)]

List of Proposed Subcontractors

	Item	Proposed Subcontractor	Place of Registration & Qualifications

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INTELLECTUAL PROPERTY FORMS

Notes to Proposers on working with the Intellectual Property Forms

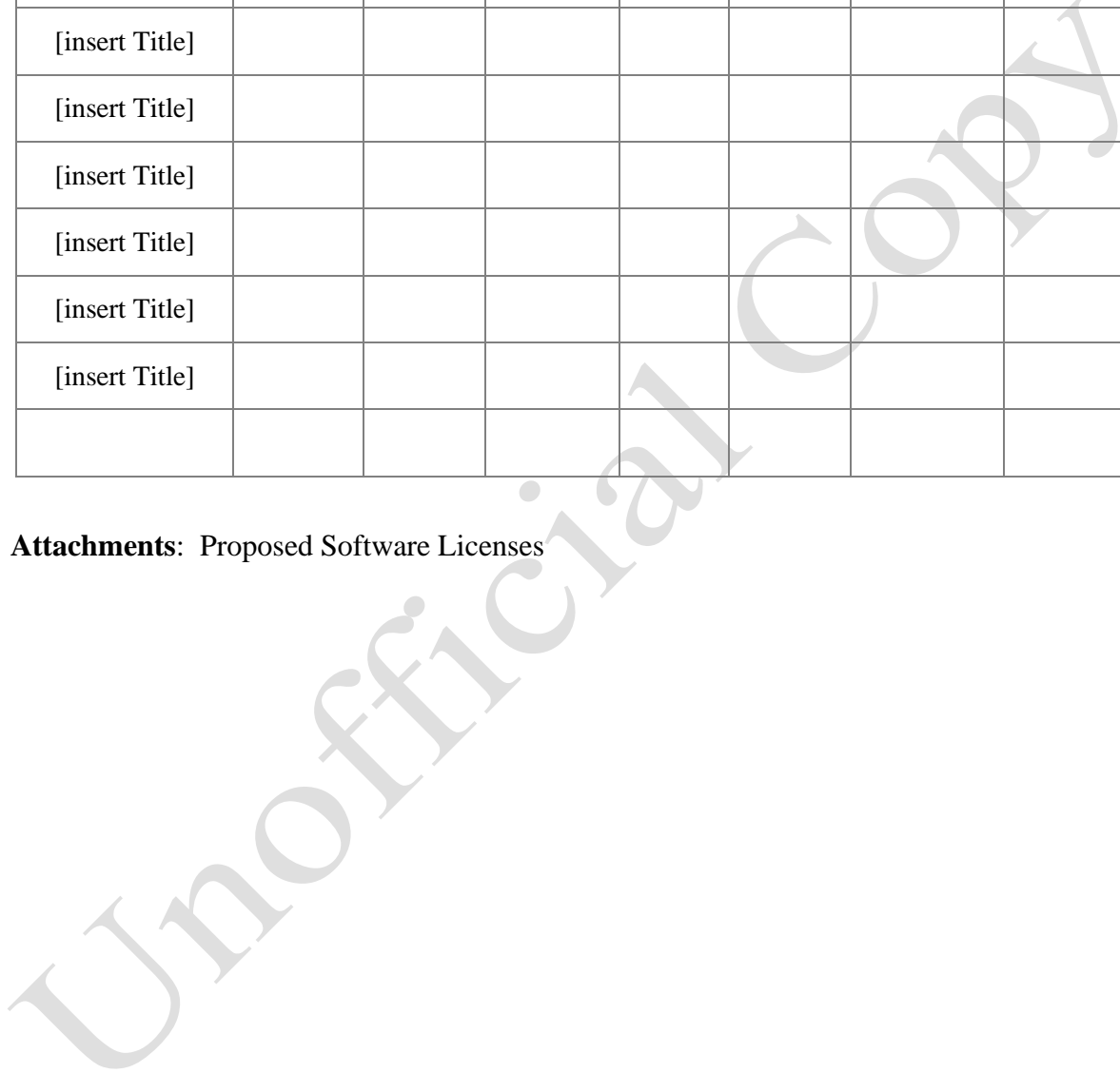
In accordance with ITP 11.1(j), Proposers must submit, as part of their proposals, lists of all the Software included in the proposal assigned to one of the following categories: (a) System, General-Purpose, or Application Software; (b) Standard or Custom Software; (c) Proprietary or Open Source. Proposers must also submit a list of all Custom Materials. These categorizations are needed to support the Intellectual Property in the GCC and SCC. The Proposer must also include the text of the software licenses for the software titles proposed.

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Software List

Title	(select one per title)			(select one per title)		(select one per title)	
	System	General-Purpose	Application	Standard	Custom	Proprietary	Open Source
[insert Title]							
[insert Title]							
[insert Title]							
[insert Title]							
[insert Title]							
[insert Title]							
[insert Title]							

Attachments: Proposed Software Licenses



List of Custom Materials

Custom Materials
<i>[insert Title and description]</i>
<i>[insert Title and description]</i>
<i>[insert Title and description]</i>
<i>[insert Title and description]</i>
<i>[insert Title and description]</i>

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CONFORMANCE OF INFORMATION SYSTEM MATERIALS

Format of the Technical Proposal

In accordance with ITP 16.2, the documentary evidence of conformity of the Information System to the request for proposals documents includes (but is not restricted to):

- (a). The Proposer's Preliminary Project Plan, including, but not restricted, to the topics specified in the PDS ITP 16.2. The Preliminary Project Plan should also state the Proposer's assessment of the major responsibilities of the Purchaser and any other involved third parties in System supply and installation, as well as the Proposer's proposed means for coordinating activities by each of the involved parties to avoid delays or interference.
- (b). A written confirmation by the Proposer that, if awarded the Contract, it shall accept responsibility for successful integration and interoperability of all the proposed Information Technologies included in the System, as further specified in the Technical Requirements.
- (c). Item-by-Item Commentary on the Technical Requirements demonstrating the substantial responsiveness of the overall design of the System and the individual Information Technologies, Goods, and Services offered to those Technical Requirements.

In demonstrating the responsiveness of its proposal, the Proposer must use the Technical Responsiveness Checklist (Format). Failure to do so increases significantly the risk that the Proposer's Technical Proposal will be declared technically non-responsive. Among other things, the checklist should contain explicit cross-references to the relevant pages in supporting materials included the Proposer's Technical Proposal.

Note: The Technical Requirements are voiced as requirements of the *Supplier* and/or the *System*. The Proposer's response must provide clear evidence for the evaluation team to assess the credibility of the response. A response of "yes" or "will do" is unlikely to convey the credibility of the response. The Proposer should indicate *that* – and to the greatest extent practical – *how* the Proposer would comply with the requirements if awarded the contract. Whenever the technical requirements relate to feature(s) of existing products (e.g., hardware or software), the features should be described and the relevant product literature referenced. When the technical requirements relate to professional services (e.g., analysis, configuration, integration, training, etc.) some effort should be expended to describe how they would be rendered – not just a commitment to perform the [cut-and-paste] requirement. Whenever a technical

requirement is for the Supplier to provide certifications (e.g., ISO 9001), copies of these certifications must be included in the Technical Proposal.

Note: As required in PDS 11.2 (j), include method statement, management strategies and implementation plans and innovations, to manage cyber security risks.

Note: The Manufacture’s Authorizations (and any Subcontractor Agreements) are to be included in Attachment 2 (Proposer Qualifications), in accordance with and ITP 15.

Note: As a matter of practice, the contract cannot be awarded to a Proposer whose Technical Proposal deviates (materially) from the Technical Requirements – *on any Technical Requirement*. Such deviations include omissions (e.g., non-responses) and responses that do not meet or exceed the requirement. Extreme care must be exercised in the preparation and presentation of the responses to all the Technical Requirements.

(d). Supporting materials to underpin the Item-by-item Commentary on the Technical Requirements (e.g., product literature, white-papers, narrative descriptions of technical approaches to be employed, etc.). In the interest of timely proposal evaluation and contract award, Proposers are encouraged not to overload the supporting materials with documents that do not directly address the Purchaser’s requirements.

(e). Any separate and enforceable contract(s) for Recurrent Cost items which the PDS ITP 17.2 required Proposers to propose.

Note: To facilitate proposal evaluation and contract award, Proposers encouraged to provide electronic copies of their Technical Proposal – preferably in a format that the evaluation team can extract text from to facilitate the proposal clarification process and to facilitate the preparation of the Proposal Evaluation Report.

Technical Responsiveness Checklist (Format)

Tech. Require. No. _	Technical Requirement: <i>[insert: abbreviated description of Requirement]</i>
Proposer’s technical reasons supporting compliance:	
Proposer’s cross references to supporting information in Technical Proposal:	

[Note to the Purchaser: The Technical Responsiveness tables submitted by each Proposer can help structure the Purchaser’s technical evaluation. In particular, the Purchaser can append rows to each of the Proposer’s submitted responsiveness tables to record the Purchaser’s assessment of the compliance, partial compliance, and non-compliance of the Proposer’s response to the specific Technical Requirement – including the Purchaser’s rationale for its conclusion (including, as appropriate, clear indications of the gaps in the Proposer’s response/supporting documentation). These assessments can provide a standardized presentation of the detailed underlying logic of the Purchaser’s final assessment of the responsiveness / non-responsiveness of the Proposer’s technical proposal. Typically, the detailed response/assessment tables would appear as an attachment to the Proposal Evaluation Report].

FORM OF PROPOSAL 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**]*

RFP No.: *[Purchaser to insert reference **number for the RFP**]*

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

Date: *[Insert **date of issue**]*

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

We have been informed that *[insert **name of the Proposer**, 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 the Beneficiary its proposal (hereinafter called “the Proposal”) for the execution of *[insert **Name of Contract**]* under Request for Proposals No. *[insert **number**]* (“the RFP”).

Furthermore, we understand that, according to the Beneficiary’s, Proposals must be supported by a Proposal 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**)]* 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 the demand, stating that either the Applicant:

- (a) has withdrawn its Proposal prior to the Proposal validity expiry date set forth in the Applicant’s Letter of Proposal, or any extended date provided by the Applicant; or
- (b) having been notified of the acceptance of its Proposal by the Beneficiary prior to the expiry date of the Proposal validity or any extension thereof provided by the Applicant has failed to: (i) execute the Contract Agreement, if required, or (ii) furnish the performance security, in accordance with the Instructions to Proposers (“ITP”) of the Beneficiary’s request for proposals document.

This guarantee will expire: (a) if the Applicant is the successful Proposer, 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 Proposer, upon the earlier of (i) our receipt of a copy of the Beneficiary’s

notification to the Applicant of the results of the request for proposals process; or (ii) twenty-eight days after the expiry date of the Proposal validity.

Consequently, any demand for payment under this guarantee must be received by us at the office 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)]

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FORM OF PROPOSAL SECURITY (PROPOSAL BOND) Not Applicable

BOND NO. *[insert number]*

BY THIS BOND *[insert Name]* as Principal (hereinafter called “the Principal”), and *[insert Name]*, **authorized to transact business in** *[insert Jurisdiction]*, as Surety (hereinafter called “the Surety”), are held and firmly bound unto *[insert Purchaser Name]* as Obligee (hereinafter called “the Purchaser”) in the sum of *[insert amount in figures]*¹ (*[insert amount in words]*), for the payment of which sum, well and truly to be made, we, the said Principal and Surety, bind ourselves, our successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Principal has submitted or will submit a written Proposal to the Purchaser dated the *[insert ordinal number]* day of *[insert month]* *[insert year]*, for *[insert name of Contract]* (hereinafter called the “Proposal”).

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION is such that if the Principal:

- (a) withdraws its Proposal prior to the Proposal validity expiry date set forth in the Principal’s Letter of Proposal, or any extended date provided by the Principal; or
- (b) having been notified of the acceptance of its Proposal by the Purchaser prior to the expiry date of the Proposal validity or any extension thereto provided by the Applicant has failed to; (i) execute the Contract Agreement, or (ii) furnish the Performance Security in accordance with the Instructions to Proposers (“ITP”) of the Purchaser’s request for proposals document.

then the Surety undertakes to immediately pay to the Purchaser up to the above amount upon receipt of the Purchaser’s first written demand, without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser shall state that the demand arises from the occurrence of any of the above events, specifying which event(s) has occurred.

The Surety hereby agrees that its obligation will remain in full force and effect up to and including the date 28 days after the date of expiry of the Proposal validity set forth in the Principal’s Letter of Proposal or extended thereto provided by the Principal.

IN TESTIMONY WHEREOF, the Principal and the Surety have caused these presents to be executed in their respective names this *[insert number]* day of *[insert month]* *[insert year]*.

Principal: _____

Surety: _____

Corporate Seal (where appropriate)

(Signature)

(Signature)

¹ The amount of the Bond shall be denominated in the currency of the Purchaser’s Country or the equivalent amount in a freely convertible currency.

(Printed name and title)

(Printed name and title)

Unofficial Copy

FORM OF PROPOSAL-SECURING DECLARATION

Not Applicable

[The Proposer shall fill in this Form in accordance with the instructions indicated.]

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

Proposal No.: *[insert **number of request for proposals process**]*

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

To: *[insert **complete name of Purchaser**]*

We, the undersigned, declare that:

We understand that, according to your conditions, Proposals must be supported by a Proposal-Securing Declaration.

We accept that we will automatically be suspended from being eligible for bidding or submitting proposals in any contract with the Purchaser for the period of time specified in Section II – Proposal Data Sheet, if we are in breach of our obligation(s) under the proposal conditions, because we:

- (a) have withdrawn our Proposal prior to the expiry date of the Proposal validity specified in the Letter of Proposal or any extended date provided by us; or
- (b) having been notified of the acceptance of our Proposal by the Purchaser prior to the expiry date of the Proposal validity in the Letter of Proposal or any extended date provided by us, (i) fail to sign the Contract agreement; or (ii) fail or refuse to furnish the Performance Security, if required, in accordance with the ITP.

We understand this Proposal-Securing Declaration shall expire if we are not the successful Proposer, upon the earlier of (i) our receipt of your notification to us of the name of the successful Proposer; or (ii) twenty-eight days after the expiry date of the Proposal validity.

Name of the Proposer* *[insert **Name of Proposer**]*

Name of the person duly authorized to sign the Proposal on behalf of the Proposer***[insert **Name of authorized person**]*

Title of the person signing the Proposal*[insert **Title of authorized person**]*

Signature of the person named above _____

Date signed *[insert **ordinal number**]* day of *[insert **month**]* , *[insert **year**]*

*: In the case of the Proposal submitted by joint venture specify the name of the Joint Venture as Proposer

**.: Person signing the Proposal shall have the power of attorney given by the Proposer attached to the Proposal

[Note: In case of a Joint Venture, the Proposal-Securing Declaration must be in the name of all members to the Joint Venture that submits the Proposal.]

Letter of Proposal - Financial Part

INSTRUCTIONS TO PROPOSERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE DOCUMENT

The Proposer must prepare this Letter of Proposal on stationery with its letterhead clearly showing the Proposer's complete name and business address.

Note: *All italicized text is to help Proposers in preparing this form.*

Date of this Proposal submission: *[insert date (as day, month and year) of Proposal submission]*

Request for Proposal No.: *[insert identification]*

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

To: *[insert complete name of Purchaser]*

We, the undersigned, hereby submit the second part of our Proposal, the Proposal Price and Priced Activity Schedule. This accompanies the Letter of Proposal- Technical Part.

In submitting our Proposal, we make the following additional declarations:

- (a) **Proposal Validity:** Our Proposal shall be valid until *[insert day, month and year in accordance with ITP 19.1]*, and it shall remain binding upon us and may be accepted at any time on or before this date;
- (b) **Total Price:** The total price of our Proposal, excluding any discounts offered in item (c) below is: *[Insert one of the options below as appropriate]*

[Option 1, in case of one lot:] Total price is: [insert the total price of the Proposal in words and figures, indicating the various amounts and the respective currencies];

Or

*[Option 2, in case of multiple lots:] (a) Total price of each lot *[insert the total price of each lot in words and figures, indicating the various amounts and the respective currencies]*; and (b) 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]*;*

(c) **Discounts:** 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];*

(d) **Commissions, gratuities and fees:** We have paid, or will pay the following commissions, gratuities, or fees with respect to the procurement 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.”)

Name of the Proposer: **[insert complete name of the Proposer]*

Name of the person duly authorized to sign the Proposal on behalf of the Proposer: *** [insert complete name of person duly authorized to sign the Proposal]*

Title of the person signing the Proposal: *[insert complete title of the person signing the Proposal]*

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 Proposal submitted by a Joint Venture specify the name of the Joint Venture as Proposer.

** : Person signing the Proposal shall have the power of attorney given by the Proposer. The power of attorney shall be attached with the Proposal Schedules

PRICE SCHEDULE FORMS

Notes to Proposers on working with the Price Schedules

General

1. The Price Schedules are divided into separate Schedules as follows:
 - 3.1 Grand Summary Cost Table
 - 3.2 Supply and Installation Cost Summary Table
 - 3.3 Recurrent Cost Summary Table
 - 3.4 Supply and Installation Cost Sub-Table(s)
 - 3.5 Recurrent Cost Sub-Tables(s)
 - 3.6 Country of Origin Code Table

[insert: any other Schedules as appropriate]
2. The Schedules do not generally give a full description of the information technologies to be supplied, installed, and operationally accepted, or the Services to be performed under each item. However, it is assumed that Proposers shall have read the Technical Requirements and other sections of these request for proposals documents to ascertain the full scope of the requirements associated with each item prior to filling in the rates and prices. The quoted rates and prices shall be deemed to cover the full scope of these Technical Requirements, as well as overhead and profit.
3. If Proposers are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with the Instructions to Proposers in the request for proposals documents prior to submitting their proposal.

Pricing

4. Prices shall be filled in indelible ink, and any alterations necessary due to errors, etc., shall be initialed by the Proposer. As specified in the Proposal Data Sheet, prices shall be fixed and firm for the duration of the Contract.
5. Proposal prices shall be quoted in the manner indicated and in the currencies specified in ITP 18.1 and ITP 18.2. Prices must correspond to items of the scope and quality defined in the Technical Requirements or elsewhere in these request for proposals documents.
6. The Proposer must exercise great care in preparing its calculations, since there is no opportunity to correct errors once the deadline for submission of proposals has passed. A single error in specifying a unit price can therefore change a Proposer's overall total proposal price substantially, make the proposal noncompetitive, or subject the Proposer to possible loss. The Purchaser will correct any arithmetic error in accordance with the provisions of ITP 32.
7. Payments will be made to the Supplier in the currency or currencies indicated under each respective item. As specified in ITP 18.2, no more than three foreign currencies may be used.

3.1 Grand Summary Cost Table

		<i>[insert: Local Currency] Price</i>	<i>[insert: Foreign Currency A] Price</i>	<i>[insert: Foreign Currency B] Price</i>	<i>[insert: Foreign Currency C] Price</i>
1.	Supply and Installation Costs (from Supply and Installation Cost Summary Table)				
2.	Recurrent Costs (from Recurrent Cost Summary Table)				
3.	Grand Totals (to Proposal Submission Form)				

Name of Proposer:		
Authorized Signature of Proposer:		

3.2 Supply and Installation Cost Summary Table

Costs MUST reflect prices and rates quoted in accordance with ITP 17 and 18.

Line Item No.	Subsystem / Item	Supply and Installation Cost Sub-Table No.	Supply & Installation Prices				
			Locally supplied items	Items supplied from outside the Purchaser's Country			
			[insert: Local Currency] Price	[insert: Local Currency] Price	[insert: Foreign Currency A] Price	[insert: Foreign Currency B] Price	[insert: Foreign Currency C] Price
0	Project Plan	--	--	--	--	--	--
1	Subsystem 1	1					
SUBTOTALS							
TOTAL (To Grand Summary Table)							

Note: -- indicates not applicable. -- Indicates repetition of table entry above. Refer to the relevant Supply and Installation Cost Sub-Table for the specific components that constitute each Subsystem or line item in this summary table

Name of Proposer:	
Authorized Signature of Proposer:	

3.3 Recurrent Cost Summary Table - Not Applicable

Costs MUST reflect prices and rates quoted in accordance with ITP 17 and ITP 18.

Line Item No.	Subsystem / Item	Recurrent Cost Sub-Table No.	<i>[insert: Local Currency] Price</i>	<i>[insert: Foreign Currency A] Price</i>	<i>[insert: Foreign Currency B] Price</i>	<i>[insert: Foreign Currency C] Price</i>
y	Recurrent Cost Items					
y.1	_____	y.1				
	Subtotals (to Grand Summary Table)					

Note: Refer to the relevant Recurrent Cost Sub-Tables for the specific components that constitute the Subsystem or line item in this summary table.

Name of Proposer:	
Authorized Signature of Proposer:	

3.4 Supply and Installation Cost Sub-Table [*insert: identifying number*]

Line item number: [*specify: relevant line item number from the Supply and Installation Cost Summary Table (e.g., 1.1)*]

Prices, rates, and subtotals MUST be quoted in accordance with ITP 17 and ITP 18.

				Unit Prices / Rates					Total Prices				
				Supplied Locally	Supplied from outside the Purchaser's Country			Supplied Locally	Supplied from outside the Purchaser's Country				
Component No.	Component Description	Country of Origin Code	Quantity	[insert: local currency]	[insert: local currency]	[insert: foreign currency A]	[insert: foreign currency B]	[insert: foreign currency C]	[insert: local currency]	[insert: local currency]	[insert: foreign currency A]	[insert: foreign currency B]	[insert: foreign currency C]
X.1	_____	--	--	--	--	--	--	--					
Subtotals (to [insert: line item] of Supply and Installation Cost Summary Table)													

Note: -- indicates not applicable.

Name of Proposer:	
Authorized Signature of Proposer:	

3.5 Recurrent Cost Sub-Table – Not Applicable *[insert: identifying number] -- Warranty Period*

Lot number: *[if a multi-lot procurement, insert: lot number, otherwise state “single lot procurement”]*

Line item number: *[specify: relevant line item number from the Recurrent Cost Summary Table – (e.g., y.1)]*

Currency: *[specify: the currency of the Recurrent Costs in which the costs expressed in this Sub-Table are expressed]*

[As necessary for operation of the System, specify: the detailed components and quantities in the Sub-Table below for the line item specified above, modifying the sample components and sample table entries as needed. Repeat the Sub-Table as needed to cover each and every line item in the Recurrent Cost Summary Table that requires elaboration.]

Costs MUST reflect prices and rates quoted in accordance with ITP 17 and ITP 18.

Component No.	Component	Maximum all-inclusive costs (for costs in <i>[insert: currency]</i>)						Sub-total for <i>[insert: currency]</i>
		Y1	Y2	Y3	Y4	...	Yn	
1.	Hardware Maintenance	Incl. in Warranty	Incl. in Warranty	Incl. in Warranty				
2.	Software Licenses & Updates	Incl. in Warranty						
2.1	System and General-Purpose Software	Incl. in Warranty						
2.2	Application, Standard and Custom Software	Incl. in Warranty						

Component No.	Component	Maximum all-inclusive costs (for costs in [insert: <i>currency</i>])						Sub-total for [insert: <i>currency</i>]
		Y1	Y2	Y3	Y4	...	Yn	
3.	Technical Services							
3.1	Sr. Systems Analyst							
3.2	Sr. Programmer							
3.3	Sr. Network Specialist, etc.							
4.	Telecommunications costs [to be detailed]							
5.	[Identify other recurrent costs as may apply]							
	Annual Subtotals:							--
Cumulative Subtotal (to [insert: <i>currency</i>] entry for [insert: <i>line item</i>] in the Recurrent Cost Summary Table)								

Name of Proposer:	
Authorized Signature of Proposer:	

SECTION V - ELIGIBLE COUNTRIES

Eligibility for the Provision of Information System

In reference to ITP 4.8 and ITP 5.1, for the information of the Proposers, at the present time firms and information systems from the following countries are excluded from this procurement process:

Under ITP 4.8(a) and ITP 5.1: *Israel.*

Under ITP 4.8(b) and ITP 5.1: *None.*

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SECTION VI - FRAUD AND CORRUPTION

(Section VI shall not be modified)

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, 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;
- ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
- 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;
- 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;

v. "obstructive practice" is:

- (a) 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
- (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.

b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, 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. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring mis procurement, if the Bank 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 process, selection and/or execution 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. Pursuant to the Bank's Anti-Corruption Guidelines, and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents, personnel, permit the Bank to inspect³ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

¹ For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has 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.

³ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

PART 2 – PURCHASER’S REQUIREMENTS

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**SECTION VII - REQUIREMENTS OF THE INFORMATION
SYSTEM**

**(INCLUDING TECHNICAL REQUIREMENTS, IMPLEMENTATION SCHEDULE,
SYSTEM INVENTORY TABLES, BACKGROUND AND INFORMATIONAL
MATERIALS)**

Technical Requirements

Table of Contents: Technical Requirements

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A. ACRONYMS USED IN THE TECHNICAL REQUIREMENTS

0.1 Acronym Table

Term	Explanation
bps	bits per second
cps	characters per second
DBMS	Database Management System
DOS	Disk Operating System
dpi	dots per inch
Ethernet	IEEE 802.3 Standard LAN protocol
GB	gigabyte
Hz	Hertz (cycles per second)
IEEE	Institute of Electrical and Electronics Engineers
ISO	International Standards Organization
KB	kilobyte
LAN	Local area network
lpi	lines per inch
lpm	lines per minute
MB	megabyte
MTBF	Mean time between failures
NIC	Network interface card
NOS	Network operating system
ODBC	Open Database Connectivity
OLE	Object Linking and Embedding
OS	Operating system
PCL	Printer Command Language
ppm	pages per minute
PS	PostScript -- Adobe page description language

	Term	Explanation
	RAID	Redundant array of inexpensive disks
	RAM	Random access memory
	RISC	Reduced instruction-set computer
	SCSI	Small Computer System Interface
	SNMP	Simple Network Management Protocol
	SQL	Structured Query Language
	TCP/IP	Transmission Control Protocol / Internet Protocol
	V	Volt
	WLAN	Wireless LAN
	DR	Disaster Recovery
	DRII	Disaster Recovery Institute International
	CBCP	Certified Business Continuity Professional.

B. FUNCTIONAL, ARCHITECTURAL AND PERFORMANCE REQUIREMENTS

1. Legal and Regulatory Requirements to be met for IT hardware, software and related services of BCC DR Cloud

1.1 The Information System MUST comply with the following laws and regulations:

1.1.1 Acts/Rules/Regulations:

- ICT (Revised) Act 2013
- Cyber Security Act 2023
- Digital Security Rules 2020

1.1.2 Policies, Guidelines, and Standards:

- Government of Bangladesh Information Security Manual 2016
- Information Security Policy Guideline 2014
- ISO/IEC 27001:2022
- ISO/IEC 27017:2015
- Uptime institute data center (Tier III) standard

1.2 Business Function Requirements to be met by the Information System

The DR Facility and the Cloud Computing Platform MUST support the following business functions:

- 1) Under the Smart Bangladesh initiative, it is envisioned to "make all Government services accessible to the citizen in his locality, through common service delivery outlets and ensure efficiency, transparency & reliability of such services at affordable costs to realize the basic needs of the citizen".

In order to make this vision a reality, the Government of Bangladesh (GoB) recognized the potential of Information and Communication Technology (ICT) for rapid and all-round development in general and transforming governance in particular. Initially there were islands of ICT initiatives at the Country, District, Upazilla, Union and even Village level. The learnings by way of both the challenges and opportunities faced during the development and implementation of such initiatives contributed to refining the overall e-Governance strategy. One of the key learning's that emerged was an urgent need to develop the core and other supporting infrastructure for sustaining e-Governance initiatives across the country.

- 2) The National e-Governance Plan has identified multiple mission mode projects along with various e-Governance initiatives at the Country level to provide increased number of services electronically. Several Data Centers implemented to provide common IT infrastructure to host these planned e-Governance initiatives / applications. These Data Centers are one of the three infrastructure pillars structured

by the National e-Governance Plan to facilitate web-enabled Anytime, anywhere access. Data Centers are conceptualized with the objective of providing a common enabling infrastructure to the country to cater to its e-Governance applications hosting requirements of the entire government and its departments. National Data Center operated by Bangladesh Computer Council has been identified as one of the core infrastructure components to consolidate services, applications and infrastructure to provide efficient electronic delivery of G2G, G2C and G2B services. It will enable various departments to host their services/applications on a common infrastructure leading to ease of integration and efficient management, ensuring that computing resources and the support connectivity infrastructure is adequately and optimally used.

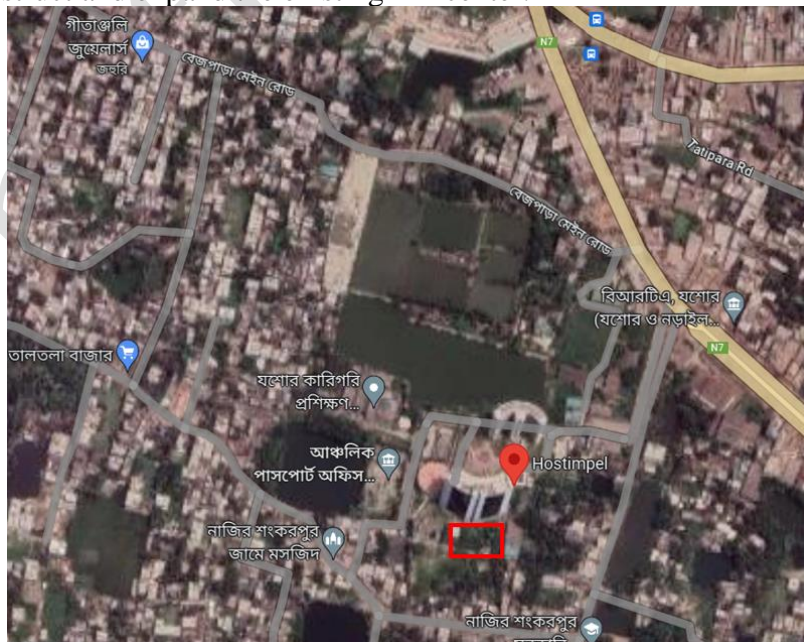
- 3) Bangladesh is undergoing a significant digital transformation, evolving from a simple service provider to a facilitator of inclusive services, as part of its vision for Smart Bangladesh 2041. This shift includes the digital simplification and decentralization of public services, achieving substantial savings in time, money, and effort for its citizens. Central to this transformation is the development of a Digital Public Infrastructure (DPI) that is tailored to Bangladesh's unique context, drawing on global examples like India Stack and Estonia's X-Road. This approach has led to the creation of a blended physical and digital infrastructure, uniquely suited to meet the nation's needs and empowering citizens in the digital age.
- 4) The National Data Center (NDC), established at Bangladesh Computer Council (BCC) to provide better operations and management control; minimize overall cost of Data Management, IT Management and Deployment through use of common infrastructure.
- 5) The government cloud of BCC has been widely used in Bangladesh government affairs. The Cloud platforms of BCC has become the key infrastructure for Bangladesh government basic IT services. BCC Cloud service has unique advantages, such as lower overhead, less energy consumption, flexible workloads, pay-per-use services, and higher system availability and scalability. However, government users are concerned about cloud security while enjoying these benefits. It is critical to enhance the confidentiality, integrity, and availability of user data and resources. It is critical to enhance the government cloud platform of BCC to handle security risks and threats, providing secure and reliable cloud data center solutions to users as well.
- 6) With cloud native technologies becoming increasingly mature, the IT digital transformation strategy of government is changing and upgrading from "Cloud First" to "Cloud Native First". Cloud native has become a new motivation for government architecture upgrade. Containers, as an emerging IT infrastructure, have been widely recognized by various industries. Kubernetes, as a container scheduling platform, has become the cornerstone and OS of cloud native technologies. Cloud native hybrid cloud based on Kubernetes and Docker, a container-centric solution has three highlights: redefining the infrastructure, re-enabling ubiquitous applications, and refactoring application architecture. It provides with highly cost-effective, non-intrusive service governance and stateful/AI/big data application ecosystem for upgrading the cloud-native application ecosystem.

- 7) Bangladesh Computer Council (BCC) is providing numerous IT/ITES services to different government organization of Bangladesh. One of the key services provided by BCC is Data Center facility service from its National Data Center (NDC). Initially NDC has started providing services like Colocation Service, Web and Application Hosting Service, Virtual Private Server (VPS) service, Email Service, Database Service, DNS Service from its Tier-III standard data center facility from 2010. With the advent of data center technology, NDC has implemented government cloud facility in 2019 under the World Bank assisted Leveraging ICT for Growth, Governance and Economy (LICT) project of BCC and subsequently enhanced to meet the growing demand. It has been observed that after introducing government cloud facility in BCC, government organization are migrating to the cloud services to host their applications to ensure high scalability and reliability along with economic benefits.

The government cloud of BCC is entirely a private cloud facility only for the use of government organizations. The current usage of the cloud facility developed in NDC DR reached to threshold in terms of both computing and storage resources. To cater more government organization in the cloud infrastructure it is required to enhance the DR cloud infrastructure capacity for infrastructure as a service (IaaS) requirement.

The usage of current Disaster Recovery (DR) platform system has reached more than threshold and unable to provide any new services as per requirements whereas new services requirements are growing very rapidly. So, to ensure the required service facility, it is an urgent necessity to expand the Disaster Recovery (DR) as soon as possible.

- 8) The project is located in Software Technology Park, Jashore, Bangladesh, with the coordinates of 23.156275210272007, 89.22246834914694. Currently, three containers are deployed in the original plot as the existing DR center. BCC wants to reconstruct and expand the existing DR center.



Site Location: Software Technology Park, Jashore, Bangladesh

Coordinate: 23.156275210272007, 89.22246834914694

Altitude: 9m



9) The DR Facility should have the following business requirement plan-

The solution requirement:

Load	46 servers Racks @ 12kW/R, 4 network Racks @ 12kW/R
High reliability and availability	Uptime Tier III
Fast TTM	Short time to market
Easy O&M	All the equipment will be smart equipment and can be monitored by the central facility monitoring system

The solution plan expandability capabilities as below:

Load	Up to 150 Racks @ 12kW/R capability.
High reliability and availability	Uptime Tier III
Fast TTM	Short time to market
Easy O&M	All the equipment will be smart equipment and can be monitored by the central facility monitoring system

1.3 Characteristics of DR Facility

Following are the important characteristics of a well-managed DR Facility:

- a) On-demand self-service

- b) Broad network access
- c) Resource pooling
- d) Rapid elasticity
- e) Measured service
- f) High performance
- g) Open architecture
- h) Comprehensive DR solutions and Full-stack automatic DR switchover
- i) Security Architecture to Provide E2E Business Protection
- j) An On-Premises Intelligent DR Facility Management Platform

1.4 Requirements of the DR Facility

The Solution MUST be supplied and configured for implementation of the following architecture based on the existing DR infrastructure.

1.4.1 Disaster Recovery (DR) Data Center General Requirements

The proposed DR data center must meet the following general requirements:

Item	Description
Standard	Uptime TIER III
DC	Steel Structure Data center.
Power system redundancy	2N or N+1 (LV Panels, UPS with Batteries, diesel generator)
IT Capacity	IT Loading around 600 kVA phase 1
UPS configuration	2N Architecture for IT Load, 400 kVA*4 Pcs of Online modular UPS;
Battery	30 minutes backup time for IT load.
Cooling Mode	Air-cooled in-row precision air conditioners for Data Hall. Air-cooled in-room up flow precision air conditioners for power room.
Rack Power Density Total ICT load	Servers: 12 kW/R & Network 12 kW/R for Data hall
Aisle containment	Hot aisle
Safety & Security	Access control, CCTV, Temperature and humidity detection, Water leak detection, Fire alarm detection & Suppression system.

1.4.2 IT Infrastructure and Facility of Disaster Recovery Center

- The project is designed for first floor with 2 aisle containments. Every aisle containment set 23 sever racks & 2 network racks.

- The key parameters required for the BCC NDC DR Project base its proposal is as below:
- IT Power Density: 46 servers Racks @ 12kW/R, 4 network Racks @ 12kW/R
- Comply Uptime TIER III Design.
- CCTV & Access control system for inside DC as well as DR Campus Area
- UPS system for Racks and cooling system keeps systems running for 30 Min.

Technical Features

- Validate, Plan and Design all space requirements for the technical areas associated with the Data Center. This includes but is not limited to the following:
- Computer equipment area (Rack Space)
- DR Operations area
- MMR area
- Data Hall
- Environmental systems
- Technical support areas outside of the Data Hall
- Facility area (i.e. Generators and fuel storage tank)

1.4.3 Reliability

In the design of the DR Center, the resistance capability to natural disasters, such as the capability of resisting earthquake, flood, sandstorm exposure, and corrosion and so on.

1.4.4 Manageability

The DR Center must be properly deployed for easy and scientific management of its subsystem

1.4.5 Design Standard

The solution must comply with the data center construction and design standards and codes as follows:

Design Standards Compliance	
Code No.	Name
SYSTEM	
TIA942-2017	Telecommunications Infrastructure Standard for Data Centers
ELECTRICAL	
IEC61439-1	Low-voltage switchgear and control gear assemblies
IEC 62271-1	High-voltage switchgear and control gear - Part 1: Common specifications for alternating current switchgear and control gear
IEC62040-1	Uninterruptible power systems (UPS) alternating current switchgear and mint of its subsystem
IEC62040-2	Uninterruptible power systems (UPS) alternating current switchgear and mint of its subsystem.
IEC62040-3	Uninterruptible power systems (UPS) - Part 3: Method of specifying the performance and test requirements

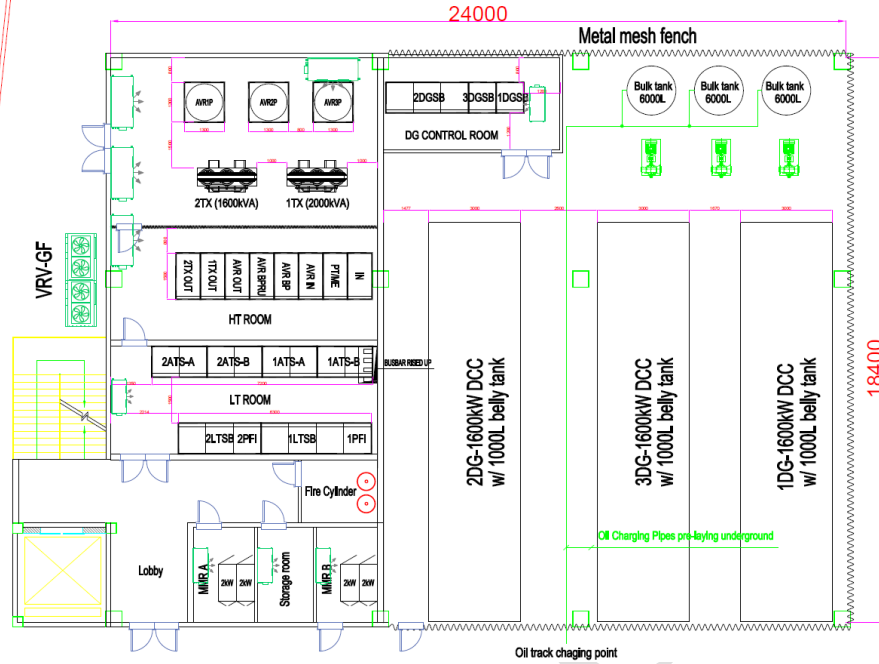
Mechanical	
ASHRAE TC9.9	Data Center Power Equipment Thermal Guidelines and Best Practices
ASHRAE Standard 90.1-2010	Energy Standard for Buildings Except Low-Rise Residential Buildings
structure	
ICC IBC-2009	INTERNATIONAL BUILDING CODE
ASCE 7-10	MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES
BS EN1363-1: 2012	Fire-resistance tests - Part 1: General requirements
GR-63-CORE	NEBS Requirements: Physical Protection
Lightning and grounding	
IEC 61024-1	Protection of structures against lightning
IEC 61312-1	Protection Against Lightning Electromagnetic Impulse Part I: General Principles
IEC 61000-4-5	Electromagnetic compatibility (EMC) - Part 4: Testing and measurement techniques - Section 5: Surge immunity test
IEC 62305	Protection against lightning
Fire Extinguishing System	
NFPA2001	Standard on Clean Agent Fire Extinguishing Systems
NFPA75	Standard for the protection of information technology equipment
NFPA 72	National Fire Alarm and Signaling Code
NFPA101	Life Safety Code
BS EN 15004	Fixed firefighting systems. Gas extinguishing systems

1.4.6 DR Center Design Plan

The whole building is three floors and is a traditional reinforced concrete structure. The ground floor is the power floor, which is mainly equipped with diesel generators, transformers, HT power distribution equipment, HT AVR, LT power distribution equipment, and MMR. The first floor is a data center, UPS, batteries, and low-voltage power distribution equipment. The roof layer is provided with an air conditioning outdoor unit.

1.4.6.1 Ground Floor Design

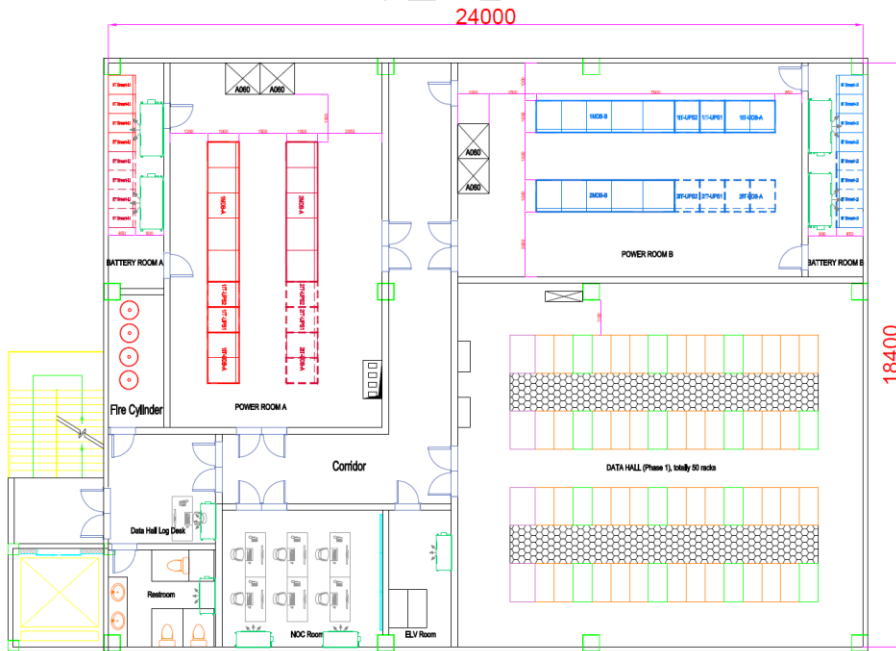
The ground floor is equipped with the diesel generator, oil tank, HT panels, transformers, MMR, and storage room. The plane layout is as follows



(For reference only)

1.4.6.2 First floor design

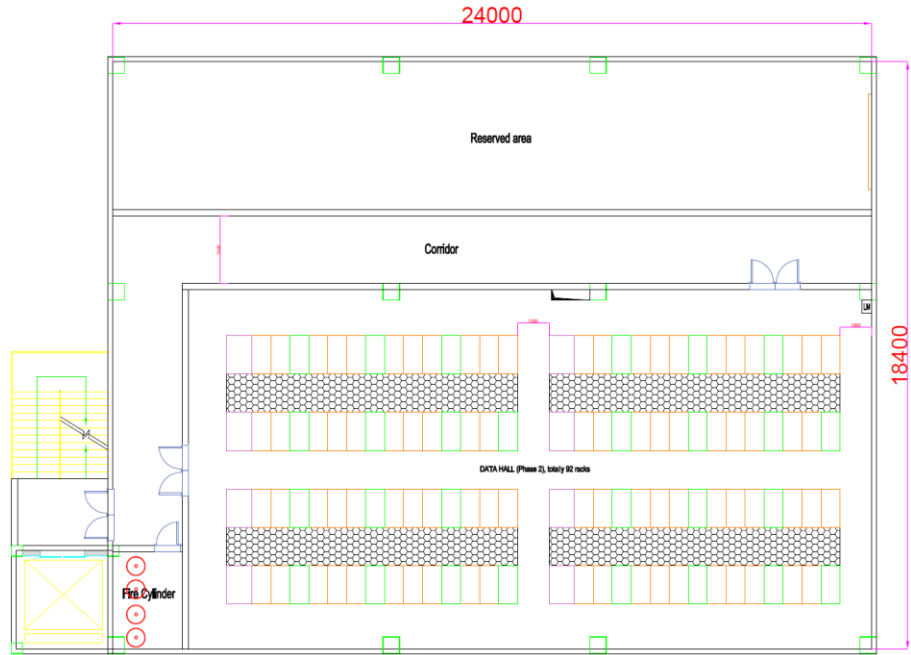
The first floor is equipped with the data hall 1, Power rooms, battery rooms, gas cylinder room, NOC room, etc.



(For reference only)

1.4.6.3 The second-floor design

The second floor is the data hall 2 (DR center future expansion).



(For reference only)

1.4.7 Electrical Solution Design Plan

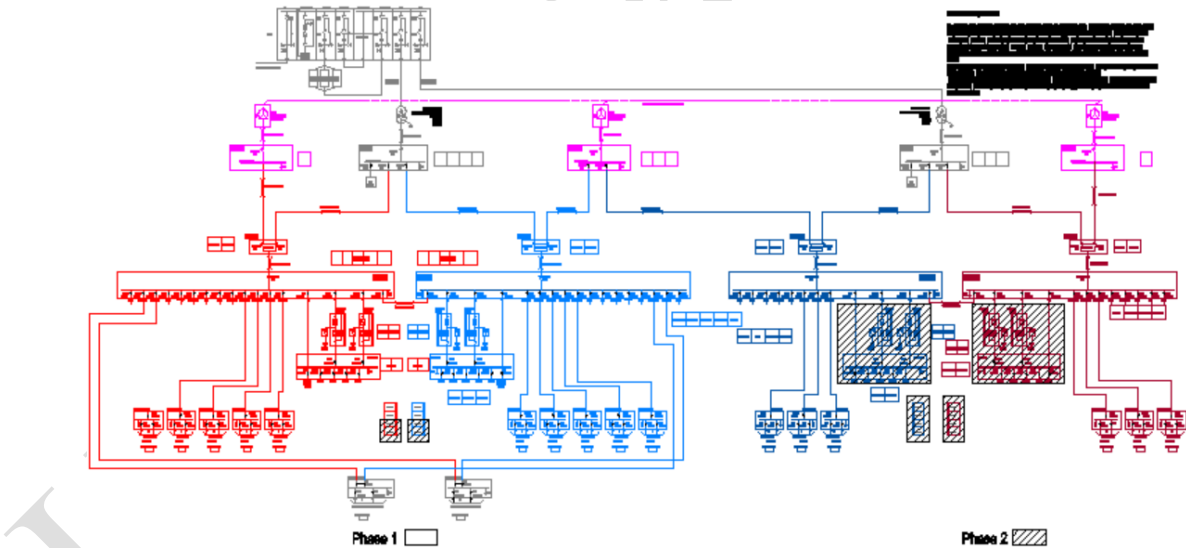
Based on the requirements as stated in the Requirements of the DR Facility, power supply and distribution system supply power to IT equipment, power equipment, cooling equipment, monitoring equipment, and fire extinguishing equipment.

Load calculation							
Loading Categories	Equipment	Rated Power (kW)	Need Factor	Power Factor	Loads Requirements		
					P	Q	S
					(kW)	(kvar)	(kVA)
IT Load	IT Loads	1704.0	1.00	0.95	1704.0	560.1	1793.7
	MMR A	4.0	1.00	0.95	4.0	1.3	4.2
	MMR B	4.0	1.00	0.95	4.0	1.3	4.2
	IT Charging Power	102.7	1.00	1.00	102.7	0.0	102.7
	IT UPS Loss	68.5	1.00	1.00	68.5	0.0	68.5
HVAC	In-row AC	668.0	1.00	0.90	668.0	323.5	742.2
	Power Room PAC	33.3	1.00	0.90	33.3	16.1	37.0
	Function Room VRV	52.0	1.00	0.80	52.0	39.0	65.0
Other	ELV loads	15.0	1.00	0.90	15.0	7.3	16.7
	Lighting & Socket	26.5	1.00	0.80	26.5	19.9	33.2

	Firefighting	2.0	1.00	0.80	2.0	1.5	2.5	
	Lift	15.0	1.00	0.80	15.0	11.3	18.8	
	Other loads	30.0	1.00	0.80	30.0	22.5	37.5	
Total loss of LV system								
Total load								
Reactive compensation								
Capacity after compensation					0.96	2779.5	823.8	2899.0
Simultaneity factor					1.00	2779.5	823.8	2899.0
T&G Final selection	Transformer Type (kVA)					3600.0		
	Generator Type DCP(kW)					3200.0		
	Transformer Actual Load Rate					81%		
	Generator Actual Load Rate					87%		

(For reference only)

1.4.8 Single Line Diagram of power



(For reference only)

In this solution, two power supplies are used, one mains power pass by suitable transformer and D.G power with N+1 redundancy mode. which will be transferred automatically through ATS switches to power IT loads.

- Power prefabricated modules has dual-line 380V AC input, dual-line power Distribution switching through the electrically interlocked auto change over system to

feed Equipment prefabricated modular UPS need to provide power to AC equipment while the mains are power off.

- The power supply and distribution system supply power to IT equipment, power equipment, and HVAC system.
- Power modules are connected to data hall modules, battery rooms and MMR through cables in civil corridor.
- It can meet the power supply and distribution requirements of various data centers. It can also be flexibly configured based on the actual conditions and requirements of customers to meet the corresponding tier level.
- Each power routing insists of main PDB, UPS, UPS output panel, Li-battery, and smart busway.
- The battery system uses intelligent lithium batteries. Compared with lead-acid batteries, lithium batteries have more cycles, longer service life, and better discharge capability in short-term backup power scenarios.
- The lithium battery cabinet provides backup power, battery management, and intelligent current management functions. When multiple battery strings are connected in parallel, the lithium battery cabinet balances the output of each battery string to achieve reliable protection.
- A maximum of eight lithium battery cabinets can be connected in parallel. Each lithium battery cabinet consists of 16 battery modules, which are divided into two parallel strings. Eight battery modules are connected in series in each string. The battery modules occupy the entire cabinet. Alternatively, the battery cabinet can consist of eight battery modules in one string. The battery modules occupy half of the entire cabinet.

1.4.9 LV Switchgear

LV Switchgears will be deployed in the LV room and each FDC power room.

- Each board shall be floor-standing.
- Cabinets are to be segregated using metallic sheets.
- Panels to have rear or front access.
- The panel shall be of uniform height of not more than 2000 mm.
- The incoming main supply and emergency generator supply will be terminated on to interlocked 4 poles withdraw able ACB’s.
- Outgoing ways will emanate from 3 pole plug in MCCB fitted with suitable overload and over current protection relays or 3 poles withdraw able ACB’s fitted with suitable overload and over current protection relays. Discrimination will be achievable throughout the entire LV distribution system.

1.4.10 Diesel Generator

Total a set of LV diesel generators N+1.

- Outdoor type installation.
- Capacity: DCP rate requirement, as per total loading choose suitable genset capacity.
- Applicable for Tier III.
- Duty cycle: Continuous rated, 50Hz, 415V/230V, 1500rpm, 0.8P.F.

- Noise Level: 85db@1m.
- Frequency Range: 50Hz±1%.

1.4.11 Uninterruptible Power Supply (UPS)

The UPS system solution based on pure 2N topology for IT, UPS should be considering the modular UPS for modular redundancy, the equipment configuration showing as below for Day 1(Floor 1). Please refer to power balance sheet for detail calculation.

Items	Description	Power Quantity	Backup time
IT UPS	400kVA	4	15 mins. Each Side, Totally 30 mins

Day 1(Floor 1): UPS Selection

Cooling selection	Item description	unit	PR1 IT UPS-T1
Selection Conditions	Load for UPS	kW	608
	Load power factor	kW	0.95
	Load Rate	%	90%
	Required UPS capacity (Single line, N)	kVA	711
	Altitude	m	1000
	Altitude derating coefficient	%	100%
	UPS capacity (Single line, N)	kVA	800
	Total UPS NOS (N)	pcs	2*400kVA
Lithium Battery Selection Result	formula: $N=P/(K1*K2*K3*K4)*t/60/C$		
	P: Power Load	kW	304.00
	t: Battery back uptime(N)	min	15
	Discharge rata	C	4
	k1: Li-battery power efficiency	/	0.85
	k2: UPS inverter efficiency	/	0.95
	k3: De-rating coefficient of	/	0.98

	battery parallel		
	k4: DC/DC efficiency	/	0.98
	Number of each battery rack modules	pcs	16
	C: The capacity of battery rack	kWh	78.3
	N: Li-battery Rack Nos	NOS	1.25
	Li-battery config: rack NOS	NOS	1.50
	Actual backup time	min	17.98
UPS Power consumption	Total Li-battery capacity (153Ah per rack)	AH	229.5
	UPS charging voltage	V	544
	Actual charging power	kW	24.97
	UPS efficiency	%	96%
	UPS Loss	kW	25.33

Final (After Expansion):

The UPS system solution based on pure 2N topology for IT, the UPS should be considering the modular UPS for modular redundancy, the equipment configuration showing as below for Floor 2. Please refer to power balance sheet for detail calculation.

Items	Description	Power Quantity	Backup time
IT UPS	600kVA	8 (2N, N=4)	15 mins, Each Side, Totally 30 mins

Final (Floor1+Floor 2): UPS Selection

Cooling selection	Item description	unit	PR1 IT UPS -T1
Selection Conditions	Load for UPS	kW	1712
	Load power factor	kW	0.95
	Load Rate	%	90%
	Required UPS capacity (Single line, N)	kV A	2002

	Altitude	m	1000
	Altitude derating coefficient	%	100 %
UPS Selection Result	UPS capacity (Single line, N)	kV A	2100
	UPS Rack Selection		600
	Total UPS NOS (N)	pcs	4
Lithium Battery Selection Result	formula: $N=P/(K1*K2*K3*K4) * t/60/C$		
	P: Power Load	kW	428.00
	t: Battery back uptime(N)	min	15
	Discharge rata	C	4
	k1: Li-battery power efficiency	/	0.85
	k2: UPS inverter efficiency	/	0.95
	k3: De-rating coefficient of battery parallel	/	0.98
	k4: DC/DC efficiency	/	0.98
	Number of each battery rack modules	pcs	16
	C: The capacity of battery rack	KW H	78.3
	N: Li-battery Rack Nos	NO S	1.76
	Li-battery config: rack NOS	NO S	2.00
	Actual backup time	min	17.03
	UPS Power consumption	Total Li-battery capacity (153Ah per rack)	AH
UPS charging voltage		V	544
Actual charging power		kW	33.29
UPS efficiency		%	96%

	UPS Loss	kW	71.3 3
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1.4.12 Cooling system solution Design

Proposes in-row cooling for Data Hall, In-Room cooling for Power Room, and Comfortable Air Conditioning system for other auxiliary rooms such as office, meeting room, Battery Room, MMR etc.

Item	Item description	unit	Aisle Containment-A (Floor 1)	Aisle Containment-B (Floor 2)	Power Room A	Power Room B
IT	IT Equipment load heat	kW	300	276	/	/
DCIM	DCIM load heat	kW	1.98	0	0.26	0.32
UPS	IT UPS loss	kW			71.33	71.33
Lighting heat load	Lighting heat (pcs)	kW	0.034	0.034	0.034	0.034
	Lighting Nos.	pcs	90	90	10	10
	Total Lighting heat	kW	3.06	3.06	0.34	0.34
Enclosure system	Total heat transfer coefficient	W/(m ² *K)	0.28	0.28	0.28	0.28
	total external Superficial area	m ²	250.00	250.00	250.00	250.00
	highest External temperature	°C	41.8	41.8	41.8	41.8
	Internal temperature	°C	25	25	30	30
	Enclosure	kW	1.18	1.18	0.83	0.83

Item	Item description	unit	Aisle Containment-A (Floor 1)	Aisle Containment-B (Floor 2)	Power Room A	Power Room B
	structure system Heat Load					
Person heat	covered area	m ²	283	283	110	110
	Staff num(2person/100m ²)	num	2	2	2	2
	0.145kW/person	kW	0.145	0.145	0.145	0.145
	Total person heat	kW	0.29	0.29	0.29	0.29
Ventilation system	Ventilation volume	m ³ /h	180	180	0	0
	Fresh air density	kg/m ³	1.12	1.12	1.12	1.12
	Enthalpy Design Conditions of External	kJ/kg	93.4	93.4	93.4	93.4
	Enthalpy Design Conditions of Internal	kJ/kg	50.32	50.32	53.85	53.85
	Ventilation system Heat Load	kW	2.41	2.41	0.00	0.00
other	Firefighting heat	kW	0.30	0.30	0.30	0.30
	Cable & PDF loss	kW	1.51	1.38	1.50	1.50
Safety factor		%	0%	0%	0%	0%
Total heat load		kW	310.73	284.62	74.91	74.91

Item	Item description	unit	Aisle Containment-A (Floor 1)	Aisle Containment-B (Floor 2)	Power Room A	Power Room B
Selection Conditions	Return air dry bulb T	°C	35	35	30	30
	Outdoor temperature	°C	41.8	41.8	41.8	41.8
	Outdoor environment type	/	B	B	B	B
	Connecting pipe length	m	30	30	30	30
	Altitude	m	1000	1000	1000	1000
	COOLING TYPE	/	In-row DX	In-row DX	In-room DX	In-room DX
A/C Selection Result	Net sensible cooling capacity	kW	54	54	43.9	43.9
	Cooling capacity margin	%	3%	3%	3%	3%
	Required A/C nos.	pcs	6	6	2	2
	Redundancy A/C nos.	PCS	1	1	0	0
	Total A/C nos.	PCS	7	7	2	2
	Only cooling A/C nos.	PCS	5	5	1	1
	With heating and humidification, A/C nos.	PCS	2	2	1	1

Item	Item description	unit	Aisle Containment-A (Floor 1)	Aisle Containment-B (Floor 2)	Power Room A	Power Room B
A/C Power consumption	Cooling power input per unit	kW	21.17	21.17	20.1	20.1
	Heater power per unit	kW	6	6	6	6
	Total Electrical power consumption of cooling units per Room	kW	121.82	111.58	34.30	34.30
	Total Electrical power consumption of cooling units	kW	724.26			

2. Requirements of The Active Components in DR Site and Expansion of Existing Cloud and other IT Infrastructure

2.1 Upgradation and Expansion of IT components in DR

- Hybrid- Flash Production Storage Expansion
- All-Flash Production Storage Expansion
- Core Firewall
- Management Node Server

2.2 Enhancement of Existing Cloud Services in DC & DR

Following services for the existing cloud infrastructure must be offered for the enhancement and upgradation of cloud platform in both DC and DR

- Object Storage Service (OBS)
- Cloud Domain Name Service (CloudDNS)
- Cloud Server Disaster Recovery (CSDR)
- Cloud Container Service (CCE)

- Key Management Service (KMS)

2.3 Upgradation and Expansion of IT Components in DC for Cloud Infrastructure

- Cloud Hardware Security Machine
- Hybrid- Flash Production Storage
- All- Flash Production Storage
- Storage Tor Switch
- Management Node Server
- Non-GPU Computing Node Server for CCE
- Object Storage Node Server

2.4 Upgradation and Expansion of IT Components in DC

- Core Switch
- Core Firewall
- Next-generation Firewall for e-Govt. Network
- Email Security Gateway with Domain Protection

C. SERVICE SPECIFICATIONS – SUPPLY & INSTALL ITEMS

3. Requirement Analysis, Design, and Deployment

3.1 High Level Design:

During the tender submission bidder shall provide the High-Level Design (HLD) documents for the proposed DR facility.

3.2 Low Level Design:

The bidder shall provide the Low-Level Design (LLD) documents for DR site according to the approved High-Level Design (HLD) in later phases according to the delivery schedule and work plan. The design document must be approved by the purchaser.

3.3 Integrated System:

With inputs from detailed design and physical design stage, the selected vendor will implement the DR facility. The details of integration requirements must be documented and presented to the purchaser for approval along with procedures for testing each and every unit separately and for post integration test of the entire system or platform.

3.4. Training and Training Materials (Knowledge Transfer)

The Supplier MUST provide following knowledge transfer services:

- Pre-deployment workshop on the HLD and LLD in BCC.
- Pre-deployment knowledge transfer program on the entire platform for 10 persons in BCC.
- Hands-on Post-deployment knowledge transfer program for 10 persons in BCC.

3.5 Data Migration

Existing DR System Migration activity should be considered as this assignment is to rebuild the DR Facility. The bidder must provide details migration plan with minimum service outage from 48~60 Hours and make sure all the existing services running smoothly. The migration path is moving the IT resources from existing DR to a temporary facility and from temporary facility to the newly build infra. The details scope of work as follows:

3.5.1 Scope of work (existing to new temporary site)

SL	Item	SOW	Time line (Hours)	Service Impact	Responsible party
1	Free Space/room with required Power & cooling system near to the existing DR site, with site preparation	<ol style="list-style-type: none"> 1. Space for new IT racks (4 IT Racks*42U space*7KW Load), each IT Rack dimension W-600mm*D-1200mm, with Power & other required facility. 2. AC Power source with backup DG support, 50KW (400V, 3P, 5wire). 40KW UPS (N+1), 15min Battery Backup. 3. Required Cooling system (N+1) with outdoor installation space & route for piping & cabling. 4. Cable ladders, Grounding & required site preparation for temporary site. 5. Layout finalization for temporary relocation 	48H	No	Bidder & Tenderer

SL	Item	SOW	Time line (Hours)	Service Impact	Responsible party
2	Temporary relocation facility readiness & required installation commissioning	<ol style="list-style-type: none"> 1. installation 4 IT Racks, UPS system & Battery 2. Cooling system indoor & Outdoor system installation with gas & liquid piping, water drainage piping, refrigerant GAS pre-recharge and ready for cooling system Power on. 3. Power, grounding, Communication & internal sensors installation. 4. Prepare & verify the installation for ready Power on 5. Power on, commissioning & related test for declare DR NE RFI. 	48H	No	Bidder
3	Network readiness before relocation	<ol style="list-style-type: none"> 1. Install and Configure New BMC & TOR switch 2. Lay cabling for new Network switch & Server. 	48H	No	Bidder
4	New storage deployment and data migration before relocation	<ol style="list-style-type: none"> 1. Install New Storage (50 TB) and Power On 2. Connection fabric cabling to Storage and configure zoning and mapping new lun to migration host. 3. Application Verification after data migration 	72H	No	Bidder
5	DC DR uplink (NTTN) Connection readiness	<ol style="list-style-type: none"> 1. Fiber connection readiness for DC DR reachability 	24H	No	Customer

SL	Item	SOW	Time line (Hours)	Service Impact	Responsible party
6	Service migration from Existing DR DC to new temporary location	1. Offload all the live services from DR site. 2. Shutdown all live NE & Power inputs. 3. Dismantle related servers, storages & NE. 4. Shift to newly install IT cabinets & complete installation, cabling & Power on. 5. Run all the services in DR site.	60H	Yes	Bidder & Tenderer

3.5.2 Scope of work (temporary site to new build DR)

S L	Item	SOW	Time line (Hour)	Service Impact	Responsible party
1	Site Readiness	1. New Build DR center readiness for temporary site Device relocation (including civil & IT infra, power, cooling).	48H	No	Bidder
2	DC DR uplink (NTTN) Connection readiness	1. Fiber connection readiness for DC DR reachability	24H	No	Tenderer
3	Signal cable lay	New Signal cable readiness (Fiber & Ethernet)	48H	No	Bidder
4	Service migration from Existing DR DC to new temporary location	1. Offload all the live services from temporary DR. 2. Shutdown all live NE & Power inputs. 3. Dismantle related servers, storages & NE.	48H	Yes	Bidder & Tenderer

S L	Item	SOW	Time line (Hour)	Service Impact	Responsible party
		4. Shift to newly install IT cabinets & complete installation, cabling & Power on. 5. Check device connection & Health Status 6. Run all the services in DR site.			

3.6 Documentation Requirements

The Supplier **MUST** prepare and provide the following Documentation.

3.6.1 End-User Documents: User Manual

3.6.2 Technical Documents:

- Technical Data Sheet
- Solution Document of the Platform (HLD, LLD)
- Hardware Technical Manual
- Operational Manual (Entire System)
- Troubleshooting Guide
- OEM certification after installation for supply of hardware and software from authorized source for the territory of Bangladesh
- All supplied equipment shall be registered to Bangladesh Computer Council

Note: All technical documents must be in English and must be written in simple and comprehensible manner.

3.7 Requirements of the Supplier’s Technical Team

The Supplier **MUST** maintain a technical team of the following roles (but not limited to) during the Supply and Installation Activities under the Contract:

- a) **Team leader (1 person):** Will lead the supplier’s team and work as the point of contact from the supplier’s side.
- b) **Project governance and management specialist (1 person):** Will perform the project management activities from the supplier’s side during the entire period of this activity.
- c) **Expert in DR Cloud (1 person):** Will be responsible for technical design and deployment of DR Facility.
- d) **Expert in DR Cloud Management (1 person):** Will be responsible for technical design and implementation of cloud services.

- e) **Expert in Cloud computing (1 person):** Will be responsible for technical design and deployment of Cloud Computing Platform.
- f) **Expert in Cloud Service Management (1 person):** Will be responsible for technical design and implementation of cloud services.
- g) **Expert in Server & Storage (1 person):** Will work as a technical expert of virtualization related works for establishing the DR Facility.
- h) **Expert in Networking (1 person):** Will work as a technical expert for network and server related works for establishing the DR Facility.

D. TECHNOLOGY SPECIFICATIONS – SUPPLY & INSTALL ITEMS

4.0 General Technical Requirements

4.0.1 Language Support

All information technologies must provide support for the English language.

4.0.2 Electrical Power:

All active (powered) equipment must operate on voltage range and frequency range [220v +/- 20v], [50Hz +/- 2Hz] respectively. All active equipment must include power plugs standard in Bangladesh.

4.0.3 Environmental:

Unless otherwise specified, all equipment must operate in environments of temperature: 10-30 degrees centigrade, humidity: 20-80 percent relative humidity and dust condition: 0-40 grams per cubic meter of dust.

4.0.4 Safety:

4.0.4.1 Unless otherwise specified, all equipment must operate at noise levels no greater than 55 decibels.

4.0.4.2 All electronic equipment that emits electromagnetic energy must be certified as meeting US FCC class B or END 55022 and END 50082-1, or equivalent, emission standards.

4.1 Detailed Technical Specifications and Requirements

4.1.1 Containment and rack system

A. Integrated Server Room Passive Infrastructure
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S L #	Product Names/Items	Technical Specification and Standards	U nit	Q T Y
1	Integrated Server Room Passive Infrastructure			
	Brand	Internationally reputed Brand		
	Model	To be mentioned by the proposer		
	Country of Origin	To be mentioned by proposer		
	Country of Manufacturer	To be mentioned by bidder		
	Qualification Requirements	<p>Manufacturer must be ISO 9001, ISO 14001, ISO 27001 and OHSAS 18001 certified. Please provide the above-mentioned document.</p> <p>To ensure the maturity and reliability of the product solution, the aisle containment product must be certified by authoritative organizations such as Uptime Institute. One configuration/ model is required to obtain the Uptime TIER III certification, and a copy of the certification certificate can be provided.</p>		
2	Contained Aisle and Structure		N O S	2
	Aisle Type	A contained cold or hot aisle consists of front & end doors and cabinets. The aisle containment adopts the cameras, temperature and humidity (T/H) sensors, smoke detectors etc.		
	Status indication	The modular DC should have a clear status indication, which can support indicate the status of module, and can interact with the access control and the alarm. The red indicates that the recognition failed, and green indicates that the identification is successful. It can also interact with the status of the module when the module has an alarm. Critical alarm, Major alarm, Minor alarm, and Warning alarm can be distinguished and can be indicated by different light colors.		
	Sealing Skylights	Sealing skylights are mainly used for modular aisle sealing		
		The skylights should use toughened glass, of which the area is greater than or equal to 75%. The thickness should ≥ 5 mm. The materials should meet the requirements of fire prevention in the machine room.		

		When receiving a fire alarm signal, the skylight controller opens the skylight by controlling the electromagnetic lock, sends out an audible and visual alarm signal at the same time, and uploads the alarm signal to the equipment room management system.		
	Cabling Requirements	Modules should have separate power cable and signal cable troughs ready for routing cables, and should be expandable cabinet by cabinet. Cable routing inside cabinets: The cabinet should be equipped with horizontal and vertical cable management units.		
	Aisle Width	1200mm		
	Aisle Height	2000mm		
	Door Type	Sliding door		
3	Rack (Cabinet) System		N O S	2
	Quantity	Totally 25 Racks, 23 IT Racks W600mm+2 network Racks W800mm for mounting IT and IP equipment		
	Standards requirement	Cabinet complies with the IEC 60297-1		
	Dynamic Load/Static Load	1000Kg/2400kg		
	Anti-seismic requirements	The IT cabinet should pass intensity 8 and 9 anti-seismic test, which meets the requirement of YD-5083-2005.		
	Power density requirement	Minimum 12 KW for each IT rack;		
	Rack Height	42U		
	Dimension	600/800 x 1200 x 2000mm (W x D x H)		
	Ventilation Rate of Front and Rear Door	80%		
	Cabinet Door	1200mm standard perforated door with mechanical lock		
	Protection Level	IP20		
4	rPDU		N O S	10 0
	Input Wiring	3Ph+N+PE		
	Input Current	32A		
	Input Rated Voltage	380V/400V/415V		
	Monitoring	Monitors the input power, voltage, current, power factor, and electric energy; and remote power on/off for each output		
	Communication	Modbus		

	Display Function	1.5-inch LCD display		
	Output Power Distribution Specifications	24*C13+6*C19		
5	Smart Busway		N O S	4
	Power supply construction of IT	2N Isolation: Single MCCB		
	Power supply construction for air conditioner	Wall-mounted air conditioner power distribution box, outside of the module		
	Cabling mode	Top in and out		
	Rated voltage	380/400/415V, L1/L2/13/N/PE		
	Rated frequency	50/60Hz		
	Output MCB hot swapping	Support		
	Rated current	IT input: 630A		
6	Management system		N O S	2
	General function	The monitoring system should continuously monitor the power supply and distribution equipment, existing temperature and humidity, water leakage, smoke, video surveillance, and access control devices.		
		Support mobile app		
	Monitoring collector	1U, rack installation, providing a unified northbound interface for the equipment room power and environment, facilitating the access to the unified network management system or remote Web interface monitoring		
	Local large-screen display	43-inch touch display Screen-Including local management software		
	Water sensor	Support		
	Multi-function sensor	Support		
	Smoke sensor	Support		
	Temperature and humidity sensor	Support		
	Access Control	Deploy Two (2) access controllers in the contained aisle, integrated with ID card, password and fingerprint.		
	Video Surveillance	Deploy 2 2MP dome camera inside the single contained aisle, with NVR (15 days storage)		

	Monitoring Function Description	Temperature and humidity monitoring: Detect the environment temperature and humidity within the module.		
		Smoke monitoring: Monitors smoke concentration in a module in real-time.		
	Installation	Installation, Testing and Commissioning		
	Warranty	3 Years OEM comprehensive Warranty		
B. Precision Air Conditioner (PAC) for Aisle Containment				
S	Product	Technical Specification and Standards	U	Q
L	Names/Items		nit	T
#				Y
1	Precision Air Conditioner (PAC) for Aisle Containment		N O S	14
	General Requirements	Brand: Internationally reputed Brand		
		Model: To be mentioned by the bidder		
		Country of Origin: To be mentioned by bidder		
		Country of Manufacturer: To be mentioned by bidder		
		Bidder must have CE certification for the PAC unit. This ensures electrical compatibility and safety design requirements. Please provide the CE certification.		
		Bidder must comply with the RoHS, REACH, and WEEE statement for the standard PAC unit to ensure that the PACs do not contain compounds harmful to humans, animals, and to protect human health and environmental safety. Please provide the RoHS, REACH, and WEEE statement by the National Certified Institution of the Original Country.		
	Air conditioner configuration	N+1		
	Operating temperature	-20~+45°C		
	Relative humidity (RH)	5-95%		
	Cooling mode	Air cooled		
	Power voltage	380V AC L1/L2/L3/N/PE		
	Cooling capacity in standard condition	65kW		
	Cooling capacity adjustment range	10%~100% (The specific adjustment range varies according to the specific model.)		
	Compressor	DC frequency-converting		
	Fan	EC fan		

	Power frequency	50/60Hz		
	Power supply mode	Dual		
	Air supply model	Horizontal air supply mode		
	Heating and humidification	Support		
	Light load dehumidification	Dehumidification is supported if only the IT load capacity reaches 10%.		
	Filter Class	G4(EN779)		
	Installation mode of indoor unit	In row air conditioner		
	Indoor unit inch (H x W x D)	600mm×1200mm×2000mm		
	Air conditioner air volume	12000m ³ /h		
	Outdoor unit	Air cooled condenser		
	Humidifier type	Wet film humidifier		
	Refrigerant	R410A		
	Humidification capacity *	3kg/h		
	Heating power *	6kW		
	Condensate pump	Equipped		
	Refrigerant oil	ICI Emkarate RL32H		
	Installation	Installation, Testing and Commissioning		
	Warranty	3 Years OEM comprehensive Warranty		
C. True online modular Uninterruptable Power Supply (UPS)				
S	Product	Technical Specification and Standards	U	Q
L	Names/Items		nit	T
#				Y
1	True online modular Uninterruptable Power Supply (UPS)		N O S	4
	Brand	Internationally reputed Brand		
	Model	To be mentioned by the bidder		
	Country of Origin	To be mentioned by bidder		
	Country of Manufacturer	To be mentioned by bidder		
	General Requirement	The UPS shall be online double-conversion modular UPS		
		The UPS need to be modular design. The power module, bypass module and control module can support hot-swap and easy maintenance.		
		UPS need to use centralized control logic, and the controller needs to use redundant architecture to avoid single point failure.		

		The modular UPS system shall use centralized bypass and the bypass module shall be hot swappable. A built-in bypass shall be provided.		
		In normal mode, the UPS system efficiency is up to 96.8%. In intelligent online mode, the UPS efficiency is 99%. Provide third party's test report.		
		The capacity of power module is not less than 50KVA (provide third party's test report) and the height is under 3U (provide the brochure).		
		The Products provided by manufacture must be widely used in the market. And the UPS series have top 3 market share in professional consultation report of third party.		
		In order to save the initial investment, the system should use the design without battery neutral line.		
Capacity	For IT Load	2N, 400kVA , can expand to 600kVA in the future.		
Input	Input wiring	3Ph (L1, L2, L3) +N+PE		
	Input voltage range (Vac)	138-480VAC, Provide third party's test report.		
	Rated frequency (Hz)	50Hz/60Hz		
	Input frequency range (Hz)	40Hz-70Hz		
	Input power factor	>0.99 at rated load		
	Total harmonic distortion of input current	<3% (linear load) <5% (nonlinear load) Provide third party's test report.		
Output	Rated voltage	380V AC/400V AC/415V AC±1%		
	Output accuracy	±1%;		
	Total harmonic distortion of output voltage	<1% (linear load, rated load) <3% (nonlinear load, rated load) Provide third party's test report.		
	Output voltage imbalance	±3%		
	Output phase imbalance	120±1° (balanced load)		
		120±2° (unbalanced load)		
	Voltage transient range	±5% (recovery in 20ms)		

		Output frequency	Tracking the bypass input (online mode) 50Hz/60Hz±0.25% (Battery mode)		
		Bypass synchronization tracking tolerance	±6Hz		
		Frequency tracking speed	<0.6Hz/s		
		Output power factor	1, Provide third party's test report.		
		Load adaptability	No derating for load with a PF>0.5		
		Overload capacity	100-110% overload for 60min;		
			111%-125% over load for 10min;		
			126%-150% overload for 1min		
			> 150% transfer to bypass mode after 200 ms		
		Withstand current	65kA, Provide third party's test report.		
Power module output current equalization	The imbalance current ratio is below 3%				
Switch time	line mode-> battery mode	0ms			
	Battery mode-> line mode	0ms			
	Normal mode->bypass mode	0ms			
	Bypass mode->normal mode	0ms			
Features	Energy saving	UPS has the function of intelligent hibernation to improve the efficiency of UPS at low load			
	Bus bar overtemperature protection	Bus bar overtemperature protection, Provide third party's test report.			
	Pre-warning in advance	UPS can automatically pre-alarm capacitor and fan to achieve the monitor of failure and ensure the reliability of			

			UPS system, Provide third party's test report.		
		Derating above 40°C	Keep operating in higher temperature in normal mode, 40°C - 45°C linear derating to 90%, 45°C - 50°C linear derating to 80%, 50°C - 55°C linear derating to 70%		
Environment requirement	Operating temperature	0°C-40°C (No derating)			
	Storage temperature	-40°C-70°C			
	Relative humidity	0%-95 % (No condensing)			
	Operating altitude	0-4000m. Derate based on the IEC62040-3			
Related Service	Installation	Installation, Testing and Commissioning			
	Warranty	3 Years OEM comprehensive Warranty			
2	Battery Backup System for UPS				
	Battery Cabinet	For IT Load, back up time 30 minutes, each side 15 minutes		N O S	4
General Requirements	Brand:	Internationally reputed Brand			
	Model:	To be mentioned by the bidder			
	Country of Origin:	To be mentioned by bidder			
	Country of Manufacturer:	To be mentioned by bidder			
Battery Type	LiFePO4				
Charging Current	≤ 1C, 0.5C by default				
Maximum discharge current (battery module)	459A				
Maximum discharge current (battery cabinet)	630A				
Cycle Life	5000 cycles @ 50% DOD				
Nominal Capacity of Battery Cabinet	162Ah / 82.94kWh				
Self-Discharge	≤5% (0-30°C/3 months)				
Fire protection	Module-level				

Communication Interface	FE, RS485, Dry contacts		
Protection	Over temperature, over current, short circuit, over charge/discharge, etc.		
Design Life	15 years		
Certification	UL1642, UL1973, UN38.3, UL9540A, IEC62619 , IEC62133, IEC62477, IEC62040		
Operating Temperature	0°C-40°C		
Relative Humidity	5% - 95%		
Monitoring	The LCD screen is delivered with the lithium battery, and the screen size is not less than 7 inches. The lithium battery cabinet monitors and displays the cell temperature, voltage, SOH/SOC, battery data, battery cabinet data, and system data.		
	The UPS can monitor the lithium battery cabinet and display the following information: lithium battery system information (analog parameters such as the system cell voltage extremum), rack system information (analog parameters such as the rack cell voltage extremum), and BMU alarms in each rack of the lithium battery system (the fault is located to the minimum replaceable module).		
Communications	The signal ports include dry contacts and system parallel ports.		
	The communications ports include FE and RS485.		
	Lithium battery cabinets communicate with UPSs for collaborative control and reliability.		
	The lithium batteries can be separately connected to a third-party Network Monitoring System (NMS) for remote monitoring.		
Maintainability requirements	The batteries adopt modular design and are replaceable. All installation and maintenance operations should be performed in front of the cabinet.		
	If a single battery module in the battery cabinet is faulty, the remaining battery modules can be connected in series and then connected to other battery strings in parallel. This does not affect services and solves the problem that no spare part is available onsite.		
Cabling mode	Routing cables from the top		

Installation	Maintained from the front and installed against a wall or back-to-back		
Footprint saving	High energy density. The 300 kW@10-minutes initial backup time solution occupies no more than 0.55 m ² .		
Certification	The entire system complies with CE/CB/ROHS/REACH		
	The entire system meets the shockproof 8 intensity and provides the shockproof report.		
	The batteries module complies with the UN 38.3 for lithium batteries transportation certification, and IMDG CODE(Amdt39-18)		
	The cells comply with UL1642 、 IEC62619 、 UN38.3 and provides the certificate		
	The electrochemical cell has at least 15 test items, including heavy object impact, internal short circuit, no needling fire, overcharge, short circuit at room temperature, short circuit at high temperature, squeezing, drop, seawater immersion, heating, temperature cycling, shock, vibration, low air pressure, and high-power charging. Provide third-party reports.		
	The cells have also passed acupuncture test, with reports from a well-known third party such as TÜV provided.		
Fire extinguishing function	Pack-level fire extinguishing function, ensuring that the fire is controlled at the pack level when a fire occurs, preventing the spread of the fire.		
Battery string current imbalance	Battery strings must have a current equalization control loop to ensure that the current imbalance of parallel battery strings of the same batch is less than 2%. Field or remote factory acceptance tests are required.		
Mixed use of old and new batteries	Multiple battery strings can be used to combine old and new batteries and support phased capacity expansion.		
	A single battery string can contain both old and new batteries, and can be replaced if a fault occurs.		

		Provide the technical report or patent certificate issued by a third party for the mixed use of old and new batteries.		
Communications		The signal ports include dry contacts and system parallel ports. The communications ports include FE and RS485.		
		Lithium battery cabinets communicate with UPSs for collaborative control and reliability.		
		The lithium batteries can be separately connected to a third-party Network Monitoring System (NMS) for remote monitoring.		
Communication channel		When multiple cabinets are connected in parallel, the communication cables must be connected in a ring hand-in-hand manner to avoid single points of failure.		
Monitoring		The LCD screen is delivered with the lithium battery, and the screen size is not less than 7 inches. The lithium battery cabinet monitors and displays the cell temperature, voltage, SOH/SOC, battery data, battery cabinet data, and system data.		
		The UPS can monitor the lithium battery cabinet and display the following information: lithium battery system information (analog parameters such as the system cell voltage extremum), rack system information (analog parameters such as the rack cell voltage extremum), and BMU alarms in each rack of the lithium battery system (the fault is located to the minimum replaceable module).		
Protection		The lithium batteries provide current limiting protection to avoid short circuits, overtemperature, overcharge, and over discharge.		
		Each battery string in the lithium battery cabinet has fuses and circuit breakers for protection. Each lithium battery cabinet is configured with BMS system to monitor the voltage and temperature of each battery in the cabinet. When short circuit, overcharge, or over discharge occurs, the BMS system can switch off the circuit breaker on the cabinet side.		
Heat dissipation		Batteries use natural heat dissipation and do not use fans to prevent single points of failure. In addition, batteries can be installed against walls. The battery and cabinet front and rear diagrams are provided.		

	IP rating	IP21, provide third-party report.		
	processing technology	Battery cells in a battery module must be connected using high-end laser welding technology. Screws are not allowed to be locked to prevent screw looseness caused by cold shrinkage of thermal barriers and ensure reliability. Provide screenshots of electrochemical cell connections inside the battery module.		
		The monitoring and sensor cables inside the module must be routed through dedicated cable troughs to avoid damage during installation, transportation, and maintenance. Provide a screenshot of the battery module.		
	Capacity test	Battery strings must support the capacity test function of automatic grouping. Do not discharge the entire battery system at the same time to avoid the risk of a sudden mains failure after the battery system is discharged. Provide the third-party report or patent certificate for the group check capacity test.		
	Installation	Installation, Testing and Commissioning		
	Warranty	3 Years OEM comprehensive Warranty		
D. Precision Air Conditioner (PAC) for Power Room				
S	Product	Technical Specification and Standards	U	Q
L	Names/Items		nit	T
#				Y
1	Precision Air Conditioner (PAC) for Power Room		N	4
	General Requirements	Brand: Internationally reputed Brand		
		Model: To be mentioned by the bidder		
		Country of Origin: To be mentioned by bidder		
		Country of Manufacturer: To be mentioned by bidder		
		Bidder must have CE certification for the PAC unit. This ensures electrical compatibility and safety design requirements. Please provide the CE certification.		
		Bidder must comply with the RoHS, REACH, and WEEE statement for the standard PAC unit to ensure that the PACs do not contain compounds harmful to humans, animals, and to protect human health and environmental safety. Please provide the RoHS, REACH, and WEEE statement by the National Certified Institution of the Original Country.		
	Indoor unit	Redundancy	N+1	

	Cooling mode	Air cooled		
	Refrigerant	R410A		
	Cooling capacity	60 kW		
	Net sensible cooling capacity (kW) at indoor return air 35°C/26%RH	60 kW.		
	Air supply mode	Up flow		
	Air volume	14500(m ³ /h)		
	Reheating Capacity	6kW		
	Humidifier Capacity	6kg/h		
	IP rating	IP20		
	Compressor	Variable frequency scroll compressor		
	The regulation range of refrigeration	10%--100%		
	Fan Type	EC		
	Filter Class	G4(EN779)		
	Humidifier Type	Welt-film		
	Piping	Bottom (on the left) or Left side		
	Dimensions (W × D × H)	1100*1000*2000		
	Certification	CE/REACH/ROSH/WE EE/CRAA		
	Power supply mode	Dual power supply		
	Heating function	Yes		
	Humidification function	The PAC unit should achieve stable and fast dehumidification at a minimum of 10 percent low IT load and greater than 95 percent relative humidity conditions, to avoid the condensation risk on IT equipment at extreme conditions.		
	Detecting refrigerant function	To reduce the risk of unit, break down, the unit should detect the refrigerant content automatically, and generate charging prompt when the refrigerant is insufficient.		

		Self-diagnose malfunctions	The PAC can self-diagnose malfunctions. When a fault occurs, the fault diagnosis function is enabled. It excludes irrelevant causes of faults and quickly guides O&M personnel through maintenance. This simplifies O&M and reduces troubleshooting time.			
		Surge protection	No less than 6kV			
	Outdoor unit specifications	Standard Outdoor unit specifications				
		Power specifications	Power supply from indoor unit			
		Driver type	Variable frequency driven			
		Protection level	IPX5			
	Service	Installation	Installation, Testing and Commissioning			
		Warranty	3 Years OEM comprehensive Warranty			
E. Data Center Infrastructure Management (DCIM) System						
S	Product	Technical Specification and Standards			U	Q
L	Names/Items				nit	T
#					Y	Y
1	Data Center Infrastructure Management (DCIM) System			N	1	
	General Requirements	Brand: Internationally reputed Brand				
		Model: To be mentioned by the bidder				
		Country of Origin: To be mentioned by bidder				
		Country of Manufacturer: To be mentioned by bidder				
	Deployment Mode	Single server				
	Management Capability	≥3 million monitoring points (about 30,000 cabinets), supporting capacity expansion.				
	Number of Online Users	≤100				
	Data Storage	Default 1-year, maximum support 3 years.				
	Power distribution monitoring	Monitors the D. Gs, Transformers, MDB, DBs				
		Monitors the existing UPS main input voltage, UPS bypass input voltage, UPS output voltage, UPS output current, UPS output frequency,				

		UPS module output current, battery voltage, and charge/discharge current.		
		Monitors the total input phase voltage, current, frequency, power factor, electricity energy, active power, reactive power, apparent power, load rate, voltage and current harmonics.		
		Monitors the current, electricity energy, switch status, contact temperature, and load rate of the IT power distribution and air conditioning branches		
	Precision air conditioner monitoring	Monitors and diagnose the air conditioner operating status in an all-round and real-time manner, and monitors the operating status and parameters of components, such as compressors, fans, heaters, humidifiers, dehumidifiers, filters, and so on.		
	Subsystem Monitoring	CCTV system, Access Control, Fire Extinguish management and monitoring		
	DCIM Hardware	Standard Version Physical Server and Network Switch for connectivity		
	DCIM System Architectural Functions	The DCIM integrated management system must be open, ecosystem-based, and modular.		
		Should provide open data for third-party systems to invoke and use through standard protocols such as Web Service API and SNMP, meeting differentiated requirements and secondary development requirements.		
		The system should cooperate with vendors of BMS and surveillance systems commonly used in data centers. For example, the system should implement pre-interconnection with mainstream vendors such as Siemens, Hikvision, and PEAKE to shorten onsite interconnection time. The DCIM software vendor must provide the test certificate in terms of compatibility with third-party subsystems.		
		The DCIM system should adopt a multi-layer and multi-function modular design and feature good scalability. New devices and systems can be quickly and flexibly connected to the DCIM system based on future capacity expansion requirements.		
	Device collection layer	The DCIM system needs to collect data from high- and low-voltage power distribution devices, environment adjustment devices, security protection		

		devices, and sensors in the data center. The monitored devices provide common ports such as RS485, AI/DI, and network ports. Common protocols include Modbus, SNMP, and TCP/IP.		
Unified monitoring layer		The DCIM system needs to process data reported by subsystems and devices in a unified manner to prevent inconsistent information collection due to interconnection with subsystems and devices from different vendors. In addition, the DCIM system needs to provide basic functions such as unified alarm reporting, unified authentication, unified security design, and unified log management.		
Service management layer		The DCIM system needs to provide functions such as data processing, logic analysis, process management, and control adjustment based on various monitoring data and configuration data obtained from the lower layers and service scenarios of the data center. The functions should include at least digital O&M processes, intelligent operation analysis, and advanced energy saving and control policies.		
Interaction display layer		The system should provide applications such as personal workbench display, large-screen display, 3D visual display, report display, and mobile terminal display. All data display and information interaction can be implemented at the interaction display layer.		
System Deployment		The system must use a reliable and stable operating system platform to ensure the universality and security of the system. Server programs must be based on genuine operating systems and deployed on a rack server. Low-end hardware such as industrial computers cannot be used. In addition, RAID redundancy must be provided to ensure data security.		
Management Capability		The system must use the browser/server (B/S) architecture and support mainstream browsers. No additional client software is required. Users can access the system in real time through browsers at any location on the network.		
Monitoring Function Description		UPS Monitors the UPS input phase voltage, output phase voltage, bypass phase voltage, input phase current, output phase current, input line current, output line current, bypass phase current, input line voltage, output line voltage, input power, output power, load rate, power factor, active power, and peak ratio.		

	<p>ATS cabinet Monitors the S1 phase current, S1 phase voltage, S1 frequency, S1 line voltage, S1 active electric energy, S2 phase current, S2 phase voltage, S2 frequency, S2 line voltage, S2 active electric energy, and status of switch 1 and switch 2 of an ATS cabinet.</p>		
	<p>Generator Monitors the generator operating status, rotational speed, coolant temperature, coolant level, lubricant pressure, power generation frequency, load rate, power factor, output phase current, output phase voltage, output reactive power, output line voltage, output active power, positive active electric energy, total power factor, and total active power.</p>		
	<p>Switch cabinet Monitors the phase current, phase voltage, power factor, switch status, frequency, line voltage, active electric energy, active power, total power factor, total active electric energy, and total active power.</p>		
	<p>Battery Monitors the battery status, current, voltage, and backup time of battery strings.</p>		
	<p>Precision air conditioner Monitors the operating status and parameters of the compressor, fan, water pump, heater, humidifier, dehumidifier, and air filter of precision air conditioners, including but not limited to: current humidity and temperature, rated cooling capacity, fan output, air volume, average return air humidity and temperature, unit startup/shutdown status, heating output, humidification output, teamwork control status, average supply air humidity and temperature, temperature and humidity control type, cooling capacity, cooling output, average air-side pressure difference, output percentage, number of fans, compressors, humidifiers, and heaters.</p>		
	<p>Temperature and humidity Monitor the temperature and humidity.</p>		
	<p>Water leakage Monitors water leakage around air conditioners and water pipes.</p>		
	<p>Humidifier Monitors the temperature, humidity, and startup/shutdown status of humidifiers.</p>		
Alarm Management	<p>Prompt information, Minor alarm, Major alarm, Critical alarm</p>		

	<p>The system should allow users to view details about current alarms, including the alarm name, location, severity, handling suggestions, number of alarms, alarm source, first occurrence time, latest occurrence time, clearance time, and acknowledgment status.</p>		
	<p>The system should provide the remote alarm notification function and multiple alarm notification modes, including email, SMS, and mobile app message. Users can define the push content, time, and recipient.</p>		
	<p>The system should allow users to handle alarms, including to acknowledge, unacknowledged, and clear alarms, dispatch work orders, and mask alarms in the current alarm list.</p>		
	<p>The system should allow users to handle alarms. If an alarm is generated, users can directly create a trouble ticket on the alarm page to notify the related owner in a timely manner.</p>		
	<p>The system should provide alarm correlation information. The system automatically correlates alarms and displays correlated child alarms and alarms of the same type, helping users analyze and locate faults.</p>		
	<p>The system should provide an alarm library to provide alarm handling experience. For example, the system should provide possible causes of alarms and alarm handling suggestions. Each alarm experience item can be maintained and edited.</p>		
	<p>The system should provide the alarm masking function to mask irrelevant or unnecessary alarms to avoid misjudgment. Alarms can be filtered and masked by multiple conditions, such as the alarm source, alarm time, and alarm type.</p>		
	<p>The system should provide the alarm root cause analysis function. When a large number of alarms are generated on the downstream devices due to a fault on the upstream devices of the system link, the system reports only the root alarm and filters out invalid alarms. In addition, the filtered invalid alarms can be viewed.</p>		
Report Management	<p>The system must have predefined report templates, including but not limited to the asset report, capacity report, energy consumption report, alarm report, and work order change report.</p>		

		The system should create reports in real time or periodically, send reports by email, and display collected data.		
		The system should allow users to create required reports.		
Energy Efficiency Analysis, Energy Consumption and KPI Monitoring		Monitors key energy efficiency indicators such as the PUE and DCiE of the data center and each equipment room in real time, calculates the average PUE by hour, day, month, quarter, or year, and displays the PUE change curves.		
		Allows users to configure the PUE calculation algorithm, which can be used to calculate the PUE of different equipment rooms or areas.		
		Collects statistics on the annual, monthly, and daily energy consumption of the data center and each equipment room, and monitors key indicators such as the chiller plant coefficient of performance (COP) and UPS load rate in real time.		
		Collects statistics on the energy consumption of each cabinet by day or month. Aggregates the power of PDUs in the same cabinet and provides the power of routes A and B and the total power of the cabinet.		
		Collects statistics on daily, monthly, and yearly total energy consumption by smart module, equipment room, floor, and data center.		
	3D Monitoring (Basic Edition)		The system must provide the 3D view function and support one-click switching between 2D and 3D. No additional 3D software needs to be deployed or the 3D system does not need to be integrated to avoid asynchronization between the data source and the DCIM system. Screenshots must be provided.	
		The 3D visualization interface must support visualization of at least the building, floor, room, module, and cabinet, and support basic operations such as zoom-in, zoom-out, and 360° rotation. To enhance the view effect, the 3D visualization interface must support functions such as wall transparency and background blurring.		
		The system can display the remaining capacity of cabinets in a data center in 3D mode, such as space, power distribution, and load bearing capacity. The capacity is distinguished by colors. The capacity range corresponding to each color can be customized.		

	The system can display the device where an alarm is generated and the location of the device. When an alarm is generated on a device, the number and severity of the alarm are displayed in a pop-up message in the 3D view.		
	The system should have a configuration planning interface, which can automatically generate a 3D layout based on simple configuration operations.		
	The system should provide 3D models for devices, covering at least some common devices in data centers, such as air conditioners, UPSs, and cabinets.		
DCIM Hardware - System Server	Standard Version Server	Set	1
	Form Factor: 2U 2 socket rack server		
	Processors: 2*Intel XEON SLIVER 4208, 8 cores, 2.1GHz		
	Internal Storage: 2*32GB DDR4 RDIMM		
	RAID: 2*1200GB SAS 2.5-inch HDD, 10000RPM, RAID1		
	Network Ports: 2 NICs (each NIC: 4 GE electrical port)		
	Power Supply Units: 2 x 900W hot-swappable AC PSUs, supporting 1+1 redundancy		
	Power Supply: 100–240V AC; 240V DC		
	Fan Modules: 4 hot-swappable fan modules, supporting N+1 redundancy		
	Operating Temperature: 5°C ~ 40°C		
	Dimensions (H*W*D): 86.1mm * 447mm * 748mm		
	Weight: 29kg		
	Certification: CE, UL, FCC, CCC, and RoHS, etc.		
DCIM Hardware - Network Switch	Network Equipment, Switch, (24*10/100/1000BASE-T ports,4*10GE SFP+ ports, 1*expansion slot, PoE+, with 2 AC power)	Nos	3
	Dimensions (W x D x H, mm): 442 x 420 x 43.6		
	Chassis height: 1U		
	Chassis weight (full configuration weight): 8.6 kg		
	Fixed port: 24*GE, 4*10GE port		
	Management port: ETH port (Supported), Console port (RJ45) (Supported), USB port: USB 2.0		
	CPU: 4 Cores, 1.4 GHz		
	Storage: 4 GB RAM, 1 GB Flash		
	Power supply system: 1000 W PoE AC (pluggable), AC input: 100 V AC to 240 V AC, 50/60 Hz, High-Voltage DC input: 240 V DC		

		Maximum power consumption: 121 W (without PDs), 977 W (with PDs, PDs: 740 W)		
		Heat dissipation mode: Air-cooled heat dissipation and intelligent fan speed adjustment		
		Number of fan modules: Pluggable dual fans		
		Maximum heat dissipation of the device (BTU/hour): 413 (without PDs), 3334 (with PDs)		
		Surge protection specification (power port): Differential mode: ±6 kV, Common mode: ±6 kV		
		MTBF (year): 57.21		
		MTTR (hour): 2		
		Availability: > 0.99999		
		Certification: EMC certification, Safety certification, Manufacturing certification		
	Service	Installation, Testing and Commissioning		
		3 Years OEM comprehensive Warranty		
F. CCTV Surveillance System (Integrated with DCIM)				
S	Product	Technical Specification and Standards	U	Q
L	Names/Items		nit	T
#				Y
1	CCTV Surveillance System			
	Brand	Internationally reputed Brand		
	Model	To be mentioned by the bidder		
	Country of Origin	To be mentioned by bidder		
	Country of Manufacturer	To be mentioned by bidder		
	CCTV Surveillance System	CCTV Surveillance System should be Integrated in DCIM Central Monitoring and Management System and for 15 Days of Recording Storage		
	Dome IP Camera	2MP IR AI Fixed Dome Camera	Nos	22
	Bullet IP Camera	2MP Low-Light IR Bullet Camera	Nos	18
	NVR System	Up to 64-ch video access, storage, and forwarding.16-ch 1080p decoding.8 disk trays (With 1*8TB Hard Disk),2*HDMI,1*VGA	Set	1
	Storage System	8TB Disk Dedicated to IVS, SATA 6Gb/s,7.2K rpm,128MB Cache,3.5-Inch (3.5-Inch Drive Bay)	Nos	1
	Camera license	Included, Permanent		
	PoE switch	Included, In DCIM Hardware System		

G. Access Control System (Integrated with DCIM)				
S L #	Product Names/Items	Technical Specification and Standards	U nit	Q T Y
1	Access Control System		S et	1
	Brand	Internationally reputed Brand		
	Model	To be mentioned by the bidder		
	Country of Origin	To be mentioned by bidder		
	Country of Manufacturer	To be mentioned by bidder		
	Access Control System	Access Control System should be Integrated in DCIM Central Monitoring and Management System		
	Network Equipment	IoT Modules and Accessories * 1 Set	Se t	1
	Collector	Expansion module-Eight RS485/AI/DI multiplex ports * 8 Set	Se t	8
	Access Control System for Single & Double Door	Access Control System-2 Door Access Controller-AC220V-RS485 * 9 Set	Se t	9
		Access Control System-Revolving door electromagnetism lock-12VDC-180kg * 13 Set	Se t	13
		Access Control System-Single Door Magnetic Lock -350KG * 5 Set	Se t	5
		Access Control System-Break Glass Switch -NO/NC * 18 Set	Se t	18
		Other Computer Accessories Card,13.56MHz * 30 Set	Se t	30
		Access Control System-Fingerprint/Password/IC Card -12VDC-RS485 * 18 Set	Se t	18
		Access Control System-Password/IC Card -12VDC * 1 Set	Se t	1
		Access Control System-IC Card Register-USB * 1 Set	Se t	1
		Access Control System-Push Button * 18 Set	Se t	18

4.1.2 Steel Structure

Item no.	Description of Item	Unit	Qty
	A. SUPER STRUCTURE: Main Frame		
1	Supplying and Fabrication of Anchor bolts (Día 36 mm) conforming to ASTM A36 Grade 36, with minimum yield strength of 250 MPa in	Kg	2,000

	RCC and masonry structure as per approved drawing (supplier have to prepare the drawing) in accordance with BNBC/ AISC standard procedure including surface cleaning, galvanizing of approved quality and also with required pre-installed formwork and supply and carriage of all materials, incidentals, etc. all complete as per drawings specification and direction of the Engineer-in-charge		
2	Supplying & fabrication of Pre-fabricated Built-up sections including Columns, Main Beams & Sub-Beams , Joists, Steel Connection/Joint Plate, Member for Lift & Stairs as per design and in accordance with BNBC/ AISC standard procedure including surface cleaning and priming with red oxide/gray oxide of approved quality and also with required pre-installed formwork and supply and carriage of all materials, tools, incidentals, etc. all complete as per drawing, specification and direction of the Engineer-in-charge. Minimum strength of supplied steel shall be 50,000 psi. Material specification ASTM A 572 Grade 50	Kg	215,100
3	Supplying & fabrication of BOX Strut Member etc. as per design and in accordance with BNBC/ AISC standard procedure including surface cleaning & priming with red oxide/gray oxide of approved quality and also with required pre-installed formwork and supply and carriage of all materials, tools, incidentals, etc. all complete as per drawing, specification and direction of the Engineer-in-charge. Minimum strength of supplied steel shall be 40,000 psi. Material specification ASTM A 36 (or equivalent)	Kg	20,000
4	Supply of Connection Bolts of variable diameter with Nut and Washer according to "ASTM A325 Type 1 or equivalent" with $F_u = 720$ Mpa, including the cost of testing of bolts. All complete as per drawing, specification and direction of Engineer-In-Charge.	Kg	4,500
B. SUPER STRUCTURE: Decking Panel			
1	Supply of Profile 0.70mm Decking Sheet ASTM A 653M GRADE 50 (Galvanized Coating 100 GSM) in accordance with BNBC/ AISI standard procedure and also with required pre-installed formwork and supply and carriage of all materials, tools, incidentals, etc. all complete as per drawing, specification and direction of the Engineer-in-charge.	Kg	12,500
2	Supplying and fixing of Shear stud of variable dia conforming to ASTM A108 or equivalent with minimum yield strength of 275 MPa, including the cost testing, welding etc. all complete as per drawing, specification and direction of Engineer-in charge.	Kg	1,200
3	Supplying of Self Drilling Decking Fasteners Including washer with necessary anchoring accessories a C1022 Ind Hex Flange Wider Head (14- 15 mm) Under Cut T-CSD, 3 Point Hard Narcotized 320 Plus L1000 H with O.D 16 mm EPDM bonded washer (Block EPDM : 2.0 +/-0.2 mm Steel : 0.8 +/- 0.1 mm) etc. all complete as per drawing, specification and direction of the Engineer-in-charge.	Kg	500

4	Painting of super structure Two coat Enamel paint of approved quality with proper cleaning and prime coat with all cost including supply and carriage of all materials, tools, formwork incidentals, etc. all complete as per drawing, specification and direction of the Engineer-in-charge	Kg	235,100
5	Pre-Engineered Welded Columns, Main Beams, Sub beams, Strut members, Members of Stair & Lift core and fitting-fixing, etc. as per drawing all complete as per site in charge	Kg	255,800
6	Supply & Fitting Steel Fire Single Door. (Size- Width * Height: 900 x 2100)	Nos	12
7	Supply & Fitting Steel Fire Double Door. (Size- Width * Height: 1600 x 2100)	Nos	6
8	Supply & Fitting Main Sliding Gate. (Size- 8096 x 6500)	Nos	1
	C. Cargo Lift	Set	1
1	Brand: Internationally reputed Brand		
2	Model: Internationally reputed Brand		
3	Country of Origin: Internationally reputed Brand		
4	Country of Manufacturer: Internationally reputed Brand		
5	Capacity: 5000 Kg.		
6	Speed: 0.5 m/sec		
7	Machine Room Height: 2800 mm		
8	Overhead: 5000 mm		
9	Pit Depth: 1600 mm		
10	Hoist-Way Size: 2700mm x 2700 mm (Width x Depth)		
11	No. of Floor / Stops: 3/3		
12	Service Floors Name: G,1,2.		
13	Control System: Manufacturer's Standard, Microprocessor based Controller operated		
14	Driving System: AC VVVF Drive PM Gearless Machine		
15	Traction Machine: Manufacturer's Standard		
16	Motor Rating: Gearless Motor heavy-duty commercial grade motor for round the clock operation.		
17	Operation: Simplex, Selective Collective (Full Collective)		
18	Power Supply: AC 400 Volt (+10%), 3 Phase, 50 Hz. (Main Power) AC 220 Volt (+10%), 1 Phase, 50 Hz. (for Lighting)		
19	Motor Capacity: Approx. 25 KW		
20	Cabin Dimension: 2800 mm x 3400 mm x 2300 mm (Width x Depth x Height)		
21	Opening Type: Automatic 2 Panel Center Opening		
22	Door Size: 2000 mm x 2200 mm (Width x Height)		
23	Cabin Model: Stainless Steel.		
24	COP & LOP: Manufacturer's Standard		
25	Car Position Indicator: To be Combined with OPB		
26	Flooring: Marble Tiles		
27	Ceiling: Manufacturer's Standard		

28	Door Sill: Manufacturer's Standard		
29	Ground Floor Door Frame: Wide Jamb, Trapper with Transom Panel Stainless Steel		
30	Typical Floor Door Frame: 40 mm Standard Frame in Stainless Steel		
31	Inter phone		
32	Handrail: one sided		
33	Other: Manufacturer's Standard		
34	Manufacturers authorization letter		
35	Warranty and maintenance: 3 yrs.		
D. DR FACILITY FOUNDATION WORK: (Sub-Structure)			
1	Mobilization including site preparation (i.e. temporary tank for pile to store water), material procurement & layout update before physical works start, making storage facilities for cement & construction tools & all required equipment approved by the Project Engineer.	Job	1
2	Providing layout and carry over PWD Bench-Mark (BM) at site from nearby BM Pillar, Property lines, existing ground level (EGL), formation ground level (FGL), highest flood levels (HFL), plinth levels (PL), mean sea level (MSL), setting and marking all pillars, marker, pegs etc. showing and maintaining reduced levels (RL's) including locating, establishing, protecting all public utilities within the premise of work and finally all to be presented in black and white.	L.S	1
3	Drilling for cast in situ pile up to the enquired depth and diameter , true to vertical, providing bentonite slurry and maintaining water level in the hole, washing the hole for at least 30 minutes, clean the bore-hole and make the borehole ready for placing steel cage and concreting including hire charge of rotary machine and related equipment, cost of fuel, lubricant, mobilization, demobilization, maintenance, spares, stand-buys, insurance coverage, water, electricity & other charges all compete as per design and direction of engineer-in-charge. Providing and making point welding at contact point of the spiral binders at reasonable intervals with the main reinforcements by electric arc welding for construction of cast in situ bored pile carefully with highly oxidized electrodes making the points prominent as per direction of the engineer-in-charge. The rate is inclusive of cost of all materials, labor, tools, plants and equipment, cost of power, mobilization & demobilization of the same. Providing and making welded splice by welding of minimum 900 mm length at the lap of main reinforcement in re-bar cage to be placed in bore-hole where necessary by electric arc welding with highly oxidized electrodes making the joint prominent as per direction of the engineer-in-charge.		
	500 mm diameter (Up to 40 m)	m	2,6 28

4	Earth work in excavation in all kinds of soil for foundation trenches including layout, providing center lines, local bench-mark pillars, levelling, ramming and preparing the base, fixing bamboo spikes and marking layout with chalk powder, providing necessary tools and plants, protecting and maintaining the trench dry etc., stacking, cleaning the excavated earth at a safe distance out of the area enclosed by the layout etc. all complete and accepted by the Engineer-in-charge, subject to submit method statement of carrying out excavation work to the Engineer-in-charge for approval. However, engineer’s approval shall not relieve the contractor of his responsibilities and obligations under the contract.	Cum	200
5	Sand filling in foundation trenches and plinth with sand having min. F.M. 1.2 in 150 mm in layers including leveling, watering and compaction to achieve minimum dry density of 95% with optimum moisture content (Modified proctor test) by ramming each layer up to finished level as per design supplied by the design office only, all complete and accepted by the Engineer-in-charge	Cum	750
6	One-layer brick flat soling in foundation or in floor with first class/picked jam bricks (BDS 208) including preparation of bed and filling the interstices with local sand, leveling etc. complete and accepted by the Engineer-in-charge.	Cum	520
7	Reinforced cement concrete works (1:1:5.3) in bore-hole for making cast-in-situ pile having minimum compressive strength 25 Mpa at 28 days on standard cylinder with cement conforming to BDS 232 & ASTM 1615 standard (OPC), Minimum yield strength 420n/mm ² and holmic Lafarge brand mixed with best quality coarse sand [Sylhet sand or coarse sand of equivalent F.M.2.5], 20 mm down well graded crushed stone chips including breaking chips, screening through proper sieves, making, placing re-bar cage in position, placing & removing tri-pod as per requirement, pouring the concrete in bore-hole with the help of a tremie pipe, maintaining the tremie pipe immersed in concrete by at least 1 meter throughout the period of concreting, maintaining required slump etc. mixing the aggregates with mixer machine with hopper, casting in forms, all complete in water, electricity, testing of materials and concrete etc. & other charges as per design, drawing and direction of the engineer-in-charge.	Cum	525
8	Supplying, fabrication and fixing to details as per design deformed bar reinforcement in concrete in accordance with BSTI standard in/c straightening and cleaning rust, if any, bending & binding in position in/c supply of G.I. wires etc. complete in all respects in all floors. 7.5 grade deformed bar with minimum $f_{y} = 500$ Mpa, ultimate strength 582 Mpa use BSRM or Equivalent brand	48,500	Kg

9	Breaking head of hardened cast in situ bored pile/pre-cast pile up to a required length by any means but without damaging the rest and removing the dismantled materials such as concrete to a safe distance including scraps and cleaning concrete from steel/M.S. rods, straightening & bending of pile bars, preparation and making platform where necessary, carrying, all sorts of handling, stacking the same properly after clearing, leveling and dressing the situ and clearing the bed etc. complete as per direction of the engineer-in-charge.	Cum	15
10	Cement concrete works using steel shutter, with minimum cement content relates to mix ratio 1:3:6 having minimum $f_{cr} = 15$ Mpa, and satisfying a specified compressive strength $f'_{c}=15$ Mpa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM1615, Minimum yield strength 420n/mm ²), and cement conforming to BDS EN-197-1-CEM 1 (32.5 to 52.5 N) / ASTM-C 150 Type - I, best quality sand [50% quantity of best local sand (F.M. 1.2) and 50% quantity of Sylhet sand or coarse sand of equivalent F.M. 2.2] and 20 mm down well graded brick chips conforming ASTM C-33 including breaking chips and screening, making, placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing in standard mixer machine with hopper fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering-shuttering including cost of water, electricity, testing and other charges etc. all complete approved and accepted by the Engineer. (rate is excluding the cost of reinforcement and its fabrication, placing and binding).	Cum	12
11	Reinforced cement concrete works using steel shutter, with minimum cement content relates to mix ratio 1:1.5:3 having minimum $f_{cr} = 25$ Mpa, and satisfying a specified compressive strength $f'_{c}=25$ Mpa at 28 days on standard cylinders as per standard practice of Code ACI/BNBC/ASTM1615, Minimum yield strength 420n/mm ²), and cement conforming to BDS EN- 197-1-CEM 1 (32.5 to 52.5 N) / ASTM-C 150 Type - Impolicy Lafarge best quality sand [50% quantity of best local sand (F.M. 1.2) and 50% quantity of Sylhet sand or coarse sand of equivalent F.M. 2.2] and 20 mm down well graded stone chips conforming ASTM C-33 including breaking chips and screening, making, placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing in standard mixer machine with hopper fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering shuttering including cost of water, electricity, testing and other charges etc. all complete approved and accepted by the Engineer. (rate is excluding the cost of reinforcement and its fabrication, placing and binding).	Cum	262

12	Supplying fabrication and fixing to details as per design deformed bar reinforcement in concrete in accordance with BDS 1313: 1991 standard including straightening and cleaning rust, if any, bending and binding in position including supply of G.I. wires etc. complete in all respects and accepted by the Engineer. 72.5 - grade deformed bar with minimum $f_y = 500$ Mpa tensile strength, use BSRM or Equivalent brand	Kg	29,575
E. DR FACILITY FOUNDATION WORK: (Super Structure)			
1	Brick works of width one brick or one and a half brick length of first class bricks with cement sand (F.M. 1.2) mortar (1:6) in superstructure including raking out joints, filling the interstices with mortar, cleaning and soaking the bricks at least for 24 hours before use and washing of sand, necessary scaffolding, curing at least for 7 days etc. all complete (measurement to given as 250 mm width for one brick length and 375 mm for one brick and a half brick length) and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) In ground floor		
	A. Ground Floor up to 10'	Cum	38
	B. From 10' to 21'-4"	Cum	72
	C. From 21'-4" to 36'-10"	Cum	63
	D. From 36'-10" to 52'-4"	Cum	63
2	Reinforced cement concrete works with minimum cement content relates to mix ratio 1:1.5:3 having maximum water cement ratio = 0.40 and minimum $f'_{cr} = 33.5$ MPa, satisfying a specified compressive strength $f'_{c} = 25$ MPa at 28 days on standard cylinders as per standard practice of Code ACI / BNBC, Cement conforming to BDS EN-197-1-CEMI, 52.5N, best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down well graded stone chips conforming to ASTM C-33 (Aggregate grading as per table shown in technical specification), conducting necessary tests, making and placing shutter in position and maintaining true to plumb, making shutter water-tight properly, placing reinforcement in position; mixing with standard mixer machine with hopper, fed by standard measuring boxes, casting in forms, compacting by vibrator machine and curing at least for 28 days, removing centering shuttering after specified time approved; including cost of water, electricity, other charges etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding laboratory test fees, the cost of reinforcement and its fabrication, placing, binding etc. and the cost of shuttering & centering)		
	A. Tie Beam Level at 10'	Cum	6
	B. Tie Beam Level at 10'	Cum	6
	C. Tie Beam Level at 46'-10"	Cum	6
	D. Plinth Slab Casting	Cum	76
	E. Ground Floor Roof Slab Casting Level at 21'-4"	Cum	74

	F. 1st Floor	Cum	74
	G. 2nd Floor	Cum	74
3	Wooden Shuttering centering and shuttering , including strutting, propping etc. and removal of form for:		
	A. Ground Floor	Sqm	110
	B. 1st Floor	Sqm	110
	C. 2nd Floor	Sqm	110
4	Grade 400 (B400DWR / B420DWR: complying BDS ISO6935-2:2016 / ASTM A615) ribbed or deformed bar produced and marked according to Bangladesh standard, with minimum yield strength, f_y (ReH)= 400 MPa but f_y not exceeding 480 MPa and whatever is the actual yield strength within allowable limit as per BNBC/ ACI 318, the ratio of ultimate tensile strength f_u to yield strength f_y , shall be at least 1.25 and minimum elongation after fracture and minimum total elongation at maximum force is 17% and 8% respectively: up to ground floor		
	A. Ground Floor	Kg	12,500
	B. 1st Floor	Kg	6,700
	C. 2nd Floor	Kg	6,700
5	Minimum 12 mm thick cement sand (F.M. 1:2) plaster (1:6) having with fresh cement to both inner and outer surface of wall, finishing the edges and corners including washing of sand, cleaning the surface, curing at least for 7 days, cost of water, electricity, scaffolding and other charges etc. all complete in all respect as per drawing and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M)		
	A. Ground Floor	Sqm	1,165
	B. 1st Floor	Sqm	820
	C. 2nd Floor	Sqm	980
6	Interior standard acrylic emulsion paint (plastic or matt finish) of approved best quality and color delivered from authorized local agent of the manufacturer in a sealed container; applying to interior wall and ceiling with surface preparation including cleaning drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying necessary interior sealer of specified brand on prepared surface; then applying necessary interior putty of specified brand for levelling, spot filling, crack filling and cutting by sand paper/zero water paper; finally applying 2 coats of interior	Sqm	1,550

	emulsion paint spreading by brush/roller/spray& necessary scaffolding etc. up to desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in charge.		
7	Exterior premium acrylic emulsion paint of approved best quality and color with high performance against dirt picking tendency and efflorescence resistance properties along with water resisting properties and resistance properties against fungi, fading and flaking from authorized local agent of the manufacturer in a sealed container; applying to exterior surface with surface preparation including cleaning drying, making free from dirt, grease, wax, removing all chalked and scaled materials, fungus, mending good the surface defects using sand paper and necessary scaffolding; applying necessary exterior sealer of specified brand on prepared surface; then applying necessary exterior putty of specified brand for leveling, spot filling, crack filling and cutting by sand paper/zero water paper; finally applying 2 coats of exterior emulsion paint spreading by brush/roller/spray & necessary scaffolding etc. up to desired finishing, elapsing specified time for drying or recoating; all complete in all floors and accepted by the Engineer-in charge.	Sqm	1,4 50
8	Standard synthetic enamel paint of approved best quality and color delivered from authorized local agent of the manufacturer in a sealed container, having high water resistance, high bendability, flexibility property; using specified brand thinner applying to metallic or wooden surface by brass/roller/spray in 2 coats over single coat anticorrosive coating including cleaning, drying, making free from dirt, grease, wax, removing all chalked and scaled materials, all complete in all floors and accepted by the Engineer-in-charge.	Sqm	350
9	Supplying, fitting and fixing window grill made of 12 mm x 12 mm M.S. solid bar @ 100mm c/c with outer frame of 38 mm x 6mm F.I. bar and 25 mm x 6 mm F.I. bar for clamp as per design including fabrication, welding, cost of electricity workshop charges, labor charges for fitting and fixing grills in position, local carriage charges, cutting grooves, mending good the damages, tools and plants, finished with anticorrosive painting (Red-Oxide) etc. complete for all floors approved and accepted by the Engineer-in-charge. (Total weight per sqm should be approx. 19 kg and add or deduct @100.00 for each kg/sqm excess or less respectively)	Sqm	350
10	Applying one vertical and one horizontal coat for each coat and successive coat is to be applied after drying up of previous coat by brush/roller/spray in/c cleaning, washing, rubbing, as necessary and sand papering the surface and necessary scaffolding, etc. all complete as per direction of the E-I-C. Supplying, fitting and fixing of aluminum sliding window asper the U.S. Architectural Aluminum Manufacturer’s Association (AAMA) standard specification and BDS 1879:2014 having minimum 1.2 mm thick outer bottom (size 75.50	Sqm	350

	mm, 32 mm, 0.605 kg/m), minimum 1.2 mm thick outer top (size 75.50 mm, 28.50 mm, 0.705 kg/m), minimum 1.2 mm thick shutter top (size 33 mm, 26.80 mm, 0.42 kg/m), minimum 1.2 mm thick shutter bottom (size 60mm, 24.40 mm, 0.589 kg/m), minimum 1.2 mm thick outer side (size 75.50 mm, 19.90 mm, 0.52 kg/m), minimum 1.2 mm thick shutter lock (size 49.20 mm, 25.80 mm, 0.543 kg/m) and minimum 1.2 mm thick inter lock (size 34.40 mm, 32.13 mm, 0.562 kg/m) sections all aluminum members will be anodized to aluminum bronze/silver/ss/black color with a coat not less than 15 microns in thickness or powder coated to any color with a coat not less than 25 microns in thickness and density of 4 mg per square cm etc. including all accessories like sliding door key lock, sliding door wheel, sliding door mohair, sliding door neoprene, bolts and nuts including sealants, keeping provision for fitting 5 mm thick glass including labor charge for fitting of accessories, making grooves and mending good damages, carriage, and electricity complete in all respect as per drawing and accepted by the Engineer in charge.		
11	Supplying, fitting and fixing country made mirror polished homogeneous floor tiles complying BDS ISO 13006: 2015, water absorption $\leq 0.5\%$, modulus of rupture (MOR) ≥ 27 N/mm ² , irrespective of color &/or design, with 20 mm thick cement sand (F.M. 1.2) mortar (1:4) base and raking out the joints with white cement including cutting and laying the tiles in proper way and finishing with care etc. all complete and accepted by the Engineer-in-charge. (Cement: CEM-II/B-M) 600X600MM		
	A. Ground Floor	Sqm	540
	B. 1st Floor	Sqm	520
	C. 2nd Floor	Sqm	520
F. Under Ground Water Reserve Tank:			
1	Reinforced cement concrete works with minimum cement content relates to mix ratio 1:2:4 satisfying a specified compressive strength $f^c = 20$ MPa using best quality Sylhet sand or coarse sand of equivalent F.M. 2.2 and 20 mm down well graded stone chips, mixing with standard mixer machine, compacting by vibrator machine etc. all complete, approved and accepted by the Engineer-in-charge. (Rate is excluding the cost of reinforcement and its fabrication, placing, binding etc.)		
	A. RCC Wall	cum	5.9 5
	B. Supply, Fitting & Remove of Wooden Shutter.	sqm	59. 51

2	Reinforcement, Grade-500 complying ASTM-A-706 deformed bar with min. yield strength, $f_y=400$ Mpa, Min. $f_u/f_y=1.25$, min. % elongation=12. including GI wires, Splices or laps what so ever etc. complete in all respects.	Kg	815.00
3	Minimum 12mm thick cement plaster (1:4) with Portland Composite cement (CEM II/AM, 42.5N) and best quality sand (minimum FM1.2) to dado or anywhere directed with neat cement finishing in/c racking out joint and picking up cement mortar i/c finishing the edges and corners etc. all complete as per direction of the E-I-C.	Sqm	40.03
G. Dismantle Work			
1	Remove of Existing Container and replace to other place and after completing the construction work again, replacement the container to the same place as before with foundation all complete and accepted by the Engineer-in-charge	L.S	1
H. Interior WORK: (Sub-Structure)			
SL. No	Description of works	Quantity	Unit
1	Tempered Glass Door (MMR Room) Tempered Glass Door. Size: 3' -0"X 7'-0" (Single leaf)	Nos	2.00
2	Tempered Glass Door (Lobby, NOC) Tempered Glass Sliding Door. Size: 4' -0"X 7'-0" (Double leaf)	Nos	6.00
3	False ceiling Works False ceiling Works (Passage Area, NOC Room, Lobby Area)	Sqm	96.00
4	Louver (5'x6' Size) Louver for all HT, MV, LV Room, etc.	Nos	6.00

4.1.3 Electric power distribute system

Supply, Installation, Testing, Commissioning of 11/0.415kV Electrical Equipment and diesel genset system, based on the actual load requirements provided by the BCC, the supplier should provide the power supply architecture solution and specific configuration of the high-voltage and low-voltage systems and diesel generator systems. The system architecture and equipment configuration must meet the uptime tier III certification. Bidders shall provide detailed BOQ with quantity and price. If there are any missing items in the BOQ template which will be needed in the delivery period, subcontractor shall add these items, make quotation and mark them out in additional Column.			
Item no.	Description of Item	Unit	Qty
1	ELECTRIFICATION WORKS		
	Internal Electrical Works. Cable Works.		

1.1	3C-1.5 sq. mm BYA with 1.5 sq. mm BYA ECC Cable	m	30 0
1.2	3C-2.5 sq. mm BYA with 2.5 sq. mm BYA ECC Cable	m	30 0
	GANG SWITCH.		
	Brand: To be mentioned by the bidder		
	Providing & fixing 250 volts. 5 / 6 amps (minimum) concealed type following switch / switch socket manufactured and tested in accordance with relevant IEC / VDE / NEMA / BS / JIS standards mounted on required size 18 SWG galvanized plain sheet / PVC board (Self-extinguishing 650°C) of 76.2 mm (3") depth. All electrical contacts shall be of brass / copper. (Manufacturer shall have certificate of standard)		
1.3	One gang switch	Pcs	30
1.4	Two gang switch	Pcs	30
1.5	Three gang switch	Pcs	30
	SOCKET OUTLETS		
	Brand: To be mentioned by the bidder		
	Providing & fixing 250 volt single phase 3-pin combined switch socket outlet (surface / Concealed type) manufactured and tested in accordance with relevant IEC / VDE / NEMA / BS / JIS standards mounted on required size 18 SWG galvanized plain sheet board / Plastic Board (Self- extinguishing 650oC) of 76.2 mm. (3") depth.		
1.6	Supply & fixing of LED tube / panel light fitting of the following features, size and model with all necessary elements such as driver, chips etc.	Pcs	15 0
1.7	LIGHT FIXTURE	Lot	1
	Supply & fixing of LED tube / panel light fitting of the following features, size and model with all necessary elements such as driver, chips etc. complete. Model & sample shall be approved by the Engineer.		
2	VRV TYPE AIR-COOLER		
	Supply, installation, testing & commissioning of VRV type air- cooler with inverter comprising condensing and evaporating units having following cooling capacity based on indoor temperature 27°C-30°C DB / 19.5°-22°C WB and outdoor temperature 35°-40°C DB at high fan speed condition suitable for installation & operation in tropicalized country like BANGLADESH & as per detailed specifications & standard as mentioned below: "(a). OUTDOOR UNIT / CONDENSING UNIT		
	(i). Type: Compact weather proof outdoor type condensing unit		

	(ii). Compressor: Hermitically sealed reciprocating / rotary compressor.		
	(iii). Refrigerant: Internationally accepted & recommended and most commonly used gas (CFC free)		
	(iv). Blower motor: Well- balanced type direct driven centrifugal type blower fan (v). Power supply:		
	(i). 200-250 V, single phase, 50 Hz. AC supply [up to 30000 BTU/HR]		
	(ii). 400-440 V 3-phase, 50 Hz. AC supply [above 30000 BTU/HR]		
	(vi). Condensing pipe / coil: Made of copper		
	(vii). EER : Minimum 8.5 [EER = BTU/HR] WATT		
	(viii). Others features:		
	(i). Well balanced in all respect having interlock with the fan coil unit.		
	(ii). Compressor dully equipped with vibration isolator, thermostatic & overload controls, magnetic contactors and all other standard accessories complete.		
	(iii). Refrigerant copper pipe [From outdoor to indoor unit] with thermal insulation, refrigerant charging arrangement etc.[minimum length10 meter]		
	(iv). Reqd. size PVC insulated & sheathed cable with ECC through water grade PVC pipe from outdoor to indoor unit .		
2.1	VRV-Groud Floor	Set	1
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Outdoor Unit * 1 Nos, Capacity : 100.5kw ; Electrical Data:26KW, 400V, 3PH, 50Hz; 700kg, Floor-mounted		
	Indoor Unit type 1 * 4 Nos, Capacity: 16kw for TX Room &HT Room, Hoisting,		
	Indoor Unit type 2 * 1 Nos, Capacity: 7.1kw for DG CONTROL Room, Hoisting		
	Indoor Unit type 3 * 1 Nos Capacity : 7.1kw for LT Room, Hoisting		
	Indoor Unit type 4 * 1 Nos , Capacity : 7.1kw for MMRA Room, Hoisting		
	Indoor Unit type 5 * 1 Nos, Capacity : 7.1kw for MMRB Room, Hoisting		
	Indoor Unit type 6 * 1 Nos, Capacity : 7.1kw for STORAGE Room, Hoisting		
	Supply & installation of copper refrigerant pipe complete with all necessary pipe fitting such as bends, tees, reducers, sockets, gate valves etc.as per drawing and direction. The concealed pipe shall be covered with PVC pipe with nitrite rubber insulation and be installed with proper hangers supports, clamp as per site condition and complying standard. Pipe work shall be tested unto the recommendation and direction of Engineer.		
	Φ38.1Dia. copper tube * 30 meters		

	Φ19.05Dia. copper tube * 30 meters		
	R410A * 25 Kg		
2.2	VRV-First Floor	Set	1
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Outdoor Unit * 1, Capacity : 100.5kw ; Electrical Data:26KW, 400V, 3PH, 50Hz; 700kg, Floor-mounted		
	Indoor Unit Type 1 * 4 Nos, Capacity: 14.2kw for BATTERY Room A and B, Hoisting		
	Indoor Unit Type 2 * 1 Nos, Capacity: 7.1kw for ELV Room B, Hoisting		
	Indoor Unit Type 3 * 2 Nos, Capacity : 4.5kw for Data Hall Log Desk and Restroom, Hoisting		
	Indoor Unit Type 4 * 2 Nos, Capacity : 10kw for NOC Room, Hoisting		
	Supply & installation of copper refrigerant pipe complete with all necessary pipe fitting such as bends, tees, reducers, sockets, gate valves etc.as per drawing and direction. The concealed pipe shall be covered with PVC pipe with nitrite rubber insulation and be installed with proper hangers supports, clamp as per site condition and complying standard. Pipe work shall be tested unto the recommendation and direction of Engineer.		
	Φ38.1Dia. copper tube * 50 meters		
	Φ19.05Dia. copper tube * 50 meters		
	R410A * 35 kg		
3	ELECTRICAL COST OF SUBSTATION & DIESEL GENERATOR		
3.1	HT PANEL	Set	1
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	11kV HT Switchgear Panel (Utility power input)		
	Sheet Steel Clad, Powder Coated (RAL 7035), 12 SWG (2.64mm) Structure + 14 SWG (2mm) Door + Body Frame, Dust and Vermin Proof, Free Standing/Floor Mounting Indoor Type, 11 kV, 50 Hz, High Tension Switchgear Panel with Hard Drawn Electrolytic Copper Busbars (Cross Section 1.55 Amps/mm ²) 630 Amps TP and 300 Amps ECC (Voltage Level for Insulation 1000V) and all Internal Wiring equipped with the following accessories.		
	The Boards are Designed and Constructed in according with BS 4586 / IEC 439.		
	Busbars and other Live Parts are Spaced and Insulated in accordance with European Standards...		

	IEC150, UTE C20-040, VDE-C 110 & NEMA		
	The Boards are Assembled Complete with all Wiring, Metal Parts Bonded Ground Paints & Finished		
	with Two Coats Anti-Rust Pant. The Panel Board will fully comply regulations of the 15th Addition		
	IEE Wiring Regulations for Insulation and Switching.		
	Vacuum Circuit Breaker		
	630A, 11 kV, Breaking Current 25 kA, Making Current 63 kA, 50 Hz, TP Vacuum Circuit Breaker (Withdrawable Type) with Motor Operated Mechanism with Closing Solenoid Shunt Releases, Auxiliary Contacts (5 NO + 5 NC) and Limit Switch (1 'NO + 1 NC) for indication "Closing Spring Charged", Mechanical On/Off/Trip Indicator.		
	<ul style="list-style-type: none"> • 3 Nos- cast resin insulated, single pole potential transformers having ratio $(11000/\sqrt{3})/(110\text{ V}/\sqrt{3})$, burden 50 VA class 0.5 for metering & 3P protection. 		
	<ul style="list-style-type: none"> • 3 Nos- 11kV, east resin insulated dry type double core current transformer having ratio 200/5/5A burden 15 VA first core for metering of class 0.5 and second core for protection of class 5P10. 		
	<ul style="list-style-type: none"> • 1 Nos- Digital amp meter having scale 0-200A with selector Switch. 		
	<ul style="list-style-type: none"> • 3 Nos- digital volt meter having scale 0-15 KV. 		
	<ul style="list-style-type: none"> • 1 No. -Triple pole solid state micro-processor operated self-powered IDMT relay with adjustable time delay over current, instantaneous short circuit and earth fault protection element. 		
	Brand: To be mentioned by the bidder		
	<ul style="list-style-type: none"> • 1 No. Annunciator (8 Windows) 		
	<ul style="list-style-type: none"> • 1 No.- 415V, 4P, Type-1, Surge Protection Device 		
	<ul style="list-style-type: none"> • 3 Nos- Indicating lamps ON/OFF/TRIP 		
	<ul style="list-style-type: none"> • 3 Nos- Indicating lamp for indicating bus-bar voltage. 		
	<ul style="list-style-type: none"> • 1 Nos- Panel space heater. 		
	<ul style="list-style-type: none"> • 1 Set battery of required voltage & AH capacity with trickle charger. 		
	<ul style="list-style-type: none"> • 1 Set temperature controller to trip the H.T. breaker. 		
	11kV Metering Panel as per Hi-Tech Park Authority Requirement complete with 0.2 Class Energy Meter, Current Transformer (CT), Potential Transformer (PT), etc. * 1 PCS		
	11kV HT Switchgear Panel (to AVR & Transformers, AVR BP & AVR OUT PANEL with interlock as per drawing) * 5 PCS		

	Sheet Steel Clad, Powder Coated (RAL 7035), 12 SWG (2.64mm) Structure + 14 SWG (2mm) Door + Body Frame, Dust and Vermin Proof, Free Standing/Floor Mounting Indoor Type, 11 kV, 50 Hz, High Tension Switchgear Panel with Hard Drawn Electrolytic Copper Busbars (Cross Section 1.55 Amps/mm ²) 630 Amps TP and 300 Amps ECC (Voltage Level for Insulation 1000V) and all Internal Wiring equipped with the following accessories.		
	The Boards are Designed and Constructed in according with BS 4586 / IEC 439.		
	Busbars and other Live Parts are Spaced and Insulated in accordance with European Standards...		
	IEC150, UTE C20-040, VDE-C 110 & NEMA		
	The Boards are Assembled Complete with all Wiring, Metal Parts Bonded Ground Paints & Finished		
	with Two Coats Anti-Rust Pant. The Panel Board will fully comply regulations of the 15th Addition		
	IEE Wiring Regulations for Insulation and Switching.		
	Vacuum Circuit Breaker		
	630A, 11 kV, Breaking Current 25 kA, Making Current 63 kA, 50 Hz, TP Vacuum Circuit Breaker (Withdrawable Type) with Motor Operated Mechanism with Closing Solenoid Shunt Releases, Auxiliary Contacts (5 NO + 5 NC) and Limit Switch (1 NO + 1 NC) for indication "Closing Spring Charged", Mechanical On/Off/Trip Indicator.		
	<ul style="list-style-type: none"> • 3 Nos- cast resin insulated, single pole potential transformers having ratio $(11000/\sqrt{3})/(110\text{ V}/\sqrt{3})$, burden 50 VA class 0.5 for metering & 3P protection. 		
	<ul style="list-style-type: none"> • 3 Nos- 11KV, east resin insulated dry type double core current transformer having ratio 200/5/5A burden 15 VA first core for metering of class 0.5 and second core for protection of class 5P10. 		
	<ul style="list-style-type: none"> • 1 Nos- Digital amp meter having scale 0-200A with selector Switch. 		
	<ul style="list-style-type: none"> • 3 Nos- digital volt meter having scale 0-15 KV. 		
	<ul style="list-style-type: none"> • 1 Nos. -Triple pole solid state micro-processor operated self-powered IDMT relay with adjustable time delay over current, instantaneous short circuit and earth fault protection element. 		
	Brand: To be mentioned by the bidder		
	<ul style="list-style-type: none"> • 1 Nos. Annunciator (8 Windows) 		
	<ul style="list-style-type: none"> • 1 Nos.- 415V, 4P, Type-1, Surge Protection Device 		
	<ul style="list-style-type: none"> • 3 Nos- Indicating lamps ON/OFF/TRIP 		

	• 3 Nos- Indicating lamp for indicating bus-bar voltage.		
	• 1 Nos- Panel space heater.		
	• 1 Set battery of required voltage & AH capacity with trickle charger.		
	• 1 Set temperature controller to trip the H.T. breaker.		
	11kV HT Switchgear Panel (AVR BP RU PANEL as per drawing) * 1 PCS		
	Sheet Steel Clad, Powder Coated (RAL 7035), 12 SWG (2.64mm) Structure + 14 SWG (2mm) Door + Body Frame, Dust and Vermin Proof, Free Standing/Floor Mounting Indoor Type, 11 kV, 50 Hz, High Tension Switchgear Panel with Hard Drawn Electrolytic Copper Busbars (Cross Section 1.55 Amps/mm ²) 630 Amps TP and 300 Amps ECC (Voltage Level for Insulation 1000V) and all Internal Wiring equipped with the following accessories.		
	The Boards are Designed and Constructed in according with BS 4586 / IEC 439.		
	Busbars and other Live Parts are Spaced and Insulated in accordance with European Standards...		
	IEC150, UTE C20-040, VDE-C 110 & NEMA		
	The Boards are Assembled Complete with all Wiring, Metal Parts Bonded Ground Paints & Finished		
	with Two Coats Anti-Rust Pant. The Panel Board will fully comply regulations of the 15th Addition		
	IEE Wiring Regulations for Insulation and Switching.		
3.2	Supply 11kV HT Single Phase Automatic Voltage Regulator (AVR)	Nos.	3
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	- Project Site altitude: 100 meters		
	- Rated Voltage: 11000 V		
	- Rated Frequency: 50 Hz		
	- Rated Power: 3600kVA		
	- Rated Regulation Range: -10% to +10% in 32 steps of 5/8% each		
	- Efficiency: $\geq 98\%$		
	- Insulation Level: 15 kV		
	- Control System Accuracy Class: 1		
	- Cooling Method: Natural, ONAN type		
	- Grounding system		
	- LCD display position indicator		
	- Welded sub base		
	- Other auxiliary Component or system which is mandatory for operation		

	- The exterior color needs to be confirmed by the customer before manufacturing.		
	- Provide RS485 interface compatible Gateway to be supplied in event of different protocol.		
3.3	TRANSFORMER		
3.3.1	2000 kVA (11/0.415 kV) Dry type Transformer	Set	1
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Altitude 100 m, Dry type without enclosure, Type of cooling: AN, 11 kV/ 0.415 kV/3P/4W/50Hz, Dyn11, Uk within 6%, indoor type, Coil winding CU, Class F, with 5 Dry contact connection point, total accepted running @100% load, Extreme ambient temperature@40°C w/ necessary accessories.		
	Rated Capacity: 2000 kVA		
	Rated Frequency: 50 Hz		
	Rated Voltage		
	- Primary: 11000 V		
	- Secondary: 415 V		
	Vector Group: Dyn 11		
	Ambient Temperature: 40°C		
	Star Point Brought Out & Loadable upto: 100%		
	Max. Service Altitude: 100 Meters		
	Installation: Indoor		
	Impedance: 6%		
	Type of Cooling: AN		
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
3.3.2	1600 kVA (11/0.415 kV) Dry type Transformer	Set	1
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Altitude 100 m, Dry type without enclosure, Type of cooling: AN, 11 kV/ 0.415 kV/3P/4W/50Hz, Dyn11, Uk within 6%, indoor type, Coil winding CU, Class F, with 5 Dry contact connection point, total accepted running @100% load, Extreme ambient temperature@40°C w/ necessary accessories.		

	Rated Capacity: 1600 kVA		
	Rated Frequency: 50 Hz		
	Rated Voltage		
	- Primary: 11000 V		
	- Secondary: 415 V		
	Vector Group: Dyn 11		
	Ambient Temperature: 40°C		
	Star Point Brought Out & Loadable up to: 100%		
	Max. Service Altitude: 100 Meters		
	Installation: Indoor		
	Impedance: 6%		
	Type of Cooling: AN		
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
3.4	LT PANEL		
3.4.1	1 LT SB Panel:	Set	1
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		
	COMMON BUS-BAR:		
	1 Set- 415V, 3200A, 100%TP + 100%N + 100%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING:		
	1 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LSIG (Long Time, Short Time, Instantaneous and Ground Fault) protection. Including Electrical Interlock facilities for Incoming ACB. Breaking Capacity: 63kA.		

	3 Nos.- 415V, 3200 / 5A ratio current transformer with suitable accuracy & burden.		
	1 Nos.- Multifunction Meter with Modbus TCP Communication Port		
	1 Nos.- Phase Sequence Relay		
	OUTGOING:		
	2 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 63kA.		
	1 Nos.- 2500A (ACB) 3 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 63kA.		
	1200 kvar AUTOMATIC PFI PLANT :		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be compartmentalized assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. PFI Panel shall complete with TP busbars and earth block, micro processor based auto power factor correction controlled 12-steps relay with digital PF reading display, capacitor bank, contactors, fuses, summary CT, ON-OFF indicators for every stage of capacitor bank (except directly connected one).		
3.4. 2	2 LTSB Panel:		
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		

	COMMON BUS-BAR		
	1 Set- 415V, 2500A, 100%TP + 100%N + 100%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	1 Nos.- 2500A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LSIG (Long Time, Short Time, Instantaneous and Ground Fault) protection. Including Electrical Interlock facilities for Incoming ACB. Breaking Capacity: 63kA.		
	3 Nos.- 415V, 2500 / 5A ratio current transformer with suitable accuracy & burden.		
	1 Nos.- Multifunction Meter with Modbus TCP Communication Port		
	1 Nos.- Phase Sequence Relay		
	OUTGOING:		
	2 Nos.- 2500A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 63kA.		
	1 Nos.- 1600A (ACB) 3 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 63kA		
	960 kvar AUTOMATIC PFI PLANT :		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be compartmentalized assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. PFI Panel shall complete with TP busbars and earth block, micro processor based auto power factor correction controlled 12-steps relay with digital PF reading display, capacitor bank, contactors, fuses, summary CT, ON-OFF indicators for every stage of capacitor bank (except directly connected one).		
3.4. 3	1 DGSB & 3 DGSB Panel:	Set	2
	Brand: To be mentioned by the bidder		

	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		
	COMMON BUS-BAR		
	1 Set- 415V, 3200A, 100%TP + 100%N + 100%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	1 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LSIG (Long Time, Short Time, Instantaneous and Ground Fault) protection. Including Electrical Interlock facilities for Incoming ACB. Breaking Capacity: 63kA.		
	3 Nos.- 415V, 3200 / 5A ratio current transformer with suitable accuracy & burden.		
	1 Nos.- Multifunction Meter with Modbus TCP Communication Port		
3.4.4	2 DGSB Panel:		
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		
	COMMON BUS-BAR		

	1 Set- 415V, 3200A, 100%TP + 100%N + 100%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	1 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LSIG (Long Time, Short Time, Instantaneous and Ground Fault) protection. Including Electrical Interlock facilities for Incoming ACB. Breaking Capacity: 63kA.		
	OUTGOING:		
	2 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 63kA.		
	3 Nos.- 415V, 3200 / 5A ratio current transformer with suitable accuracy & burden.		
	1 Nos.- Multifunction Meter with Modbus TCP Communication Port		
3.4.5	1ATS-A & 1ATS-B	Set`	2
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer.		
	COMMON BUS-BAR		
	01 Set- 415V, 3200A, 100%TPN + 50%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	02 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LSIG (Long Time, Short Time, Instantaneous and Ground Fault) protection. Including Electrical Interlock facilities for Incoming		

	ACB. Including Electrical Interlock facilities for Incoming ACB. Breaking Capacity: 63kA.		
	Both Incoming Breaker will be Electrically Interlocked & Mechanical Interlocked		
3.4. 6	2 ATS-A & 2ATS-B	Set`	2
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer.		
	COMMON BUS-BAR		
	01 Set- 415V, 3200A, 100%TPN + 50%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	01 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LSIG (Long Time, Short Time, Instantaneous and Ground Fault) protection. Including Electrical Interlock facilities for Incoming ACB. Including Electrical Interlock facilities for Incoming ACB.		
	01 Nos.- 2500A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LSIG (Long Time, Short Time, Instantaneous and Ground Fault) protection. Including Electrical Interlock facilities for Incoming ACB. Including Electrical Interlock facilities for Incoming ACB. Breaking Capacity: 63kA.		
	Both Incoming Breaker will be Electrically Interlocked & Mechanical Interlocked		
3.4. 7	1 MDB-A	Set`	1

	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		
	COMMON BUS-BAR		
	01 Set- 415V, 3200A, 100%TPN + 50%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	1 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LSIG (Long Time, Short Time, Instantaneous and Ground Fault) protection. Including Electrical Interlock facilities for Incoming ACB. Breaking Capacity: 63kA.		
	3 Nos.- 415V, 3200 / 5A ratio current transformer with suitable accuracy & burden.		
	1 Nos.- Multifunction Meter with Modbus TCP Communication Port		
	BUS-COUPLER		
	01 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 63kA.		
	OUTCOMING		
	02 Nos.- 1250A (MCCB) 3 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 65kA		
	01 Nos.- 2000A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 65kA		

	05 Nos.- 250A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
	02 Nos.- 160A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
	06 Nos.- 100A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA		
3.4.8	1 MDB-B	Set`	1
	Brand: To be mentioned by the bidder		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		
	COMMON BUS-BAR		
	01 Set- 415V, 3200A, 100% TPN + 50%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	1 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LSIG (Long Time, Short Time, Instantaneous and Ground Fault) protection. Including Electrical Interlock facilities for Incoming ACB. Breaking Capacity: 63kA.		

	3 Nos.- 415V, 3200 / 5A ratio current transformer with suitable accuracy & burden.		
	1 Nos.- Multifunction Meter with Modbus TCP Communication Port		
	BUS-COUPLER		
	01 Nos.- 3200A (ACB/INSOLATOR) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 63kA.		
	OUTCOMING		
	02 Nos.- 1250A (MCCB) 3 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 65kA		
	01 Nos.- 2000A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 65kA		
	05 Nos.- 250A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
	02 Nos.- 160A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
	06 Nos.- 100A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
3.4.9	2MDB-A	Set`	1
	Brand: To be mentioned by the proposer		
	Model: To be mentioned by the proposer		
	Origin: To be mentioned by the proposer		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following		

	specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		
	COMMON BUS-BAR		
	01 Set- 415V, 3200A, 100% TPN + 50%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	1 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LSIG (Long Time, Short Time, Instantaneous and Ground Fault) protection. Including Electrical Interlock facilities for Incoming ACB.		
	Breaking Capacity: 63kA.		
	3 Nos.- 415V, 3200 / 5A ratio current transformer with suitable accuracy & burden.		
	1 Nos.- Multifunction Meter with Modbus TCP Communication Port		
	BUS-COUPLER		
	01 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 63kA.		
	OUTCOMING		
	02 Nos.- 1000A (MCCB) 3 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 65kA		
	01 Nos.- 1600A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 65kA		
	04 Nos.- 250A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification &		

	complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
	02 Nos.- 160A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
	02 Nos.- 100A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA		
3.4. 10	2MDB-B	Set`	1
	Brand: To be mentioned by the proposer		
	Model: To be mentioned by the proposer		
	Origin: To be mentioned by the proposer		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		
	COMMON BUS-BAR		
	01 Set- 415V, 3200A, 100% TPN + 50%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	1 Nos.- 3200A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LSIG (Long Time, Short Time, Instantaneous and Ground Fault) protection. Including Electrical Interlock facilities for Incoming ACB.		
	Breaking Capacity: 63kA.		
	3 Nos.- 415V, 3200 / 5A ratio current transformer with suitable accuracy & burden.		

	1 Nos.- Multifunction Meter with Modbus TCP Communication Port		
	BUS-COUPLER		
	01 Nos.- 3200A (ACB/INSOLATOR) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 63kA.		
	OUTCOMING		
	02 Nos.- 1000A (MCCB) 3 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 65kA		
	01 Nos.- 1600A (ACB) 4 Pole 415V, 50 Hz Fixed type Metal Clad Air Circuit Breaker with motor operated electronic controlled time dependent selectively operating with built in adjustable overload, adjustable short circuit protection, under voltage releases and auxiliary contacts. LI protection. Breaking Capacity: 65kA		
	04 Nos.- 250A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
	02 Nos.- 160A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
	02 Nos.- 100A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
3.4.11	IIT-UDB-A:	Set	1
	Brand: To be mentioned by the proposer		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of		

	adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		
	COMMON BUS-BAR		
	01 Set- 415V, 2000A, 100%TPN + 50%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING:		
	02 Nos.- 1000A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker, Breaking Capacity: 65kA		
	OUTGOING:		
	04 Nos.- 630A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 50kA.		
	03 Nos.- 32A (MCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 25kA.		
3.4.12	IIT-UDB-B:	Set	1
	Brand: To be mentioned by the proposer		
	Model: To be mentioned by the proposer		
	Origin: To be mentioned by the proposer		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, free standing, floor mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		
	COMMON BUS-BAR		
	01 Set- 415V, 2000A, 100%TPN + 50%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING:		

	02 Nos.- 1000A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker, Breaking Capacity: 65kA		
	OUTGOING:		
	04 Nos.- 630A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 50kA.		
	03 Nos.- 32A (MCB) 3 Pole 415V, 50 Hz Miniature Circuit Breaker as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 25kA.		
3.4.13	In-row A/C PDB:	Set	12
	Brand: To be mentioned by the proposer		
	Model: To be mentioned by the proposer		
	Origin: To be mentioned by the bidder		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, wall mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		
	COMMON BUS-BAR		
	01 Set- 415V, 250A, 100% TPN + 50%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	01 Nos.- 250A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
	OUTGOING:		
	08 Nos.- 63A (MCB) 3 Pole 415V, 50 Hz Miniature Circuit Breaker as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 25kA.		
3.4.14	In-room A/C PDB:	Set	4
	Brand: To be mentioned by the bidder		

	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, wall mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		
	COMMON BUS-BAR		
	01 Set- 415V, 100A, 100% TPN + 50%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	01 Nos.- 100A (MCCB) 3 Pole 415V, 50 Hz Molded Case Circuit Breaker with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
	OUTGOING:		
	03 Nos.- 63A (MCB) 3 Pole 415V, 50 Hz Miniature Circuit Breaker as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 25kA.		
	09 Nos.- 16A (MCB) 1 Pole 415V, 50 Hz Miniature Circuit Breaker as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 25kA.		
3.4.15	VRV PDB:	Set	2
	Brand: To be mentioned by the proposer		
	Model: To be mentioned by the proposer		
	Origin: To be mentioned by the proposer		
	Design, Supply, Installation, testing & commissioning of imported 415 V, 3-phase, 50 Hz, indoor type low tension switch-gear of following specification complete with voltmeter (0-500V) & ammeter of adequate rating, indicating lamps for ON-OFF and following components (components such as ACB / MCCBs shall be manufactured according to relevant NEMA / VDE / IEC / JIS / BS standards). The Panel shall be assembled steel metal clad, dust & vermin proof, wall mounting, epoxy resin powder coat painted cabinet as per relevant IEC standards and as per accepted / approved by the Engineer. Configure SPD Class B.		

	COMMON BUS-BAR		
	01 Set- 415V, 100A, 100%TPN + 50%E hard drawn electrolytic copper bus bar placed with necessary insulation & accessories.		
	INCOMING		
	02 Nos.- 100A (MCCB) 4 Pole 415V, 50 Hz Molded Case Circuit Breaker type ATSE, with electronic micro processor based, built in adjustable overload & adjustable short circuit protection, rotary handle with padlocking facilities & box terminals as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 36kA.		
	OUTGOING:		
	03 Nos.- 63A (MCB) 3 Pole 415V, 50 Hz Miniature Circuit Breaker as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 25kA.		
	12 Nos.- 16A (MCB) 1 Pole 415V, 50 Hz Miniature Circuit Breaker as per technical specification & complete in all respect as per instruction of the Engineer-in-charge. Breaking Capacity: 25kA.		
4	Busbar Trunking system (BBT):		
	Brand: To be mentioned by the proposer		
	Model: To be mentioned by the bidder		
	Origin: To be mentioned by the bidder		
	Supply & installation of imported Type Tested Assembly (TTA) TP+N+PE Sandwich Type Aluminum Busbar Trunking system, IP-54 having ISO9001 conforming to IEC-439 as per specification and drawing with all necessary Feed unit all kinds of fixing brackets, hanging accessories, Linking Bus-bar for Feed Unit to Panel, Transformer & Generator Terminal, Riser, all other accessories for completing the BBT system including necessary Mechanical works as per instruction of the Engineer-in-charge.		
4.1	BBT-01: 1Transformer to 1LVDB, 3200A TP+N+PE Aluminum Busbar Trunking system	m	20
4.2	BBT-02: 1LVDB to 1ATS-A, 3200A TP+N+PE Aluminum Busbar Trunking system	m	14
4.3	BBT-03: 1LVDB to 1ATS-B, 3200A TP+N+PE Aluminum Busbar Trunking system	m	15
4.4	BBT-04: 1DG to 1DGSB, 3200A TP+N+PE Aluminum Busbar Trunking system	m	32
4.5	BBT-05: 1DGSB to 1ATS-A, 3200A TP+N+PE Aluminum Busbar Trunking system	m	27
4.6	BBT-06: 2Transformer to 2LTDB, 2500A TP+N+PE Aluminum Busbar Trunking system	m	20
4.7	BBT-07: 2LVDB to 2ATS-A, 2500A TP+N+PE Aluminum Busbar Trunking system	m	14
4.8	BBT-08: 2LVDB to 2ATS-B, 2500A TP+N+PE Aluminum Busbar Trunking system	m	15

4.9	BBT-09: 3DG to 3DGSB, 3200A TP+N+PE Aluminum Busbar Trunking system	m	26
4.1 0	BBT-10: 3DGSB to 2ATS-A, 3200A TP+N+PE Aluminum Busbar Trunking system	m	29
4.1 1	BBT-11: 2DG to 2DGSB, 3200A TP+N+PE Aluminum Busbar Trunking system	m	22
4.1 2	BBT-12: 2DGSB to 1ATS-B, 3200A TP+N+PE Aluminum Busbar Trunking system	m	21
4.1 3	BBT-13: 2DGSB to 2ATS-B, 3200A TP+N+PE Aluminum Busbar Trunking system	m	24
4.1 4	BBT-14: 1ATS-A to 1MDB-A, 3200A TP+N+PE Sandwich Type Aluminum Busbar Trunking system	m	29
4.1 5	BBT-15: 1ATS-B to 1MDB-A, 3200A TP+N+PE Sandwich Type Aluminum Busbar Trunking system	m	31
4.1 6	BBT-16: 2ATS-A to 2MDB-A, 3200A TP+N+PE Sandwich Type Aluminum Busbar Trunking system	m	27
4.1 7	BBT-17: 2ATS-B to 2MDB-A, 3200A TP+N+PE Sandwich Type Aluminum Busbar Trunking system	m	29
4.1 8	BBT-18: 1MDB-A to 1IT-UDB-A, 2000A TP+N+PE Sandwich Type Aluminum Busbar Trunking system	m	16
4.1 9	BBT-19: 1MDB-B to 1IT-UDB-B, 2000A TP+N+PE Sandwich Type Aluminum Busbar Trunking system	m	16
4.2 0	BBT-20: 1MDB-A to 1MDB-B, 3200A TP+N+PE Sandwich Type Aluminum Busbar Trunking system	m	27
4.2 1	BBT-21: 2MDB-A to 2MDB-B, 3200A TP+N+PE Sandwich Type Aluminum Busbar Trunking system	m	25
4.2 2	3200A/5P Transformer Start Box	Pcs	1
4.2 3	3200A/5P LT Panel Start Box	Pcs	31
4.2 4	2500A/5P Transformer Start Box	Pcs	1
4.2 5	2500A/5P LT Panel Start Box	Pcs	5
4.2 6	2000A/5P LT Panel Start Box	Pcs	4
4.2 7	3200A/5P BBT Elbow modification	Pcs	50
4.2 8	BBT on site installation guideline service	Pcs	1
5	Earthing System:	Lot	1
	Earthing the Sub-station Equipment's including Metering panel, Transformer, HT, LT, MDB, DB, Generators, UPS, all IT Equipment's as per direction of the E/C. The detail drawing of earthing system for the complete sub-station to be submitted.		

	Earthing Boring Depth: 100 Feet		
	Copper Electrode: 12mm Dia		
	GI Pipe: 1.5Inch Dia 20 Feet Long		
	Including Earth Inspection Pit.		
	Grounding system for all equipment room: Supply and install grounding system for equipment room, including grounding copper busbar and grounding cables, etc. complete as specified in local standard.		
6	Diesel Generator System		
6.1	Diesel Generator	Set	3
	Brand: To be mentioned by the bidder		
	Country of Origin: To be mentioned by the bidder		
	Country of Manufacturing: To be mentioned by the bidder		
	Diesel Generator, Capacity: 1600kW (COP/DCP, constant load @ unlimited hours per year)		
	Supply of 415 / 240 V, 3-phase, 50 Hz. Radiator cooled, floor mounted, Outdoor Enclosed/ Containerised Type Diesel Generator (DG) supply and installation. Prefer canopy. The generators shall be housed in weather-proof steel containers, which shall be coated with corrosion proof paint Dry type air filters, instrumentation, residential type exhaust Silencer with Bellows & flues, Alarms, and ancillary systems, extended flues and air discharge to building roof level. 1500 rpm, diesel engine with all standard accessories, viz. 12/24 volt DC battery & auto battery charger with ammeter, voltmeter, oil & fuel pump, auto speed governor, air cleaner, lube oil tank, fuel level & oil pressure gauge, RPM & hour meter, exhaust silencer, vibration isolator, mounting steel base frame etc. including a safety & protection device. Auto shut off with indicators for overload, over & under voltage, high temperature, low oil pressure, over speed, low fuel level etc. coupled with brush less, self-excited alternator having control panel with auto voltage regulator not more than $\pm 0.5\%$, voltmeter & ammeter with selector switch, frequency meter. The generator set complies with ISO 8528-1, Class G3 requirements for transient performance.		
	COP/DCP: 1600kW		
	VAC - HZ - cos(fi) 400V - 50Hz - 0.8		
	Canopy: Factory Fitted Sound Proof Canopy inbuilt		
	while respecting the maintenance intervals established in the environmental conditions		
	stated by the Manufacturer. according to ISO8528-1. The average power supplied over time		
	and any applicable overload must be less than the percentages stated by the Manufacturer.		
	Generator Dimension: To be Mention by the Bidder		

	Generator Weight: To be Mention by the Bidder		
	Control Panel: The experience we gained in the development and design of control panel has allowed us to deeply understand the specific market needs: efficiency and versatility to optimize time and operating.		
	That process led us to start the cooperation with Comap, in order to develop an even more efficient device that can be applied in whole our range, a synergy of expertise to create a NEW and modern solution in generating sets applications: Guard Revolution. Based on Comap Intel NTC hardware platform and on a dedicated firmware with new features specifically designed for the generating sets.		
	KEY FEATURES:		
	- Easy to install, configure and use		
	- Wide range of communication capabilities including:		
	• connection via RS232, RS485, CAN and on board USB		
	• internet access using Ethernet, GPRS or 4G		
	• support for Modbus or SNMP protocols		
	- Internal PLC support with PLC editor and monitor		
	- Cloud-based monitoring and control via Onis Visa WebSupervisor		
	- Active SMS and emails in different languages		
	- SNMP traps		
	- Geofencing and tracking via WebSupervisor		
	- Option for up to 16 additional binary inputs/outputs		
	- Flexible event based history with up to 350 events		
	- Load shedding, dummy load capability		
	- Automatic temperature based cooling/heating		
	- Comprehensive gen-set protections		
	- Multipurpose flexible timers		
	- True RMS measurement		
	- FREE Lite Edition Software		
	Standard Diesel Tank for generator fuel supply. (Fuel Day Tank):		
	1000 liter of capacity fuel tank (fitted with water separator at inlet) with all necessary accessories as per government rules. The fuel tank shall be mounted with proper structure. The contractor must follow the specification and formalities from relevant govt. department/agencies etc. for commissioning fuel tank installation with all complete as per direction of Engineer In-Charge.		
	MS Pipe for Fuel Storage tank & Day Tank to Gen Set.		

	MS. pipe conforming to the standard ASTM A 106 Gr. B Sch-40, Tensile properties: minimum Yield Strength 188 MPa, minimum Tensile Strength 313 MPa and marking for a) Manufacturer b) Material c) Wall thickness d) Nominal outside dia e) Intended use etc. on the body of the pipe with all special fittings, such as bends, elbows, sockets, reducing sockets, Tee, unions, jam-nuts etc. including cutting trenches where necessary and fitting the same with earth duly rammed and fixing in walls with holder bats and making hole in floors, walls and consequent mending good the damages etc. all complete in all respects roved and accepted by the Engineer In-Charge.		
6.2	6000 L Bulk Fuel tank	Set	3
	Brand: To be mentioned by the bidder		
	Country of Origin: To be mentioned by the bidder		
	Country of Manufacturing: To be mentioned by the bidder		
	Supply installation, testing and commissioning of no less than 6000 Litter steel fuel storage tank of rectangular type which shall be installed as per direction of Engineer In-Charge. Fabrication for the steel fuel tank should be done with high standard materials and in compliance to rules of BD Governments, BNBC, NFPA etc. complete with all necessary accessories including supply of pump, piping, air vent pipe, oil level indicator, and calibration etc. Generator Contractor has to coordinate with the Civil Contractor in making shop drawing of the work involved in the fuel reservoir tank in their part. Contractor is to provide detail design of their portion of work for the fuel storage tank and that has to be duly vetted by competent authority as per direction of Engineer In-Charge.		
6.3	Perimeter side filling system	Lot	1
	1.Fuel supply system from outside perimeter wall to Bulk tank. Piping system between the secure fueling point on the outside perimeter wall to the bulk tanks and, the distance from the fuel tank area to the perimeter is 40 meters for now. Include additional 3 meters for drops and bends from routing, which could be important to select the pump. Include control system to detect and alert bulk tank fill capacity 2.Both the fuel supply and return pump are supposed to be included. 3.Need to include oil leakage detection.		
6.4	Fuel pipe system and fuel control system	Lot	1
	1.Fuel supply system to Three(3) D.G.		

	<p>2.Including control panel, fuel valve, pipe, fuel pump (electric and manual hand), control cable, sensor, connect the pipe from tank to D.G..</p> <p>3.Fuel cut-off valves/taps shall be installed at both the diesel outlet points at bulk tank, as well as at diesel inlet point at each tank.</p> <p>4.Provide RS-485 interface and Modbus protocol, inclusive of (but not limited to): Fuel-loss, leak detection, alarms and other parameters monitoring, the function can be intergrated in controller of D.G., as well as fuel level fuel filtration system.</p> <p>5.A fuel filtration system (particle & water trap), that autonomously filters the day fuel tank diesel fuel shall be supplied, which filters 100% volume every 24 hours.</p> <p>6.Include fuel polishing system to treat poor fuel quality.</p>		
6.5	Generator control system	Lot	1
	<p>1.Ensure that each generator set can start and run according to the real-time load condition.</p> <p>2.The standby D.G. can detect the startup and running status of all active D.G.s. When any active D.G. is faulty or cannot start properly, the standby D.G. can replace the faulty active D.G..</p> <p>3.The system shall use an industrial programmable logic controller to complete all required functions.</p> <p>4.The control system shall be provided with an operation control screen to display the operation status and control functions of D.G.s.</p> <p>5.Automatic start of power supply after mains power failure.</p> <p>6.Automatic Detachment and Shutdown.</p> <p>7.The connection, implement and commissioning of the system should be included.</p>		
7	Cable Works		
	Supply & installation, testing & commissioning of PVC insulated single core cable /PVC insulated & PVC sheathed single/ multi core cables of BRB/BBS/Partex/Poly/SQ cable or its equivalent		
	manufacturers having ISO9001 certificate of the following sizes in conduits/ trench/ tray & making good all damages and termination of connection at both ends as per drawing, specification and instruction of the Engineer-in-charge.		
	The rate should be quoted inclusive of locally available best/approved quality PIB insulating tape, cable sockets, cable glands, solderless connector, etc. This is an average rate and all material of this item will be of approved quality.		
	HT Cable:		
	Design, manufacture, supply, installation, testing & commission-ing of 12KV, single/multi core armored, copper cable with extruded firmly bonded semi-conductive layers under and over the XLPE insulation with copper wire screen & PVC sheath according to DIN/ VDE and		

	IEC502, suitable for laying outdoor in ducts & indoors in cable tray/cable trench of including termination of cable connection at both ends with heat shrink termination kit as per drawing.		
	This rate is inclusive of trench/sheet steel cable tray/Ladder making, heat shrink cables, pit making, brick cable cover, sheet steel trench cover necessary 150mm dia C-class PVC/GI pipes for road crossing, supporting structure. etc.		
7.1	3C x 120 sqmm XLPE cable	Meter	150
	LT Cable:		
	Providing & laying of the following PVC insulated & sheathed cable (NYY) / (XLPE) insulated & PVC sheathed cable (2XY) with PVC insulated Green / White color ECC wire (BYA) connecting at both ends, through PVC pipe & accessories in the following manner. All electrical contacts shall be of brass / copper connected through connector or soldering (no twisting shall be allowed) and cables shall be manufactured and tested according to relevant IEC / BDS / BS / VDE standards and as per detailed specification. The work shall be carried out as per direction & approval of the Engineer.		
7.2	LT Cable, 4C, 185mm ² , 0.6/1 kV, Flame Retardant, NYY	m	600
7.3	LT Cable, 4C, 120mm ² , 0.6/1 kV, Flame Retardant, NYY	m	400
7.4	LT Cable, 4C, 70mm ² , 0.6/1 kV, Flame Retardant, NYY	m	100
7.5	LT Cable, 4C, 35mm ² , 0.6/1 kV, Flame Retardant, NYY	m	250
7.6	LT Cable, 4C, 16mm ² , 0.6/1 kV, Flame Retardant, NYY	m	100
7.7	LT Cable, 4C, 10mm ² , 0.6/1 kV, Flame Retardant, NYY	m	1000
7.8	LT Cable, 3C, 2.5mm ² , 0.6/1 kV, Flame Retardant, NYY	m	700
7.9	LT Cable, 2C, 2.5mm ² , 0.6/1 kV, Flame Retardant, NYY	m	300
7.10	LT Cable, Positive: 1C, 185mm ² , 0.6/1 kV, Flame Retardant, NYY	m	300
7.11	LT Cable, Negative: 1C, 185mm ² , 0.6/1 kV, Flame Retardant, NYY	m	300
7.12	LT Cable, 1C, 95mm ² , 0.45/0.75 kV, Flame Retardant, BYA	m	550
7.13	LT Cable, 1C, 70mm ² , 0.45/0.75 kV, Flame Retardant, BYA	m	400

7.1 4	LT Cable, 1C, 35mm ² , 0.45/0.75 kV, Flame Retardant, BYA	m	10 0
7.1 5	LT Cable, 1C, 16mm ² , 0.45/0.75 kV, Flame Retardant, BYA	m	35 0
7.1 6	LT Cable, 1C, 10mm ² , 0.45/0.75 kV, Flame Retardant, BYA	m	11 00
7.1 7	LT Cable, 1C, 2.5mm ² , 0.45/0.75 kV, Flame Retardant, BYA	m	11 00
8	Cable tray/ ladder:		
	Supply & Installation of Cable ladder relevant to IEC/BS of following sizes according to the routing defined in the drawing.		
	The complete cable ladder system shall be designed so that drilling will not be necessary on site and cutting will be kept to a minimum.		
	Cable ladders shall be manufactured from 2mm thick mild steel and hot-dip galvanized/Powder Coated paint to BS 729. The two side rails of the cable ladder shall be of minimum 100mm in height with returns at top flange to gain extra strength. The rung shall be spaced at approximately 250mm centres with sufficient width for various cable fixing methods including nylon ties, saddles and perforated strips, cable clamps and cleats.		
	Factory standard right-angle bends, tee junctions, off-set reducers, straight reducers shall be used for horizontal bends, vertical bends, branching out and reduction of cable ladder width. Factory standard expansion splice plate shall also be provided to allow for expansion and contraction of the cable ladders.		
	All clamping nuts, bolts, washers etc. shall be hot-dipped galvanized to BS 729.		
	The rate shall also include all necessary accessories for fixing hanging system including the extra supports made up of pipe, angle iron, C-Channel etc., to hang & install hanging accessories.		
8.1	Closed metal cable tray, Size: 600mm X 100mm	m	24 0
8.2	Closed metal cable tray, Size: 240mm X 100mm (Optical fiber channel)	m	60
9	Lightning Protection System (LPS)		
	Lightning Air Terminal: Supply, testing and commissioning Early Streamer Emission Air Terminal (ESEAT) base of collection volume method (CVM) as per IEEE998-2012 having the following technical specification –		
	(i). Withstand peak lightning current: 100kA		
	(ii). Weather condition of work: material of lightning Air terminal should be able to work in any environmental condition .So material of air terminal should be stainless steel.		

	(iii). Dimension of the Air Terminal: Minimum Length: 220 mm 25mm dia. solid rod at the bottom of the Air Terminal having M20 male thread to fix on mast.		
	(iv).Certified advance Time: Maximum 60μ second with a current peak higher than 100ka.		
	(v). Material of the Air Terminal: Stainless Steel		
	(vi).Weight: 2.25 - 2.5 kg.		
	(vii).Radius of Protection: 86 meter at 5 meter height from the plan.		
	(viii). Product Certification and Standards: System should compliant to UL -96 Lightning protection component) (Standard of safety) UL-Certified – E488308, Standard: IEC 62305-2 and NFC 17102"		
	(ix). Brand: To mentioned by the bidder		
9.1	Air Terminal Mast: Supply and installation of Air Terminal mast of the following specification – Made of stainless steel (Type: 316) Length : 1500 mm,Dia.: 30mm The mast shall be fixed with SS nuts bolts, clamps as per sample approved by the Engineer In Charge.	Nos	1
9.2	GI Pole: Supply and installation of GI Pole of the following specification – Made of Galvanized steel 5 Meter height, The mast shall be fixed with SS nuts bolts, clamps as per sample approved by the Engineer In Charge.	Nos	1
9.3	Lightning Event Counter: Supply of lightning event counter of the following technical specification - Register capacity: 0-9999 mechanical counting without external power supply (LCD Display) The down conductor shall pass the hole of the counter and the same shall be fixed vertically at any point and early warning/alert/alarm system, lightning strike counter, ground resistance online detector/tester.	Nos	1
9.4	Earth Test Box: Supply of Earth Test box with the following arrangement inside it. Test Joint: (79mm x 50mm x 20mm) made of copper. 30mm x 4mm and dia. 10mm line coupling made of copper.	Nos	1
9.5	Down Conductor: Supply of copper made down conductor having dia. 12.5 mm or copper strip (25mmx5mm) Approximate Length is 90Mtr with fixing holder on vertical and horizontal surface. The fixing shall have 40mm to 50mm length or height and will be placed 3 nos. per meter as per direction and sample approved by the Engineer In Charge.	Lot	1
9.6	Earthing: Supply & Installation of One (Three earthing) system for lightning protection device with delta connection. This earthing system’s target earthing resistance is less than 10 Ω. Length of Earthing Conductor: 20- 60 feet (each depend on the get 10 Ω) Conductor Size: Copper Rod-12.5 mm Dia details in drawing and earthing systems	Lot	1
10	Ventilation system	Lot	1

	Supply and Installation of Mechanical Ventilation Fan Equipment including lifting, transportation to site, positioning equipment as design location, supporting site performance testing, seismic support, valve, antivibration and accessories as per recommendations of the manufacturer.		
11	Antistatic raised floor in data hall	sqm	17 0
	Supply and installation of antistatic raised floor, metallic Cementous tile with anti-static high-pressure laminate on top of size 600 x 600 x 35 mm, calcium sulphate type, mineral fiber base, a minimum concentrated load of 500kg, whole set of installation accessories, including pedestals, U-shaped stringers, glue, expansion screws, and antistatic and anti-slip room access slope.		
12	Shop drawing / Fabrication drawing, As Built drawing and backup Software		
12.1	Shop Drawing	Job	1
	Preparation of detail shop drawing coordinating with other services. The Contractor shall survey site before preparation of Shop drawing and being satisfied they will submit Shop drawing. Backup software to be provided where necessary (SCADA etc.) The drawing & Revised BOQ must be approved by The Engineer In-Charge. It includes followings:		
	a) Actual dimension of all equipment's		
	b) Submission of Plinth, punch, etc. requirement drawing		
12.2	As Built Drawing & Documentation	Job	1
	Contractor shall prepare As Built Drawing after installation of all generator equipment's. The drawing must be approved by the Engineer In-Charge. It includes followings:		
	a) To be mentioned all measurement in the drawing.		
	b) Actual dimension of all equipment's		
	c) To mentioned Cable route, access door with tagging.		
	d) Name plate and data of all supplied items		
	e) Technical specifications of all installed items with Brand, Model, etc. data.		
13	Testing and Commissioning	Job	1
	After proper installation and certification the system shall be tested, and commissioning and balancing to be done as per direction and recommendation by the Manufacturer and SCADA System. Submit Testing and Commissioning protocols at least 15 days before commissioning for formal approval. They also prepare and submit as built drawing and tagging and identification color on the pipe as per BNBC. All Testing and Commissioning must be done in presence of the Engineering team.		

14	Pre-shipment Inspection/Factory Acceptance Testing	Job	1
	Factory acceptance testing of GenSet & BBT shall be carried out by two persons of purchaser at Generator engine, alternator manufacturing factory. All costs to be carried out by the Contractor (like VISA processing, Fooding, Lodging, Air Ticket, local Transport, etc.)		
15	Operation and Maintenance (8 hr./day basis)	Months	6
	During operation and maintenance work, the Contractor shall have to depute one Generator expert or technician as man monthly basis. All must have experience in this field for operation and maintenance of the system. During operation and maintenance if any defects is detected, it is to be rectified by the contractor at his own cost. The Contractor shall provide Training to Client’s Engineer for Seven working days, duration shall be two hour per day.		
	Log book for one hourly record shall be maintained by the Contractor and shall be submitted to the Authority in every week.		
16	Miscellaneous Expenses: Essential Works for Safety & Compliance:	Lot	1
	Supply & installation of emergency lighting system in the sub-station from D.C distribution boards in case of utility power failure, supply of miscellaneous item like M.S checker plate on the cable trench where necessary, rubber mat on the floor of control room, adequate fire extinguisher system as per recommendations of the manufacturer, First Aid Box, Danger Plate, Fencing work etc. as per direction of the Engineer-in-Charge.		

4.1.4 Firefighting system

A	Automatic Fire Suppression with Intelligent Addressable Fire Detection System			
SL	Item	Description	Unit	Unit
1	Suppression Agent		Lot	1
1.01	Brand	To be mentioned by the propser		
1.02	Origin	To be mentioned by the bidder		
1.03	Country of Manufacturing:	To be mentioned by the bidder		
1.04	Chemical formula	Dodecafluoro-2-Methylpentane-3-one/CF ₃ CF ₂ C(O)CF(CF ₃) ₂		
1.05	Molecular weight	316.04		
1.06	Boiling point @ 1 atm	49.2°C (120.6°F)		
1.07	Freezing point	-108°C (-162.4°F)		

1.08	Heat of vaporization @ BP	88.0 kJ/kg (37.9 BTU/lb)		
1.09	Solubility of H2O in Novec 1230 fluid	<0.001% by wt.		
1.10	Relative dielectric strength @ 1 atm (N2=1.0)	2.3		
1.11	General Requirements	Novec-1230 fluid has zero ozone depletion potential and the lowest atmospheric lifetime for chemical clean agent alternatives: 5 days. The next closest halon alternative is 29 years.		
1.12		Novec-1230 fluid has a Global Warming Potential of 1, which is 99.9% lower than any halocarbon		
1.13		agent acceptable for use in occupied spaces.		
1.14		With zero ozone depletion potential, extremely low global warming potential and short atmospheric		
1.15		lifetime, Novec-1230 fluid is the first chemical halon replacement to offer a viable, long-term, sustainable technology for special hazards fire protection.		
1.16	Local Fill and Refill Facility	Bidder Should Submit MOU who have local Fill and Refill Facility of Novec-1230		
1.17	Hydraulic calculations	Hydraulic calculations should be submitted along with bid submission according to site survey. Please add if need more capacity of cylinder after site survey		
1.18	Cylinder Assembly	Cylinder Assembly with label indicator		

1.19		The agent storage cylinder is a steel pressure vessel manufactured, tested and stamped in accordance with DOT		
1.20	Storage Pressure	24.5 to 35 bar Max		
1.21	Test Pressure	From 150 bars to 300 bars		
	Compliance	UL Listed & ULC/FM Approved		
2	Electric Solenoid		Lot	1
2.1	Brand	To be mentioned by the bidder		
2.2	Country of Origin	To be mentioned by the bidder		
2.3	Country of Manufacturing	To be mentioned by the bidder		
2.4	Electric Solenoid 24V DC - Stackable	Electric solenoid valve is normally closed and the valve requires electrical energy to remain open.		
2.5	Electrical Properties:	24 V.D.C.		
3	Pneumatic Actuator		Lot	1
3.1	Brand	To be mentioned by the bidder		
3.2	Country of Origin	To be mentioned by the bidder		
3.3	Country of Manufacturing	To be mentioned by the bidder		
3.4	General Requirements	The Pneumatic Actuator Control Head features a pneumatically driven piston that depresses a		
4	Steel Nozzles		Lot	1
4.01	Brand	To be mentioned by the bidder		
4.02	Country of Origin	To be mentioned by the bidder		
4.03	Country of Manufacturing	To be mentioned by the bidder		
4.04	General Requirements	Each nozzle is available with 360° 16 port (central), 180° 7 port (sidewall) discharge pattern.		
4.05		360° (central) and 180° (sidewall) nozzles generate		

		a reactive force opposite to the nozzle		
4.06		Orifices; pipe bracing shall be located as close as possible to the nozzle to prevent movement or damage.		
4.07		area of protection when multiple nozzles are discharged into the same hazard the hazard		
4.08		Shall be divided in two equal coverage areas. 360° nozzles shall be centrally located.		
4.09		180° Nozzles shall be centrally located against nearest wall. For protected spaces that		
4.10		exceed the maximum nozzle throw of: 22.6 ft. (6.89m) for 360° nozzle or 35.8 ft. (10.9m)		
4.11	Compliance	UL Listed		
5	Extinguishing agent		Set	1
	Brand	To be mentioned by the bidder		
	Country of Origin	To be mentioned by the bidder		
	Country of Manufacturing	To be mentioned by the bidder		
5.1	GF MMR Room A + MMR Room B	NOVEC 1230 agent, 53 KG		
	Agent Storage Cylinder	49 LTR Capacity Cylinder Assembly with label indicator * 1 Set		
5.2	GF DG Control Room	NOVEC 1230 agent, 74 KG		
	Agent Storage Cylinder	150 LTR Capacity Cylinder Assembly with label * 3 Set		
5.3	GF High Voltage + AVR Room	NOVEC 1230 agent, 340 KG		

	Agent Storage Cylinder	150 LTR Capacity Cylinder Assembly with label * 3 Set		
5.4	GF Low Voltage Room	NOVEC 1230 agent, 131 KG		
	Agent Storage Cylinder	150 LTR Capacity Cylinder Assembly with label * 1 set		
5.5	1F Data Hall Room 1	NOVEC 1230 agent, 442 KG		
	Agent Storage Cylinder	150 LTR Capacity Cylinder Assembly with label inductor * 3 Set		
5.6	1F UPS Room A	NOVEC 1230 agent, 233 KG		
	Agent Storage Cylinder	105 LTR Capacity Cylinder Assembly with label * 2 set		
5.7	1F UPS Room B	NOVEC 1230 agent, 260 kg		
	Agent Storage Cylinder	105 LTR Capacity Cylinder Assembly with label, 2 set		
5.8	1F Battery Room A	NOVEC 1230 agent, 39 KG		
	Agent Storage Cylinder	105 LTR Capacity Cylinder Assembly with label * 1 Set		
5.9	1F Battery Room B	NOVEC 1230 agent, 36 KG		
	Agent Storage Cylinder	105 LTR Capacity Cylinder Assembly with label * 1 Set		
6	Steel Nozzle	Steel Nozzle UI Listed 2”,1”, ½” asper Hydraulic Calculations	Nos	21
7	Electric Solenoid 24V DC – Stackable	Electric Solenoid 24V DC – Stackable	NOS	10
8	Manual Actuator	Manual Actuator	NOS	10
9	Electric Actuator	Electric Actuator	NOS	10
10	Hose Pipe	Flexible Hose pipe 3/4"	NOS	9
11	Cylinder Front Strap	Cylinder Front Strap with Back Rack	Lot	18

12	Room Integrity Test Agent	Bidder Shall perform Room integrity Test which is ensure the suppression agent hold minimum 10 minutes after discharge. The test should be all room where will be Suppression Hold Time compliance based on Annex C of NFPA 2001 (2018 Edition) Bidder Should submit Software Generate report Room Integrity test pass report in accordance NFPA 2001	Lot	10
13	Portable Extinguisher	CO2 Type 5 kg	NOS	20
14	Portable Extinguisher	ABC Dry Chemical Powder Type 5 kg	NOS	20
15	Networkable Intelligent Addressable Fire Alarm Control Panel		NOS	1
15.0 1	Brand:	To be mentioned by the bidder		
15.0 2	Country of Origin:	To be mentioned by the bidder		
15.0 3	Country of Manufacturing:	To be mentioned by the bidder		
15.0 4	General Requirements	1 SLC loop expandable up to 9		
15.0 5		Each SLC Loop is capable of supporting 159/99 Analog Sensors and 159/99 Addressable Modules which can be wired in Style 6 or 7 (Class A) or Style 4 (Class B)		
15.0 6		Four Style Z/Y (Class A/B) Notification Appliance Circuits rated at 1.7 Amps each		
15.0 7		System has the ability to mix CLIP and AP devices on the same loop		

15.0 8	English, French, Arabic* and Hebrew* language support (*supported by RAXN-LCDG Annunciator in place of main display)		
15.0 9	Correlatable Switch Inputs which allow for multifunctional outputs		
15.1 0	Four Status Queues for Alarm, Supervisory, Trouble and Monitor		
15.1 1	Auxiliary relay contacts for Common Alarm, Supervisory and Trouble		
15.1 2	RS-232 output for remote system printer or CRT		
15.1 3	Two Event History Logs; 6000 event alarm history log and a 6000 event log for all events		
15.1 4	Supports 3 configuration files with “hot swap” support		
15.1 5	Conventional Hardwire Adder Module expandability		
15.1 6	Built-in Walk Test operation		
15.1 7	Intelligent Smoke Detector sensitivity levels		
15.1 8	BACnet support		
15.1 9	Advanced (Boolean) logic functions		
15.2 0	Built-in Ethernet port		
15.2 1	Remote diagnostics via a built-in web server		
15.2 2	Audio/Voice Evacuation with 520Hz capability		
15.2 3	UL listed for Smoke Control		

15.2 4		HVAC Fan and Damper Control		
15.2 5		Large easy to use and readable 4 by 20-character Back-lit LCD Display		
15.2 6		Adaptable to local requirements and regulations		
15.2 7	Network Requirements	Up to 63 nodes		
15.2 8		Peer-to-peer network communications		
15.2 9		Style 4 (Class B) or Style 6 or 7 (Class A) wiring configuration.		
15.3 0		Proprietary Arc net Network Communications protocol		
15.3 1		Supports copper and/or fiber optic network cable		
15.3 2		• Ethernet loop		
15.3 3		• Ethernet/CAN double loop		
15.3 4		• CAN loop with Ethernet segments		
15.3 5		All elements and inputs for which		
15.3 6		one of the following settings is programmed as the		
15.3 7		Message type are regarded as detection points:		
15.3 8		• Fire		
15.3 9		• Internal fire		
15.4 0		• Supervisory		
15.4 1		• Multi-criterion		
15.4 2		• Smoke		
15.4 3	• Fault			

15.4 4		• Heat		
15.4 5		• Water		
15.4 6		Capable to integrate with Voice alarm system TM		
15.4 7		BACnet supported		
15.4 8		Advanced (Boolean) logic functions		
15.4 9		Built-in Ethernet port		
15.5 0	Compliance Requirements	VDS/UL Listed/ FM Approved		
16	BACnet with Interface	Fire Alarm Network BACnet Controller with Single User License.	NOS	1
17	Loop Card	Quad Loop Controller module provides two Signaling Line Circuits (SLC) to the system consisting of 396 addressable devices 198 on the main mother board.	NOS	1
18	Gas Release Module	Gas Release Module Control Module	Set	10
18.0 1	Brand	To be mentioned by the bidder		
18.0 2	Model	To be mentioned by the bidder		
18.0 3	Country of Origin:	To be mentioned by the bidder		
18.0 4	Country of Manufacturing:	To be mentioned by the bidder		
18.0 5	Detection Zone	4 (four)		
18.0 6	Extinguishing Area	2 (two)		
18.0 7		The Gas Release Panel and Addressable Central Control Panel Should be same Brand.		
18.0 8	Working Method	The gas discharge can be automatic using double knock detections or		

		manual using electrical key switch.		
18.09	Indicators	Power Source, Power Failure, Zone Fire, Fault and Isolate, Bell Isolate, Auxiliary Trip Isolate, Gas Isolate.		
18.10	Switch	Bell Isolate, Auxiliary Trip Isolate, Gas Isolate, Fault Buzzer Mute, Master Reset, Main on/off, Test Battery.		
18.11	Delay Discharge Timer	Built-in and Adjustable		
18.12	Power Supply Input	240V AC 50Hz		
18.13	Operating / System	24V DC		
18.14	Charger	Auto / Trickle		
18.15	Cabinet	The system is housed in a compact enclosure, finished with signal red epoxy powder paint.		
18.16	Compliance Requirement	UL Listed & FM Approved and ULC Listed.		
19	Battery		Nos	22
19.01	Brand	To be mentioned by the bidder		
19.02	Model	To be mentioned by the bidder		
19.03	Country of Origin:	To be mentioned by the bidder		
19.04	Country of Manufacturing:	To be mentioned by the bidder		
19.05	General Requirement	SLA Battery for control panel, 12V each 7.2 ah		
20	Heat Detector	Intelligent Addressable Heat Detector Fixed Temp.	Nos	71
20.01	Brand	To be mentioned by the bidder		
20.02	Model	To be mentioned by the bidder		

20.0 3	Country of Origin:	To be mentioned by the bidder		
20.0 4	Country of Manufacturing:	To be mentioned by the bidder		
20.0 5	General Requirements	ROR With Base		
20.0 6		Fixed Temperature		
20.0 7		Sleek, low profile design		
20.0 8		Intelligent Addressable Rate of Rise cum Fixed Temperature Heat Detector along with base. Rate-of-Rise temperature detection element shall have two selectable settings of 8° C & 11° C (or closer to this value not deviating by 1°C)		
20.0 9		The detector shall have operating temperature range from 0°C to 50°C and humidity tolerance range up to 95% RH		
20.1 0		Detectors are equipped with a built-in analog communications module		
20.1 1		Smoke detectors are available with photoelectric or ionization technology		
20.1 2		Photoelectric detectors are available with additional fixed temperature detection		
20.1 3		Low standby current		
20.1 4		Sealed against dirt, insects, and back pressure		
20.1 5	Compliance Requirement	ULC, UL Listed & FM Approved		
21	Smoke Detector		Nos	50
21.0 1	Brand	To be mentioned by the bidder		

21.0 2	Model	To be mentioned by the bidder		
21.0 3	Country of Origin:	To be mentioned by the bidder		
21.0 4	Country of Manufacturing:	To be mentioned by the bidder		
21.0 5	General Requirements	Intelligent Addressable Optical Smoke Detector.		
21.0 6		Supply, Installation, Testing & Commissioning of Intelligent Addressable Detectors which are equipped with a built-in analogue communications module.		
21.0 7		Dual LEDs indicate communications and activate steady when in alarm		
21.0 8		Low standby current		
21.0 9		Rotary address switches		
21.1		Superior EMI protection diagnostic tool capable of transferring the back-up at the PC for later use at the FACP.		
21.1 1	Alarm Indication	Red LED, Flashing LED		
21.1 2	Compliance Requirement	ULC, UL Listed & FM Approved		
22	Alarm Horn with strobe		Nos	20
	Brand	To be mentioned by the bidder		
	Model	To be mentioned by the bidder		
	Country of Origin:	To be mentioned by the bidder		
	Country of Manufacturing:	To be mentioned by the bidder		

<p>22.0 1</p>	<p>General Requirement</p>	<p>Notification Appliances (Hooter with Strobe). Hooter with Strobe unit shall sit directly on addressable NAC (Notification Appliance Circuit) of FACP, fully supervised and powered from FACP. Hooter and Strobe elements of the combined unit shall have independent activation & deactivation criteria. Hooter shall stop at alarm "Acknowledge" and the Strobe shall stop at panel "Reset". The Hooter and Strobe element of Hooter cum Strobe combined unit shall be selected and triggered independently from FACP for performance check and maintenance. Hooter with Strobe unit shall have provision to be tested by a hand-held field diagnostic tool in "Silent Mode" and "Full Operation Sound Mode". The Strobe shall have multiple selectable candela settings configured and selected from the FACP. The hooter cum Strobe unit shall deliver output up to 94 db at 3m from its installed location. The sounder/strobe unit shall display the voltage received by them at the control panel. The activation & deactivation requirement of Notification devices shall not be deviated. Hooter</p>
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		with strobe shall not necessarily require control panel for field diagnostic, trouble-shooting addressing and customer text-feeding. These activities shall be carried out with the help of hand-held field diagnostic tool capable of transferring the back-up at the PC for later use at the FACP.		
22.0 2	Compliance Requirement	ULC, UL Listed & FM Approved		
23	Manual Call Point		Nos	16
23.0 1	Brand	To be mentioned by the bidder		
23.0 2	Model	To be mentioned by the bidder		
23.0 3	Country of Origin:	To be mentioned by the bidder		
23.0 4	Country of Manufacturing:	To be mentioned by the bidder		
23.0 5	General Requirement	Intelligent Addressable Indoor Application Dual Action Manual Call station with Surface Mounting Box, Single Gang Red Finish built		
23.0 6	Compliance Requirement	ULC, UL Listed & FM Approved		
24	Control Module	Intelligent Addressable Control Modules	Nos	24
24.0 1	Brand	To be mentioned by the bidder		
24.0 2	Model	To be mentioned by the bidder		
24.0 3	Country of Origin:	To be mentioned by the bidder		
24.0 4	Country of Manufacturing:	To be mentioned by the bidder		

24.0 5	General Requirement	Intelligent Addressable Potential-free, Form-C, SPDT contact based Control Module to trigger 3rd party utilities like AHU shut-off, Pressurization fan activation, Special notification activation etc. The contact shall be rated for 2A@24Vdc (Resistive) & 1A@24Vdc (Inductive). The control module shall have operating temperature range from 0°C to 49°C and a humidity tolerance of up to 93% RH, Non-Condensing. Module shall not necessarily require control panel for field diagnostic, trouble-shooting addressing and customer text-feeding. These activities shall be carried out with the help of hand-held field diagnostic tool capable of transferring the back-up at the PC for later use at the FACP.		
24.0 6	Compliance Requirement	ULC, UL Listed & FM Approved		
25	Monitor Modules	Intelligent Addressable Monitor Modules	Nos	23
25.0 1	Brand	To be mentioned by the bidder		
25.0 2	Model	To be mentioned by the bidder		
25.0 3	Country of Origin:	To be mentioned by the bidder		
25.0 4	Country of Manufacturing:	To be mentioned by the bidder		

25.0 5		Normally Open Dry Contact input. The Monitor Module shall have operating temperature range from 0°C to 70°C and a humidity tolerance of up to 93% RH, Non-Condensing. Module shall not necessarily require control panel for field diagnostic, troubleshooting addressing and customer text-feeding. These activities shall be carried out with the help of hand-held field diagnostic tool capable of transferring the back-up at the PC for later use at the FACP.		
25.0 6	Compliance Requirement	ULC, UL Listed & FM Approved		
26	Isolator Module		Nos	20
26.0 1	Brand	To be mentioned by the bidder		
26.0 2	Model	To be mentioned by the bidder		
26.0 3	Country of Origin:	To be mentioned by the bidder		
26.0 4	Country of Manufacturing:	To be mentioned by the bidder		
26.0 5	General Requirements	Intelligent Addressable, Supervised Short-Circuit Isolator. Isolator shall indicate Pinpointed address at the control panel display in case of activation. The Isolator Monitor Module shall have operating temperature range from 0°C to 49°C and a humidity tolerance of up to 90% RH, Non-Condensing. Module shall not necessarily require control panel for field diagnostic, trouble-		

		shooting addressing and customer text-feeding. These activities shall be carried out with the help of hand-held field diagnostic tool capable of transferring the back-up at the PC for later use at the FACP. UL & ULC Listed & FM Approved.		
26.0 6		Isolator Module is an automatic switch that opens when the line voltage drops below four volts		
26.0 7	Compliance Requirement	ULC, UL Listed & FM Approved		
27	Abort Station		Nos	10
27.0 1	Brand	To be mentioned by the bidder		
27.0 2	Model	To be mentioned by the bidder		
27.0 3	Country of Origin:	To be mentioned by the bidder		
27.0 4	Country of Manufacturing:	To be mentioned by the bidder		
27.0 5	General Requirements	Should Superior EMI protection diagnostic tool capable of transferring the back-up at the PC for later use at the Fire Alarm Control Panel		
27.0 6	Compliance Requirement	UL Listed & FM Approved and ULC Listed.		
28	Break Glass		Nos	10
28.0 1	Brand	To be mentioned by the bidder		
28.0 2	Model	To be mentioned by the bidder		
28.0 3	Country of Origin:	To be mentioned by the bidder		

28.0 4	Country of Manufacturing:	To be mentioned by the bidder		
28.0 5	General Requirements	Should Superior EMI protection diagnostic tool capable of transferring the back-up at the PC for later use at the Extinguisher fire Control Panel		
28.0 6	Compliance Requirement	UL Listed & FM Approved and ULC Listed.		
29	Exit Sign		Nos	30
29.0 1	Brand	To be mentioned by the bidder		
29.0 2	Model	To be mentioned by the bidder		
29.0 3	Country of Origin:	To be mentioned by the bidder		
29.0 4	Country of Manufacturing:	To be mentioned by the bidder		
29.0 5	General Requirements	UL Listed Exit Sign		
29.0 6	Compliance Requirement	UL Listed		
30	Emergency Light		Nos	33
30.0 1	Brand	To be mentioned by the bidder		
30.0 2	Model	To be mentioned by the bidder		
30.0 3	Country of Origin:	To be mentioned by the bidder		
30.0 4	Country of Manufacturing:	To be mentioned by the bidder		
30.0 5	General Requirements	UL Listed Twin Head Emergency Light 1.5 Hour		
30.0 6	Compliance Requirement	UL Listed		
31	Sign		Set	1
31.0 1	Brand	To be mentioned by the bidder		
31.0 2	Model	To be mentioned by the bidder		
31.0 3	Country of Origin:	To be mentioned by the bidder		
31.0 4	Country of Manufacturing:	To be mentioned by the bidder		

31.0 5	Gas Discharge Sign	Gas Discharge Sign * 18 Nos		
31.0 6	Evacuate Sign	Evacuate Sign * 18 Nos		
31.0 7	Caution Sign	Caution Sign * 18 Nos		
31.0 8	Mechanical item	Accessories for suppression Channel		
31.0 9		Schedule 40 pipe 3" Dia		
31.1 1		Schedule 40 pipe 2.5¼" Dia		
31.1 2		Schedule 40 pipe 2" Dia		
31.1 3		Schedule 40 pipe 1½" Dia		
31.1 4		Schedule 40 pipe 1" Dia		
31.1 5		Schedule 40 pipe ¾" Dia		
32	Hanger Support	Hanger Support	Lot	1
33	Fittings	Tees, Socket, ELBOW, UNION, ETC	Lot	1
34	Fire resistance cable	Fire resistance cable, (2C*1.5Rm) UL listed Fire Alarm System. Per Coil 100 meter	Coil	25
35	Fire resistance cable	Fire resistance cable, (2C*2.5Rm) UL listed for fire sounder. Per Coil 100 meter	Coil	8
36	Fire resistance cable	Fire resistance cable, (2C*1.5Rm) for Emergency Exit Light Per Coil 100 meter Brand: To be mentioned by bidder Country Origin: To be mentioned by bidder	Coil	6
37	Paint	Mechanical pipe Best Quality Local Painting, Berger or equivalent	Job	1
38	Conduit	PVC Pipe ¾" conduit, fittings Others Brand: To be mentioned by bidder	Meter	4000

39	Installation	Installation, Detection Testing, Commissioning	Job	1
	Instruction and other activities			
40	Sample	Sample for necessary items should be approved by before implementation.	Job	1
41	As built design	Bidder should provide a built-up design with details during implementation and FAT period	Job	1
42	Labelling	Printed labelling enclosed with each applicable item	Lot	1
43	Others	Bidder should accommodate additional items if required during the implementation period.	Lot	1
B	Very Early Smoke Detection Aspirating System (VESDA)			
SL	Item	Item specifications	Unit	Qty
	Inlet One Area Very Early Smoke Detection Aspirating System (VESDA)		Lot	1
1	Brand	To be mentioned by the bidder		
2	Model	To be mentioned by the bidder		
3	Country of Origin	To be mentioned by the bidder		
4	Manufacturing Country	To be mentioned by the bidder		
5	Front Panel	4 pipe, Plastic Enclosure. LED Indicator.		
6	Pipe	Four Pipe One Area		
7		One Pipe One Area		
8	Aspirator Setting	5		
9	Power (Quiescent)	15.4W		
10	Power (In Alarm)	15.2 W		
11	Area Coverage	1,000 m2 (10,760 sq. ft). 2,000 m2 (21,520 sq. ft)		
12	Min. airflow per pipe	20 l/m		
13	Pipe Length (Linear)	280 m (919 ft)		
14	Pipe Length (Branched)	560 m (1,837 ft)		

15	Pipe lengths depending on number of pipes in use	280 m (919 ft) Maximum pipe lengths: 100 m (328 ft)		
16	No. of holes (A/B/C)	12/40/80		
17	Pipe	Inlet: External diameter 25 mm or 1.05 in (3/4 in IPS) Exhaust: External diameter 25 mm or 1.05 in (3/4 in IPS) via adaptor		
18	Relays	07 programmable relays (latching or non-latching states) Contacts rated 2 A @ 30 VDC (Resistive)		
19	IP rating	IP40		
20	Cable termination	Screw Terminal blocks 0.2-2.5 sq mm (24-14 AWG)		
21	Dynamic Range	0.000%/m to 32%/m (0.0000%/ft to 10%/ft)		
22	Sensitivity Range	0.005 to 20% obs/m (0.0016% to 6.25% obs/ft)		
23	Threshold setting range	Alert: 0.005% to 2.0% obs/m (0.0016% to 0.625% obs/ft)		
24		Action: 0.005% to 2.0% obs/m (0.0016% to 0.625% obs/ft)		
25		Fire: 0.010% to 2.0% obs/m (0.0031% to 0.625% obs/ft)		
26		obs/ft) Fire2: 0.020% to 20.0% obs/m (0.0063% to 6.25% obs/ft)		
27	Software features	Event log: Up to 20,000 events Smoke level and alarm threshold levels, user actions, alarms and faults with time and date stamp Auto Learn: Detector learns Alarm Thresholds and Flow Fault thresholds by		

		monitoring the environment		
28	Listings / Approvals	UL • ULC • CSFM • FM • VdS • NF-SSI (www.marque-nf.com) • VNIPO • CE • ActivFire • CCC • EN 54-20, ISO 7240-20 Four Pipe VEP • EN 54-20, ISO 7240-20 - Class A (40 holes / Fire 1 = 0.028% obs/m) - Class B (80 holes / Fire 1 = 0.027% obs/m) - Class C (100 holes / Fire 1 = 0.056% obs/m)		
29	Features	• Sector addressability for up to four sectors		
30		• Adaptive scan threshold		
31		• Flair detection technology delivers reliable very early warning in a wide range of environments with minimal nuisance alarms		
32		• Multi stage filtration and optical protection with clean air barriers ensures lifetime detection performance		
33		• Four configurable alarm levels per sector and a wide sensitivity range deliver optimum protection for the widest range of applications		
34		• Intuitive LCD display provides instant status information for immediate response		
35		• Flow fault thresholds per port accommodate varying airflow conditions		
36	• Smart on-board filter retains dust count and			

		remaining filter life for predictable maintenance		
37		<ul style="list-style-type: none"> • Extensive event log (20,000 events) for event analysis and system diagnostics 		
38		<ul style="list-style-type: none"> • Auto Learn™ smoke and flow for reliable and rapid commissioning 		
39		<ul style="list-style-type: none"> • Backward compatible with VLS and VESDAnet 		
40		<ul style="list-style-type: none"> • Ethernet for connectivity with Xtralis software for configuration, secondary monitoring and maintenance 		
41		<ul style="list-style-type: none"> • USB for PC configuration, and firmware upgrade using a memory stick 		
42		<ul style="list-style-type: none"> • Two programmable GPIs (1 monitored) for flexible remote control 		
43		<ul style="list-style-type: none"> • Field replaceable sub-assemblies enable faster service and maximum uptime 		
44	Operating Conditions	Ambient: 0°C to 39°C (32°F to 102°F) Sampled Air: -20°C to 60°C (-4°F to 140°F) Tested to: -20°C to 55°C (-4°F to 131°F) UL: -20°C to 50°C (-4°F to 122°F) Humidity: 5% to 95% RH, non-condensing		
45	Controller	4 Inlet One Area Very Early Smoke Detection Aspirating System (VESDA) Data Hall 1,000 m2 (21,520 sq. ft)		
46	Controller	One Inlet One Area Very Early Smoke Detection Aspirating System (VESDA), UPS Room 1 A, UPS Room 1B, 1,000 m2 (10,760 sq. ft) * 10 Nos		

47	Power Supply	24VDC power supply with Enclosure * 4 nOS		
48	End Cap	25mm End Cap		
49	Air Sampling Pipe	25mm Pipe 3m Length PVC		
50	Elbow	25mm 90° Elbow		
51	Tee	25mm 90° Tee		
52	Socket	25mm Socket		
53	Cable	2C x 1.5 mm ² of FRLS Cable, Brand: To be mentioned by bidder		
54	Hanger, Support	Hanger, Support		
55	Installation	Supply, Installation, Programming, Commissioning of the System		
56	Sample	Sample for necessary items should be approved by before implementation.		
57	As built design	Bidder should provide a built-up design with details during implementation and FAT period		
58	Labelling	Printed labelling enclosed with each applicable item		
59	Others	Bidder should accommodate additional items if required during the implementation period.		
60	Warranty and Service Support	01 (one) Years, Bidder should ensure 24x7 service support with spare-parts within the warranty period and maintain SLA as described		
C. Environmental Monitoring System (EMS)				
SI	Item	Required specifications	Unit	Qty
1	Environmental Monitoring System (EMS)		Set	1
1.01	Brand	To be mentioned by the bidder		
1.02	Model	To be mentioned by the bidder		

1.03	Country of Origin	To be mentioned by the bidder		
1.04	Country of Manufacture	To be mentioned by the bidder		
1.05	Features	The Environment Monitoring System monitors critical environmental conditions, such as temperature, humidity, liquid presence, and vibration. Management (SNMP), and SMS messages (via external GSM modem).		
1.06	RJ45 Sensor Ports	RJ45 Sensor Ports (16)		
1.07	Digital Inputs	Digital Inputs channel (8)		
1.08	Device Internal Sensors	Device Internal Sensors (3)		
1.09	Remote Temp/Humidity Sensors over IP	Remote Temp/Humidity Sensors over IP (8)		
1.10	Remote 1-Wire Sensors over IP	Remote 1-Wire Sensors over IP (4)		
1.11	Output Relays	4 (Normally open / normally closed connection points)		
1.12	Alarm Port	Screw Terminal Pair 1		
1.13	USB Console Port	One female USB		
1.14	Ethernet Port	One 10/100 Base-T Ethernet port with RJ45 Ethernet connector		
1.15	Alerts 8 methods	Email Authenticates		
1.16		Web Interface		
1.17		SNMP network management: V1/V2c/V3		
1.18		Front Panel LED s: LED s for internal sensors, external sensors, backup battery, data log, power, AUX power		
1.19		SMS Messages Via external USB modem (not included)		

1.20		Voice Phone Calls: Via automatic voice dialer system (not included)		
1.21		Alarm Beacon: Yes, (not included)		
1.22		Siren: Yes, (not included)		
1.23	Control Methods	Web Interface: HTTP/HTTPS		
1.24		Telnet		
1.25		SSH		
1.26		Network Operation (SNMP) V1/V2c/V3		
1.27		RS232 (via female RJ45 RS232 connector & female USB Type B connector)		
1.28	Protocols	HTTP/HTTPS, SNMP V1/V2c/V3, SMTP, TCP/IP, Syslog, SNTP, DHCP, SSHv2, SSLv3, TLS v1.2,		
1.29		LDAPv3, XOAUTH2, AES 256-bit, 3DES, Blowfish, RSA, EDH-RSA, Arcfour, IPV6, WAP 2.0, RADIUS		
1.30	Other Features	Flash Upgradable		
1.31		Restore Defaults Button		
1.32		System Reset Button		
1.33	Operating Temperature	32 to 104°F (0 to 40°C)		
1.34	Power	110 or 230 VAC at 50 or 60 Hz via IEC connector		
1.35	Dimensions WxDxH (in)	To be mentioned by the Bidder		
1.36	Regulatory Approvals	CE, RoHS, TAA compliant		
2	Temperature and Humidity sensor		Set	16
2.01	Brand	To be mentioned by the bidder		
2.02	Model	To be mentioned by the bidder		
2.03	Country of Origin	To be mentioned by the bidder		

2.04	Country of Manufacture	To be mentioned by the bidder		
2.05	Temperature accuracy	$\pm 0.90^{\circ}\text{F}$ ($\pm 0.50^{\circ}\text{C}$) for -4 to 14°F (-20 to -10°C).		
2.06		$\pm 0.72^{\circ}\text{F}$ ($\pm 0.40^{\circ}\text{C}$) for 14 to 140°F (-10 to 60°C).		
2.07	Current consumption	7mA @5VDC.		
2.08	Measures Temperature	0°c to 50°c $\pm 0.5^{\circ}\text{c}$		
2.09	Measures Humidity	20% to 80% relative humidity $\pm 5\%$		
2.10	Connection Type	RJ45		
2.11	Cable Type and Max Length	Cat5/5e/6 cable up to 1000ft		
2.12	Regulatory Approvals	CE, RoHS		
3	Liquide Detection Sensor	Liquid Detection Sensor (Rope Type)	Set	10
3.01	Brand	To be mentioned by the bidder		
3.02	Model	To be mentioned by the bidder		
3.03	Country of Origin	To be mentioned by the bidder		
3.04	Country of Manufacture	To be mentioned by the bidder		
3.05	Length	Min. 50 Feet detection with extension		
3.06	Waterproof	100% electronics.		
3.07	Minimum puddle	0.06" (1.5 mm) diameter.		
3.08	Voltage and current	Open Circuit: 5VDC max @ $1\mu\text{A}$.		
3.09		Closed circuit: $<300\text{mV}$ @ 10.7mA .		
3.10	Material	PVC twisted pair with stainless 316 elements		
3.11	Diameter	0.14" (3.5 mm)		
4	Shock & Vibration Sensor	Shock Vibration Sensor.	Set	8
4.01	Brand	To be mentioned by the bidder		
4.02	Model	To be mentioned by the bidder		
4.03	Country of Origin	To be mentioned by the bidder		

4.04	Country of Manufacture	To be mentioned by the bidder		
4.05	Trigger duration	3.1 to 4.1 seconds		
4.06	Voltage Supply	5VDC		
4.07	Current Consumption	15mA		
4.08	Operating temperature	32 to 104°F (0 to 60°C)		
4.09	Storage temperature	-22 to 140°F (-30 to 60°C)		
4.10	Relative Humidity	17 to 90% non-condensing RH.		
4.11	Compatible	E-2D/5D/16D.		
4.12	Mounting bracket	Included.		
4.13	Regulatory approvals:	CE, RoHS		
5	GSM Modem	GSM Modem	Set	1
5.01	Brand	To be mentioned by the bidder		
5.02	Model	To be mentioned by the bidder		
5.03	Country of Origin	To be mentioned by the bidder		
5.04	Country of Manufacture	To be mentioned by the bidder		
5.05	Qty			
5.06	General Specifications	Sends SMS text messages to a pager or cell phone when a sensor goes out of range of a configurable threshold.		
5.07		SIM card supporting SMS messaging required (not included).		
5.08		Supports third generation (3G/4G) digital cellular standards.		
5.09		USB 2.0 stick with retractable Male USB Type A connector		
5.10		3G	Quad band 850/AWS/1900/2100 MHz	
5.11	E-GPRS	Quad band 850/900/1800/1900 MHz		

5.12	GSM Power Class	4 (2W) 850/900 MHz bands, 1 (1W) 1800/1900 MHz bands		
6	UTP CAT6 Cable:	Cat6 U/UTP	Box	2
6.01	Brand	To be mentioned by the bidder		
6.02	Model	To be mentioned by the bidder		
6.03	Country of Origin	To be mentioned by the bidder		
6.04	Country of Manufacture	To be mentioned by the bidder		
6.05	Type	Cable Type: U/UTP		
6.06	General Specifications	Pairs quantity: 4 Conductor		
6.07		Gauge singles: 23 AWG		
6.08		Conductor Material: Bare Copper		
6.09		Conductors, quantity: 8		
6.10		Environmental Space: Non-plenum		
6.11		Outer Jacket Materials: LSZH		
6.12		Operating Temperature Range – 20 ⁰ To + 75 ⁰		
6.13		Bulk Cable Weight: To be mentioned by the Bidder		
6.14		Max. Recommended Pulling Tension 110 N		
6.15		Min. Bend Radius (Install) 24.4 mm		
6.16		NEC/(UL) Specification UL444		
6.17		IEC Specification 11801 Category 6		
6.18		EU RoHS Compliant (Y/N) Y		
6.19		EU RoHS Compliance Date Sept 2007		
6.20	TIA Specification 568-C.2 Category 6			
6.21	IEC Flame Test 60332-1 Flammability			
6.22	Nom. Mutual Capacitance @ 1 KHz 5.6 nF/100m			

6.23		Maximum Capacitance Unbalance 330 pF/100m		
6.24		Nominal Velocity of Propagation 70 %		
6.25		Maximum Delay @ 100 MHz 538 ns/100m		
6.26		Maximum Delay Skew 45 ns/100m		
6.27		Maximum Conductor DC Resistance @ 20 Deg.C 9.38 Ohms/100m		
6.28		Nominal Conductor DC Resistance @ 20 Deg.C 6.9 Ohms/100m		
6.29		Maximum DCR Unbalance @ 20 Deg.C 5 %		
6.30		Characteristic Impedance 100 ± 15 Ohms		
6.31		Maximum Intended Operating Voltage 80 V RMS		
6.32		Other Specification NEMA WC-63.1 Category 6		
6.33		Box Length: 305 Meter or 1000 ft		
6.34		Installation: Installation, Testing and Commissioning with minimum 25 Years of Site Certification		
7	Accessories			
7.01	Installation Material	Bidder should provide all the necessary installation material (i.e. Cable tie, PVC channel, PVC pipe, Spiral Insulation, Flexible pipe, Royal bolt, Royal plug, screw, GI wire, Velcro, etc.)	Lot	1
7.02	Power Cable	Power Cable as 3C*1.5Rm	Coil	1
7.03	Installation	Installation, Testing and Commissioning with necessary installation Material	Job	1

Instruction and other activities				
8	As built design	Bidder should provide a built-up design with details during implementation and FAT period	Job	1
9	Labelling	Printed labelling enclosed with each applicable item	Lot	1
10	Others	Bidder should accommodate additional items if required during the implementation period.	Lot	1
11	Sample	Sample for necessary items should be approved by before implementation.	Job	1
12	Warranty and Service support	01 (one) Years, Bidder should ensure 24x7 service support with spare-parts within the warranty period and maintain SLA as described.	year	1
D	Rodent Repellent System			
	Item	Item specifications	Unit	Qty
1	Digital Controller		Nos	1
1.01	Brand	To be mentioned by the bidder		
1.02	Model	To be mentioned by the bidder		
1.03	Country of Origin	To be mentioned by the bidder		
1.04	Country of Manufacture	To be mentioned by the bidder		
1.05	General Feature	frequency band. It can have a maximum value of 100 and a minimum value of 80. The incremental size is 10 i.e.80,90 and 100.		

1.06		<p>Frequency Band Time: Is an indicator of the time for which the controller would operate in a pre-programmed frequency band. There are 3 bands available: Band A, Band B, and Band C. This parameter can have maximum value of 10 minutes and a minimum value of 1 minute per band. Depending upon the time frame set for each band, the controller will switch the bands automatically.</p>		
1.07		<p>Machine/Controller ID: Is an indicator of the machine/ controller identification number. It can have any value within the range of Oto 255.</p>		
1.08		<p>Password Protection: Every controller is password protected. To change the parameters mentioned above you have to key in the password. The password can be changed if required. The password can be any 5 digit number.</p>		
1.09		<p>Frequency Testing: This feature will enable the user to test and verify the frequency that is being transmitted from the controller to the transducer. This feature would be particularly useful during systems audit.</p>		
1.10		<p>Transducer Testing: Can drive up to 20 Transducers and all the 20 transducers can be tested in an audible range one at a time by</p>		

		using this feature of this device		
1.11		Inbuilt RS/EIA-485 transmission up to 1.2 kms to protected area (BMS Room).		
1.12		Frequency band of > 20 KHz and <60 KHz is pre-tuned for 100 different frequencies.		
1.13		Each Transducer should cover up to 500 sq. feet of area on true ceiling and below false flooring or up to 400 sq. feet of area.		
1.14		UL and CE approved transformers for power supply.		
2	Controller base	Basement for Rodent Repellent controller	set	1
3	Transducer	Related transducers for Rodent Repellent controller	NOS	32
3.01	Brand	To be mentioned by the bidder		
3.02	Model	To be mentioned by the bidder		
3.03	Country of Origin	To be mentioned by the bidder		
3.04	Country of Manufacture	To be mentioned by the bidder		
3.05	General Requirement	The satellites or Transducers shall be circular on true ceiling mounted low profile units that produce high decibel sound waves at very high frequency not less than 20 Khz. These satellites shall cover an area not less than 300 Sq. ft for Room void application, for ceiling Voids & floor void applications		

4	Accessories			
4.01	Installation Material	Bidder should provide all the necessary installation material (i.e. Cable tie, PVC channel, PVC pipe, Spiral Insulation, Flexible pipe, Royal bolt, Royal plug, screw, GI wire, Velcro, etc.) Brand: To be mentioned by bidder	Meter	500
4.02	Cable	Cable as 2C*0.4Rm, Brand: To be mentioned by bidder	Coil	5
4.03	Installation	Installation, Testing and Commissioning with necessary installation Material	Job	1
Instruction and other activities				
5	As built design	Bidder should provide a built-up design with details during implementation and FAT period	Job	1
6	Labelling	Printed labelling enclosed with each applicable item	Lot	1
7	Sample	Sample for necessary items should be approved by before implementation.	Job	1
8	Others	Bidder should accommodate additional items if required during the implementation period.	Lot	1
E	D. PAVA System			
SL	Item	Item specifications	Unit	Qty
1	PAVA system Controller		Nos	1
1.01	Brand	To be mentioned by the bidder		
1.02	Model	To be mentioned by the bidder		
1.03	Country of Origin	To be mentioned by the bidder		
1.04	Country of Manufacture	To be mentioned by the bidder		

1.05	General Requirements	Approvals Complete IEC 60849 compliancy		
1.06		Up to 50 zones		
1.07		Up to eight call stations		
1.08		One-channel or two-channel operation		
1.09		Fully supervised system		
1.10		Heart of the Plena Voice Alarm System		
1.11		TÜV-certified for IEC 60849		
1.12		Six-zone system controller		
1.13		Built-in 240 W amplifier		
1.14		12 business and emergency control inputs		
1.15		Approvals: Europe CE Declaration of Conformity		
2	Zone Call Station for Main amp zone		Nos.	1
2.01	Brand	To be mentioned by the bidder		
2.02	Model	To be mentioned by the bidder		
2.03	Country of Origin	To be mentioned by the bidder		
2.04	Country of Manufacture	To be mentioned by the bidder		
2.05	General Requirements	Stylish six-zone call station for the Plena Voice Alarm System		
2.06		Six zone selection keys, all-call key and momentary PTT-key for calls		
2.07		Selectable gain, speech filter, limiter, and output level for improved intelligibility		
2.08		LED indications for zone selection, fault, and emergency state		
2.09		Call station extension provides seven additional zone and zone group keys		

2.10		Approvals: Europe CE Declaration of Conformity		
3	07 Zone Plena Voice Alarm Keypad		Nos.	1
3.01	Brand	To be mentioned by the bidder		
3.02	Model	To be mentioned by the bidder		
3.03	Country of Origin	To be mentioned by the bidder		
3.04	Country of Manufacture	To be mentioned by the bidder		
3.05	General Requirements	Seven zone selection keys		
3.06		LED indications for zone selection		
3.07		Up to eight keypads can be connected together		
3.08		Approvals: Europe CE Declaration of Conformity		
4	Power Amplifier for Each Zone (480W)		Nos.	1
4.01	Brand	To be mentioned by the bidder		
4.02	Model	To be mentioned by the bidder		
4.03	Country of Origin	To be mentioned by the bidder		
4.04	Country of Manufacture	To be mentioned by the bidder		
4.05	General Requirements	480 W power amplifier in a compact housing		
4.06		70 V / 100 V and 8 ohm outputs		
4.07		The Amplifier Shall have Dual inputs with priority switching		
4.08		100 V input for slave operation on 100 V speaker line		
4.09		The Amplifier shall Temperature controlled forced front to back ventilation, directly stackable.		

4.10		The Amplifier shall have facility Mains, battery back-up and pilot tone supervision		
4.11		Approvals: Europe CE Declaration of Conformity		
5	Power Amplifier for Each Zone (240W)		Nos.	1
5.01	Brand	To be mentioned by the bidder		
5.02	Model	To be mentioned by the bidder		
5.03	Country of Origin	To be mentioned by the bidder		
5.04	Country of Manufacture	To be mentioned by the bidder		
5.05	General Requirements	240 W power amplifier in a compact housing		
5.06		The Amplifier Shall have Dual inputs with priority switching		
5.07		The Amplifier shall Temperature controlled forced front to back ventilation, directly stackable.		
5.08		The Amplifier shall have facility Mains, battery back-up and pilot tone supervision		
5.09		Approvals: Europe CE Declaration of Conformity		
6	Plena Voice Alarm Router		Nos.	1
6.01	Brand	To be mentioned by the bidder		
6.02	Model	To be mentioned by the bidder		
6.03	Country of Origin	To be mentioned by the bidder		
6.04	Country of Manufacture	To be mentioned by the bidder		
6.05	General Requirements	Expand the voice alarm system with six zone		

6.06		EN 54-16 certified and EN 60849 compliant		
6.07		12 additional input contacts		
6.08		Six volume override output contacts		
6.09		Supervision within the Plena Voice Alarm System		
6.10		Approvals: Europe CE Declaration of Conformity		
7	15W Premium Sound Cabinet Loudspeaker		Nos.	20
7.01	Brand	To be mentioned by the bidder		
7.02	Model	To be mentioned by the bidder		
7.03	Country of Origin	To be mentioned by the bidder		
7.04	Country of Manufacture	To be mentioned by the bidder		
7.05	General Requirements	High-fidelity music and speech reproduction		
7.06		Selectable 8 ohm, 70 V and 100 V inputs		
7.07		Compact yet robust ABS enclosure		
7.08		Supplied with adjustable mounting bracket		
7.09		Complies with international installation and safety regulations		
7.10		Approvals: Europe CE Declaration of Conformity		
8	6W Ceiling Loudspeaker with local base		Nos.	6
8.01	Brand	To be mentioned by the bidder		
8.02	Model	To be mentioned by the bidder		
8.03	Country of Origin	To be mentioned by the bidder		
8.04	Country of Manufacture	To be mentioned by the bidder		

8.05	General Requirements	Suitable for speech and music reproduction		
8.06		Light weight ABS material		
8.07		Easy to install		
8.08		Approvals: Europe CE Declaration of Conformity		
9	10 W Horn Loudspeaker		Nos.	4
9.01	Brand	To be mentioned by the bidder		
9.02	Model	To be mentioned by the bidder		
9.03	Country of Origin	To be mentioned by the bidder		
9.04	Country of Manufacture	To be mentioned by the bidder		
9.05	General Requirements	Up to 45 W (max. power)		
9.06		Wide opening angle		
9.07		Water- and dust protected to IP 65		
9.08		Versatile mounting bracket		
9.09		Approvals: Europe CE Declaration of Conformity		
10	PLE-SDT Plena Easy Line SD Tuner BGM source		Nos.	1
10.0 1	Brand	To be mentioned by the bidder		
10.0 2	Model	To be mentioned by the bidder		
10.0 3	Country of Origin	To be mentioned by the bidder		
10.0 4	Country of Manufacture	To be mentioned by the bidder		
10.0 5	General Requirements	MP3 playback from SD card and USB inputs		
10.0 6		FM tuner with RDS, presets and digital control		
10.0 7		Simultaneous operation of SD/USB-player and FM tuner		
10.0 8		Separate outputs for digital source and FM tuner		
10.0 9		Approvals: Europe CE Declaration of Conformity		

11	2CX1.5rm Cable		Mtr	600
12	PVC pipe with Accessories	20 mm dia PVC pipe with related joints	Mtr	600
13	Installation, Testing & Commissioning	cable laying, products installation, testing and labeling all equipment	Job	1
Instruction and other activities				
14	As built design	Bidder should provide a built-up design with details during implementation and FAT period	Job	1
15	Labelling	Printed labelling enclosed with each applicable item	Lot	1
16	Sample	Sample for necessary items should be approved by before implementation.	Job	1
17	Others	Bidder should accommodate additional items if required during the implementation period.	Lot	1
F	SUPPLY, INSTALLATION, TESTING & COMMISSIONING OF FIRE HYDRANT SYSTEM.			
S/N	Item	Item Specifications	UNI T	QT Y
1	Fire Pump with Motor (Electrical Driven):	Supply, Installation of Horizontal Split case fire pump with electric motor skid mount pump 500 GPM @ 80 M Head coupled with motor standard accessories Excel Series, with standard UL listed/ FM Approved controller. Motor should be US-Nidec (USA) Brand: To be mentioned by the bidder Motor Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: UL Listed	Set	1

	<p>Horizontal Multistage Jockey Pump:</p>	<p>Supply, Installation of Horizontal multistage jockey for 14 USGPM @ 120 M, with standard accessories along with UL listed & FM approved controller. Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder</p>		
	<p>Fire Pump with Engine (Engine Driven):</p>	<p>Supply, Installation of Horizontal Split case Engine driven fire pump skid pump 500 GPM @ 80 M head coupled with engine and standard accessories (pressure gauge, air release valve, diesel tank & battery) along with standard UL listed/ FM approved controller. Pump set shall be UL Listed. Brand: To be mentioned by the bidder Diesel engine Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: UL Listed</p>		
<p>2</p>	<p>PUMP PANEL:</p>	<p>Supply, Installation of Pump panel constructed with 18 BWG sheet steel painted with two coats of epoxy paint over a coat of prime. The panel shall be Single-hinged door. The panel shall house MCCB/MCB for all pumps, magnetic contractor, ammeter over load for all equipment, main volt meter, indicating light, earthing block</p>	<p>Set</p>	<p>1</p>

		pressure controller & switch, auto starting arrangement on receiving signal of low pressure in pipe line, status indication, MCCB etc. complete as per drawing and direction. The panel shall be installed at location shown in the drawing. Brand: To be mentioned by the bidder. Origin: To be mentioned by the bidder Standard: UL Listed and FM Approved		
3	ELECTRICAL CABLE WORKS (LOCAL):	Supply, Installation of single/multi core PVC insulated, PVC sheathed electrical cable of copper conductor of following size as per drawing & direction. The work shall be complete with water grade PVC conduit, required ECC, conduit bends, tees, junction box, pull box etc. complete as per direction and standard. Cutting of walls floor, roof etc. mending good the damage shall be as per direction. The Authority shall supply required power from main DB to pump. Cable shall be Eastern/Paradise/ Poly Cable.	Lot	1
4	PIPE WORK:	Supply, Installation of black steel pipe of schedule 40(S) suitable to withstand a test pressure 15 kg of water complete with bends, tees, elbows, reducers, socket, union etc. as per drawing and direction.	Lot	1

		All pipe work shall be completed with support, bracket etc. as per drawing and direction.		
	a)	150 mm dia * 118 Rm		
	b)	100 mm dia * 30 Rm		
	c)	65 mm dia * 24 Rm		
	d)	50 mm dia * 12 Rm		
	e)	40 mm dia * 42 Rm		
	f)	32 mm dia * 12 Rm		
	g)	25 mm dia * 18 Rm		
	h)	15 mm dia SS Pipe * 6 Rm		
5	Local Accessories for standpipe system.	Local Accessories for standpipe system.	Lot	1
6	West cone:	Dia:150mm Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder	Nos	1
7	VALVE ACCESSORIES:		Lot	1
	O.S & Y GATE VALVE with supervisory Switch	Supply, Installation of O S & Y Gate Valve. OS&Y Gate Valve anti corrosive cast iron body flanged end type complete with companion flanges, nut-bolt gasket etc. Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Standard: UL Listed		
	a)	150 mm dia * 6 Nos		
	b)	65 mm dia * 2 Nos		
	c)	40 mm dia (For Deluge System) * 2 Nos		
8	TEMPER/SUPERVISORY SWITCH:	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Third Party Certification: UL Supply of following sizes	Nos	10

		Supervisory Switches for OS&Y Gate Valve		
9	Butterfly Valve	Supply, Installation of Butterfly valve for flow meter line Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: UL Listed	Lot	1
	a)	150 mm dia (Flow meter) * 1 Nos		
	b)	100 mm dia (For Riser) * 1 Nos		
	c)	100 mm dia (pillar Hydrant) * 1 Nos		
10	Y-Strainer:	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: UL Listed & FM Approved	Lot	1
		Supply, Installation of Strainer shall be Y type with SS screen, flanged end type, cast iron body.		
	a)	150 mm dia * 2 Nos		
	b)	65 mm dia * 1 Nos		
	c)	40 mm dia (For Deluge System) * 2 Nos		
11	Flexible Joint:	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: BS Standard	Lot	1
		Supply, Installation of Flexible joint shall be suitable to absorb shock and system hammering and to reduce vibration transmission. Flexible joint shall be ss construction, flanged end type.		
	a)	150 mm dia * 4 Nos		

	b)	65 mm dia * 2 Nos		
12	Non-Return Valve/Check Valve:	Supply, Installation of Non-Return Valve Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: UL Listed	Lot	1
	a)	150 mm dia (Pump Room) * 2 Nos		
	b)	150 mm dia (FBC) * 1 Nos		
	d)	65 mm dia (Pump Room) * 1 Nos		
	e)	15 mm dia * 6 Nos		
13	ANTI-VORTEX PLATE WITH STRAINER:		Lot	1
	a)	Size: 300x300 mm dia * 2 Nos		
	b)	150x150 mm dia * 1 Nos		
14	Pressure Relief Valve:	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: UL Listed and FM Approved	Lot	1
		Supply, Installation of Pressure relief valve shall be electric operated solenoid type with motor, linkage, pressure sensor in discharge pipe, all mountings etc. as per specification. Dia of the valves shall be 100mm.		
15	Ball Valve:	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder	Lot	1
	a)	50 mm dia (Flash Line) * 2 Nos		
	b)	50 mm dia (Drain Line) * 3 Nos		
	c)	25 mm dia (Air Vent) * 3 Nos		

	d)	15mm Ball Valve (Pressure Gauge) * 11 Nos		
	e)	15 mm (Sensing Line) * 6 Nos		
16	METERING DEVICES:		Nos.	1
	Flow Measuring Devices: Water Flow Meter	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Standard: UL Listed and FM Approved Supply, installation of Flow metering devices shall be suitable to direct installation on pipe to measure flow of water through pipe in GPM. It shall be flanged end type.		
17	WATER FLOW SWITCH	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Standard: UL Listed & FM Approved	Lot	1
		Supply, installation of Pressure Switch shall be complete with water pressure sensor, pressure transmitter, mountings, tubing, electro-pneumatic switch etc. complete. It shall sense pressure of water in pipe and operate pump motor.		
	a)	150 mm dia (Pump Room Header) * 1 Nos		
	b)	100 mm dia (For Riser) * 1 Nos		
18	PRESSURE GAUGE:	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder	Lot	1

		Supply, installation of Pressure gauge shall be of dial type of 3.5-inch dia suitable to read 0 to 20 Kg pressure. Pressure gauge shall be completed with petcock, pressure snow bar, nipple etc.		
	a)	For Pump Discharge Line (300 PSI) * 6 Nos		
	b)	For Pump Suction Compound Gauge (-30 PSI) * 2 Nos		
	c)	For Air-vent (300 PSI) * 3 Nos		
19	AUTOMATIC AIR VENT VALVE:	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Standard: UL Listed and FM Approved	Nos	3
	a)	25mm Dia		
20	Zone control valve:	Including following Accessories i) Butterfly Valve (Grooved, 300psi, Supervised, Bristol, BV-G31, UL/FM) ii) Check Valve (PN16 Flanged, Swing Type, 300psi, Bristol, CVS-3FFXY, UL/FM) iii) Water Flow Detector (Vane-Type, Ironman, UL/FM) iii) Pressure Gauge (4" Dial, 1/4" NPT, EN 837-1, Wika, 111.10SP, UL/FM) iv) Test & Drain Valve with Sight Glass and ON/OFF (1" NPT, Brass, Bristol, BF-VT001, UL/FM) v) Ball Valve 50mm ,BS Standard Brand: To be mentioned	Nos	1

		by the bidder Origin: To be mentioned by the bidder Certification: UI Listed		
	a)	65 mm dia * 1 Nos		
21	SPRINKLER SYSTEM:	Supply, installation of Sprinkler Head: Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: UL Listed	Nos	4
	a)	SPRINKLER K-11.2 upright		
22	PILLAR HYDRANT	4" Ø PILLAR HYDRANT (2 WAY) OUTLET 65 mm: Supply, installation of Sprinkler Head: Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder	Nos.	1
		Supply, installation of Pillar Hydrant double headed dia 100mm intel and 2 x 65mm femal outlet c/w cap and chain with 100mm dia Supervisory valve.		
23	Hose Pipe & Nozzle for Pillar Hydrant:	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: UL Listed/ KITEMARK Approved (a) Fire Hose Single Jacket 2-1/2.5" x 30 Mtr RED with Aluminum coupling: (b) Jet & Spray Fog Nozzle 2-1/2" with 2-1/2" Instantaneous Male - Aluminum:	Set	1

24	OUTDOOR FIRE HYDRANT CABINET FOR PILLAR HYDRANT:	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Supply of Fire Hose Cabinet for Pillar Hydrant Standpipe System (Size: 1000mm X 800mm X300mm)	Nos	1
25	65mm Landing Valve:	Supply of Oblique Type Valve Landing 2.5” Size, Brass, Red Painted. Threaded Inlet and Instantaneous Coupling Outlet, with Hand Wheel, Plastic Cap and Chain, BS Standard. Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: KITEMARK Approved	Nos	4
26	SPRINKLER HEAD	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: UL listed Upright Sprinkler, K=11.2, 68oC, 3/4" orifice,3/4" NPT, Brass Finish, Standard Response	Nos	4
27	Medium Velocity Water Spray Nozzle	Brand: To be mentioned by the bidder Origin: To be mentioned by the bidder Certification: LPCB/KITMARK Approve	Nos.	6
		Housing: Forged Brass, Deflector: Brass, Strainer: Copper Max working Pressure: 175 psi Effective working Pressure: 20-50 psi		

		End Connection 1/2 NSPT K-factor: 2.10		
28	Pump Testing & Commissioning	Pump Testing & Commissioning	Nos.	1
29	As-Built Design	As-Built Design	Nos.	1
30	Full System Installation, Balancing & Commissioning	Full System Installation, Balancing & Commissioning	Nos.	1

4.1.5 Integrated cabling system

1: Fiber Optic & Copper Cabling System Solutions				
SL	Description	Required Specification	Unit	Qty
	Brand	To be Mentioned by the Bidder		
	Model	To be Mentioned by the Bidder		
	Country of Origin	To be Mentioned by the Bidder		
	Country of Manufacture	To be Mentioned by the Bidder		
	Plant Certificate	Manufacturing Plant Certificate of raw fiber glass needs to be Submitted by the Bidder		
	Country of Shipment	To be Mentioned by the Bidder		
1	OEM Qualification			
		All participating cabling material OEM Manufacturing facility should be ISO 9001 ISO 14000 Certified.		
		The OEM Shall have ISO Certified manufacturing facility for structure cabling, which shall be audited by customer as & when required.		
		All Copper & fiber components should be from the same OEM.		
		OEM shall have fiber glass manufacturing of its own		
		OEM should have executed minimum one similar size Data center projects in last six month from RFP submission date at Dhaka or Globally, customer may ask for all the details about said project and end customer confirmation on project start and completion date.		
		OEM should be able to give global reference sites of data center upon request.		
		OEM should quote for products which are not violating local or international IP laws.		
		OEM to submit sign copy of their compliance.		

		Bidder is required to quote products from only one OEM and bidders needs to submit data sheet, OEM authorization letter and compliance letter from OEM.		
		OEM Shall provide 25 years performance warranty for all copper and fiber products.		
2	Fiber Optic Solution:			
	Approach	The entire system should follow an easy snap-fit approach – from the installation of modules and cables to the connection of system components at the fiber interface. No tools should be required other than a screwdriver for installation of hardware.		
	Panel Loading	Modules and harnesses should conveniently load into the patch panels, and correct fibre polarity is guaranteed throughout the systems, without need of straight / flipped mapping.		
	Bend-insensitive properties	All fiber cables and cords must feature Bend-insensitive properties that enable tighter trunk cable bends for slack storage and routing and reduce system downtime.		
	Polarity Management	All fiber and copper products should have zero polarity issues.		
		All LC patch cords should have uniboot and single jacket for both fiber.		
		All MPO/MTP trunk cables and patch cord should have polarity change feature, site engineer should be able to change MTP/MPO connector of trunk / patch cords from polarity A to Polarity B or Polarity B to A. This is an important feature for all future upgrades.		
		MPO to MPO adaptor Panel should have polarity change feature inbuilt in it, site engineers should be able to change polarity from Key up to Key Down without any tool requirements.		
	Flexibility	Allows flexible network design with longer links and multiple interconnects		
	Factory Test Solution	100% factory-tested solutions: Provide consistent quality, ensure system performance and reduce installation time. All Fiber products should come with unique serial number mentioned in jacket, with this serial number customer should be able to trace the factory test parameter any time.		
3	Fiber optic trunk specification MPO/MTP to MPO/MTP:			
		MPO trunk cables shall have insertion loss of 0.35 dB for each MPO connector mating.		
		MPO trunk cables shall have B polarity and site engineer should be able to change polarity from B to A or A to B any time as per requirements.		

		MPO trunk cable shall comply to European CPR standard. In Data sheet CPR rating of trunks should be clearly mentioned.		
		The MPO to MPO Trunks should be available in base 12 MPO trunks for easy migration to 40G/100G.		
		MPO to MPO trunk should be available in Multimode 50/125µm OM4 bend insensitive fiber and Single-mode fibre 9/125µm bend insensitive OS2 fiber.		
		Trunks cables should be terminated in 12F MPO male (pined) connector that can be easily plugged into MPO to LC module or MPO to MPO module. Site engineer should have option to add or remove pins from MPO/MTP connector any time as per requirement at site without OEM or installer help.		
		Trunk cables which are having higher fiber count of 48F or 96F shall have Indoor/outdoor jacket with dielectric or metallic armor jacket.		
4	Fibre Optic MPO to LC Modules			
		All Multimode module shall have insertion loss not more than 0.5dB.		
		All Single mode module shall have insertion loss not more than 0.75dB		
		All modules should have inbuilt shutter to protect dust or moisture ingress.		
		Module shall be available in 6 ports LC Duplex to 12F MPO		
		Module shall have same polarity on both side of trunk and no special training should be required by staff for module installation.		
5	Fiber Optic High-Density patch panels:			
		Fiber patch panel (LIU) should be available in 19-in racks or cabinets mounting options.		
		High Density 1U sliding fiber panel enclosure, providing min 72 duplex LC ports and 72 MPO/MPO Ports		
		High Density 2U sliding fiber panel enclosure, providing min 144 duplex LC ports and 144 MPO/MPO Ports		
		High Density 4U sliding fiber panel enclosure, providing min 288 duplex LC ports and 288 MPO/MPO Ports		
		Each sliding drawer should contain integrated cable routing guide for 24 patch cord and easy patch cable management. Each Sliding drawer shall have 24 ports		

		and there shall be 3 drawers in 1U, 6 drawers in 2U and 12 drawers in 4U shelf.		
		Fiber patch panel (LIU) should help in insertion and removal of patch cord with two finger access without the need for tools or any other accessories.		
		Fiber panels shall support both rear and side entry for trunk cables for better routing and access.		
		Panel shall have front hinged labelling window for clear visibility of admin labels.		
		Fiber panel shall have front sliding mechanism with positive locking, for increases access.		
6	Fibre Optic LC to LC Uniboot patch cords or MPO to MPO patch cord			
		LC to LC Duplex patch cord shall have insertion loss of 0.1 dB and reflectance of ≤ -20 dB		
		LC to LC Duplex patch cord shall have Uniboot connector.		
		LC to LC Duplex patch cord shall have single jacket of 2 mm		
		MPO to MPO Multimode patch cord shall have insertion loss of 0.35 dB		
		MPO to MPO Single Mode patch cord shall have insertion loss of 0.5 dB		
		MPO Patch cord shall have feature to change polarity and pin at site by site engineer as per requirement without OEM or installer help.		
7	Fibre Optic MPO to MPO Adaptor Panel			
		All Multimode / Single mode MTP/MPO to MPO/MTP Adaptor panel be available in 6 ports		
		All MPO Adaptor panels should have inbuilt shutter to protect dust or moisture ingress.		
		All Multimode / Single mode MTP/MPO to MPO/MTP Adaptor panel be feature to change polarity from key up to key down.		
8	Cat 6A UTP solution specification.			
		The proposed Cat 6A solution should be tested up to 550 MHz and provides transmission performance meeting Category 6A specifications as per ANSI/TIA 568.2-D and ISO/IEC 11801 Class EA.		
		The Cat 6A SCS must be tested by third party test facility to the following standards:		
		ANSI/TIA 568-C.2: Category 6A Channel		
9	Cat 6A UTP cable Requirements			

		Cat 6A UTP 23 AWG solid copper cable should be suitable for 10 Gbps transmission systems which ensures a high degree of future proofing. Cable shall be available in green Colour		
		The cable must comply or exceed the requirements for ANSI/TIA 568.2-D and ISO/IEC 11801 for Cat6A.		
		Cable shall be constructed with pair separator.		
		The cable shall have Low-Smoke, Zero Halogen (LSZH) jacketing and must comply with the following Fire Safety standards		
		1) ISO/IEC 60332 Vertical Flame Spread		
		2) ISO/IEC 60754-2: Acidity		
		3) ISO/IEC 61034-2: Smoke Density		
		e) Cable shall be compliant to the Fire performance as per EN50575 standard and meet CPR rating of Eca at a minimum.		
		f) Cat 6A cable should have operating temperature range of -20°C to +60°C.		
		g) Compliant with PoE / PoE++ IEEE 802.3af, IEEE 802.3atIEEE 802.3 an 1000 Base-T		
10		Copper Cat 6A UTP information outlet.		
		The CAT6A UTP 8-pin modular (RJ-45) jacks shall have Electrical performance guaranteed to meet or exceed the channel specifications of ISO/IEC 11801 Class EA and ANSI/TIA-568-C.2 Category 6A.		
		Each outlet shall be supplied with rear protective strain relief cap to protect against contamination and securing the termination.		
		Cat 6A information should be able to take connection of solid wire data cables from AWG24 to AWG22 with IDC (insulation displacement connector).		
		Cat 6A information shall have inbuilt dust cap, to protect connector from dust and moisture		
		Cat 6A information outlet shall have feature to terminate cable at rear from three different positions i.e. from top, bottom or rear.		
		Outlet shall have inbuilt dust cover for protection from dust and moisture		
		Outlet shall not require any tool for termination		
11		Copper Cat 6A UTP 24 port patch panel		
		Patch Panel shall be CAT6A UTP unloaded 1U & 0.5U with rear cable management		
		Patch Panel shall be made with powder coated metal		
		Cat 6A Unloaded panel shall have 24 ports in 1U & 0.5U		

		Cat 6A Panel shall be available in black colour		
		Cat 6A Unloaded panel shall have 24 ports in 0.5U		
12	Copper CAT6A UTP Patch Cords 26 AWG cordage, LSZH			
		CAT6A UTP Patch Cord, shall be of 4 pair 26 AWG thin construction		
		Plugs shall be designed with an anti-snag latch to facilitate easy removal during move, add and change processes.		
		100% Factory Made with Tested		
		The cordage shall be UTP components that do not include internal or external shields, screened components or drain wires.		
		Patch Cord shall have LSZH jacket complying with the following Fire Safety standards:		
		European CPR rating		
		IEC 60754-2: Acidity		
		IEC 61034-2: Smoke Density		

Bidder must comply the above Technical Specifications and provide below bill of quantities

Item No	Item Description	Unit	Quantity
4.1.5.1	96-OM4 preterminated fiber,10 meters.	pcs	4
4.1.5.2	96-OM4 preterminated fiber,15 meters.	pcs	12
4.1.5.3	96-OM4 preterminated fiber,20 meters.	pcs	8
4.1.5.4	96-OM4 preterminated fiber,25 meters.	pcs	2
4.1.5.5	96-OM4 preterminated fiber,30 meters.	pcs	12
4.1.5.6	96-OM4 preterminated fiber,35 meters.	pcs	16
4.1.5.7	96-port MPO-LC fiber distribution frame	pcs	92
4.1.5.8	96-port MPO-MPO fiber distribution frame	pcs	8
4.1.5.9	MPO-LC Fiber Module	pcs	368
4.1.5.10	MPO-MPO Fiber Module	pcs	32
4.1.5.11	LC-LC Fiber Optic Jumper, 2m	pcs	4416
4.1.5.12	MPO-LC Fiber Optic Jumper, 2m	pcs	64
4.1.5.13	UTP CAT 6A cable,305m/box	box	138

4.1.5.14	48-port network distribution frame, including CAT 6A modules	pcs	92
4.1.5.15	2m,CAT 6A Jumper	pcs	4416
4.1.5.16	Any missing items in the specified above BOQ as per drawing and specifications if any to make the system functional to comply with local statutory requirements and international std.	lot	1

4.1.6 Uptime design certificate

Supply the Tier Certification Design Document (TCDD) and necessary support for certification achievement.		
SL	Description	Qty
1	Preparing all Documentations for TCDD (Like, Project report, weather report, site information and necessary information for equipment)	1
	Collect necessary information from client and UI end	
	Design Preparation for TCDD -Tier III	
	Low level design prepares as per UI requirement	
	Tier Certification of Design Documents submission to the UI	
	Tier Certification of Design Documents review feedback to the UI	
	After design review, submit the papers for finalization	
2	Data Center BoQ preparation based on approved design	1
	Project Management (TCDD) for coordination with UI and share the project update and report generate after getting the data from client for 6 months	
	Data Collection from different SI	
	Day to Day communication with Uptime Institute as well as client	
	Project follow-up meeting	
	Project follow up and report generate	
	Project profile create	

4.1.7 Equipment’s requirement for DR Center site temporary service migration

Item No	Item or Related Service	Technical Specification and Standards
a	BMC Switch (Qty. 2 Nos)	
1	Brand	Internationally Reputed Brand (To be mentioned by the bidder)
2	Model	To be mentioned by the bidder
3	Country of Origin	To be mentioned by the bidder
4	Country of Manufacturer	To be mentioned by the bidder
5	Quality	The manufacturer of the proposed goods should be ISO9001/9002 certified, CE / FCC Class A/B for quality assurance certification.

6		The OEM of the Proposed brand must be in challenger or Leader quadrant in the latest Gartner Magic Quadrant for Wired and Wireless LAN Infrastructure.
7	Enclosure Type:	Rack mountable, 1U
8	Hardware Architecture	The equipment must support up to 48 Ethernet 10/100/1,000 ports, 4 x 10 Gig SFP+ and 2 x 10G SFP+ port equipped with 300m Multi Mode module from day 1 including patch cord
9		The proposed equipment must support high switching capacity of at least 176 Gbps non-blocking.
10		The proposed equipment must support high packet transfer rate of at least 125 Mpps (Million packets per second)
11		The proposed equipment must support 1+1 power supply backup from day 1
12	Layer 2:	The equipment must support Mac-based, Port-based, protocol-based, and IP subnet-based VLAN assignment
13		The equipment must support up to 4K active VLAN
14		The equipment must support VLAN Mapping, Guest VLAN, voice VLAN, GVRP
15		The equipment must support MAC address learning, aging and 16K MAC entries
16		The equipment must support Packet filtering based on source MAC addresses
17		The equipment must support ERPS (G.8032), BPDU protection, root protection, and loop protection
18	Layer 3:	The equipment must support Static route, IPv1/v2, IPv6, OSPF, OSPFv3, ECMP, IS-IS, IS-ISv6, BGP, BGP4+, VRRP, and VRRP6
19		The equipment must support 8K FIBv4 entries and 3K FIBv6 entries
20		The equipment must support 3K ND entries, PMTU, 6to4 tunnel, ISATAP tunnel
21	QoS & ACL:	The equipment must support Packet filtering at Layer 2 to Layer 4, filtering out invalid frames based on the source MAC address, destination MAC address, source IP address, destination IP address, TCP/UDP port number, protocol type, and VLAN ID
22		The equipment must support queuing algorithms, such as DRR, SP, WRR+SP, and DRR+SP
23		The equipment must support Eight queues on each interface
24		The equipment must support Rate limiting in the inbound and outbound directions of a port
25	Security:	The equipment must support Binding of the IP address, MAC address, interface number, and VLAN ID, Port isolation, port security, and sticky MAC

26		The equipment must support CPU protection, DoS attack defense, ARP attack defense, and ICMP attack defense
27		The equipment must support Secure Boot, Blacklist and whitelist
28		The equipment must support IEEE 802.1x authentication and limit on the number of users on an interface
29		The equipment must support AAA authentication, RADIUS authentication, TACACS or similar authentication, and NAC
30	Virtual Fabric	The equipment should support two-layer client architecture
31		The equipment should support Third-party devices are allowed between Virtual Fabric parent and clients
32	Network O&M	The equipment must support SNMPv1/v2c/v3, RMON, SSHv2
33		The equipment must support Cloud management based on Netconf/Yang, Web-based NMS
34	Virtualization	The equipment must support stacking
35		The switch must be equipped with 1 unit SFP+ High Speed Cable-1.5m from day 1 for stacking.
36	Service, Support, Warranty & Subscription	The bidder must have to quote foundation license with software subscription, support service and SnS license for 3 Years And The proposed equipment should be from same brand of existing network for easy integration and Unified Management & Operation.
37		The bidder must need to quote OEM Professional Deployment Service (Planning, Design & Implementation Service) with the proposed equipment/solution. And OEM Engineer should involve in deployment.
38		Customer should able to directly open TAC cases by Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided
39		The bidder must quote minimum 3 (Three) years manufacturer’s warranty including Hardware replacement service and 24x7 Remote Technical support. The warranty services will start from the date of successful commissioning.
40		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units
41		Bidder must have to provide Manufacturer Authorization Letter
b. ToR Switch (QTY. 04 Nos)		
1	Brand	Internationally Reputed Brand (To be mentioned by the bidder)
2	Model	To be mentioned by the bidder
3	Country of	To be mentioned by bidder

	Origin		
4	Country of Manufacturer	of	To be mentioned by bidder
5	Country of Shipment	of	To be mentioned by bidder
6	Quality		TL9000 / ISO9001 for manufacturer, CE / FCC Class A/B for quality assurance
7			The OEM of the Proposed brand must be in challenger or Leader quadrant in the latest Gartner Magic Quadrant for Data Center and Cloud Networking
8	Forwarding performance		The switching capacity is larger than or equal to 3.6 Tbps
9			The packet forwarding rate is larger than or equal to 940 Mpps.
10	Hardware specifications		The switch is Rack mountable; 1 U high
11			Power supplies and fan modules work in 1+1 mode from day 1
12			The switch supports front-to-back or back-to-front airflow.
13	Interface configuration		The switch provides a minimum of 6 port 40GEQSFP+/100G QSFP28 interfaces
14			The switch provides a minimum of 48 port 25GE SFP28 /10GE SFP+ interfaces.
15			Bidder must need to supply 48 x 10G SFP+ 300m MM LC module and 2 x 40G QSFP+ 300m MM MPO module from day 1 including patch cord. The module must be from same OEM of proposed equipment.
16	Layer functions	2	The switch supports access, trunk, and hybrid modes.
17			The switch supports QinQ
18			The switch supports M-LAG.
19			The switch supports DLDP or similar
20			The switch supports MAC addresses $\geq 256K$
21			The switch supports static, dynamic, and blackhole MAC address entries.
22	Layer functions	3	The switch supports ARP $\geq 256K$
23			The switch supports IPv4 FIB $\geq 256K$
24			The switch supports IPv4 dynamic routing protocols, such as RIP, OSPF, IS-IS, and BGP.
25			The switch supports IPv6 dynamic routing protocols, such as RIPng, OSPFv3, IS-ISv6, and BGP4+.
26			The switch supports BFD for OSPF, BGP, IS-IS, and static route.
27			The switch supports IPv6 VXLAN over IPv4.
28			The switch supports IPv6 ND and PMTU discovery.
29	QoS		The switch supports queue scheduling modes such as PQ, DRR, and PQ+DRR.

30		The switch supports Traffic classification based on Layer 2, Layer 3, Layer 4, and priority information.
31		The switch supports Congestion avoidance mechanisms, including WRED and tail drop.
32		The switch supports traffic shaping.
33	Reliability	The switch supports VRRP, VRRP load balancing, and BFD for VRRP.
34		The switch supports N:1 virtualization technologies such as stacking or ESI or M-LAG
35		The switch must be equipped with 1-unit QSFP+ 40G High Speed Cable from day 1 for stacking.
36	DC features	The switch supports VXLAN and BGP EVPN from day 1
37		The switch supports VXLAN mapping
38		The switch supports PFC.
39		The switch supports QinQ access VXLAN
40	Security	The switch supports defense against DoS, ARP, and ICMP attacks.
41		The switch supports bindings of IP addresses, MAC addresses, interface numbers, and VLAN IDs.
42		The switch supports port isolation.
43		The switch supports AAA, RADIUS, and TACACS authentication.
44		The switch supports RMON.
45		The switch supports multicast traffic suppression.
46		The switch supports IGMP snooping.
47		The switch supports IGMP proxy.
48	The switch supports PIM-SM, and MBGP.	
49	Configuration and maintenance	The switch supports Telemetry.
50		The switch supports ERSPAN+
51		The switch supports SNMPv1/v2/v3, Telnet, and SSH.
52		The switch supports network-wide path detection.
53		The switch supports statistics on the microburst status in the buffer.
54		The switch supports BootROM upgrade and remote upgrade.
55		The switch supports ZTP technology that allows the configuration to be automatically delivered.
56	Traffic analysis	The switch supports NetFlow or sFlow or jFlow or NetStream.
57	SD-DCN	The switch support SDN Features and can be integrated into mainstream SDN & cloud computing platforms and must support integration with Ansible, Open stack Neutron or Open Programmability System (OPS) for DCN fabric automation. Along with fine grained microsegmentation isolation capability for enhance security

58	Service, Support, Warranty Subscription &	The bidder must have to quote advanced Software license from day 1 including IPv6, VXLAN, Telemetry, Fabric Management License for SDN Automation & Intelligent O&M, Health Check license for DC Network Analysis and bidder must have to quote SnS license for 3 Years And the proposed equipment should be from same brand of existing network for easy integration and Unified Management & Operation.
59		The bidder must need to quote OEM Professional Deployment Service (Planning, Design & Implementation Service) with the proposed equipment/solution. And OEM Engineer should involve in deployment.
60		Customer should able to directly open TAC cases by Phone, Email, Ticket etc. with OEM and OEM direct resources access should be provided
61		The bidder must quote minimum 3 (Three) years manufacturer’s warranty including Hardware replacement service and 24x7 Remote Technical support. The warranty services will start from the date of successful commissioning.
62		The OEM should have their own RMA depot in Bangladesh to offer speedy replacement of the faulty units
63		Bidder must have to provide Manufacturer Authorization Letter
c.	SAN Storage (QTY. 1 Nos)	
1	Brand	Internationally Reputed brand (To be mentioned by the Bidder) and the OEM of the proposed brand must be in the latest Gartner’s Magic Quadrant for primary storage.
2	Model	To be mentioned by the bidder
3	Country of origin	To be mentioned by the bidder
4	Manufacturing Country	To be mentioned by the bidder
5	System architecture	Offered Storage array must be an All Flash Array.
6		Offered Storage array should be Provided with the true active-active controllers so that a single logical unit can be shared across all offered controllers in symmetrical fashion, which LUNs do not belong to any controller and total physical cores should be not less than 32 Cores.
7		Proposed array should be a scale-up and scale-out architecture and controller enclosures are interconnected via PCIe or RDMA.
8		The Storage system should initial configuration as a unified system supporting all Block and File Protocols with 2 Controllers and has the ability to scale to at least 8 controllers in active-active configuration.

9		Supports NAS Protocols such as NFS, CIFS and NDMP without going through NAS Gateway device.
10	Cache	Offered Storage Systems should be given with 192GB cache (excluding performance acceleration modules, NAS cache, FlashCache, PAM, or SSD Cache) for full storage system and shall be also and shall be scalable to minimum 1TB (excluding performance acceleration modules, NAS cache, FlashCache, PAM, or SSD Cache)
11	Disk Scalability	Offered Storage Array should support up to minimum 800 SSD disks.
12	Capacity	The single storage array shall be offered with 50TB Useable capacity after RAID6 Configuration with not more than 4TB NVMe drive.
13	Raid	The Storage array should support Controller based RAID Levels: RAID 5, RAID 6 and Tolarance of three disk failure.
14	Front End Ports	The Storage Array should be provided with minimum 8 x 10 Gbps iSCSI interface and 8 x 32Gb FC ports with required transceiver.
15	Back End Connectivity	The Storage Array should be provided the back-end disk channel bandwidth 380 Gbit/s or higher
16	Deduplication and Compression	Offered storage should support adaptive deduplication and compression based on user data characteristics, maximizing the reduction ratio
17	Quality of Service Control	Offered storage should support dynamically allocate storage system resources to meet the performance objectives of applications and allows to set upper and lower limits on IOPS, bandwidth, or response latency for specific applications so that the performance of these applications is limited.
18		Offered storage should provide with point in time snapshots function with full capacity software license
19	Snapshot	Offered storage should provide high-density snapshots, which the system can support the second-level snapshot, achieving continuous data protection. Should Support atleast 4096 snapshots for a single file system and atleast 30,000 snapshots for a system.
20	Clone	Offered storage should provide the clone function, which creates a physical copy for the snapshot or source LUN.
21	Gateway-free A-A (metro-cluster)	Offered storage should support Active-Active solution for two core storage systems without any additional virtual gateway. The hosts can access the same Active-Active volume concurrently. Failure of either storage system will not affect upper-layer services.

22	Remote replication	Offered storage should support Synchronous /asynchronous data replication function to replicate data from the active data centers site to the others site data center.
23	Multi-pathing	The proposed storage should provide dedicated multi-pathing software (not the multi-pathing software of the operating system) to support failover and load balancing. The multi-pathing software should run on Windows, Linux, AIX, Solaris, and other mainstream OSs.
24	Management	Offered storage should support Non-Disruptive Upgrade. During an upgrade, the storage no need require controller restart and services need to be switched over between controllers to ensure service continuity.
25	Storage Scalability and Upgradability	The unified proposed system should support non disruptive, 3 generations, Data-in-Place Upgrade
26		Unified Storage system should allow re-usage of Disk Shelves with higher models of the same product line.
27	Design and Implementation Scope	Respective OEM to also ensure that the final deployment is done basis the OEM specified and validated design standards and best practices
28		Bidder should submit BOM of proposed device including the details part numbers and manufacturer's warranty part number
29		Bidder should submit the required performance document and compliance reference document for the proposed device.
30	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3 (Three) years warranty should be provided for this unit from the date of commissioning
31	Installation, testing and commissioning	Installation, testing and commissioning with necessary accessories
d.	IT Racks	
1	Brand	Internationally Reputed brand (To be mentioned by the Bidder) and the OEM of the proposed brand must be in the latest Gartner’s Magic Quadrant for primary storage.
2	Model	To be mentioned by the bidder
3	Country of origin	To be mentioned by the bidder
4	Manufacturing Country	To be mentioned by the bidder

5	QTY	4
6	Space	42 U
7	IT Load	Minimum 7 KW
8	Installation, testing and commissioning	Installation, testing and commissioning with necessary accessories
e.	UPS	
1	Brand	Internationally Reputed brand (To be mentioned by the Bidder) and the OEM of the proposed brand must be in the latest Gartner’s Magic Quadrant for primary storage.
2	Model	To be mentioned by the bidder
3	Country of origin	To be mentioned by the bidder
4	Manufacturing Country	To be mentioned by the bidder
5	QTY	40KW UPS *2
6	Battery	Minimum 15min Battery Backup
8	Installation, testing and commissioning	Installation, testing and commissioning with necessary accessories

4.1.8 Expansion of Existing Private Cloud Platform Software (DC & DR)

Sl.	Product Names/Items	Description of requirements
1	Brand	Internationally reputed mainstream Brand
2	Model	To be mentioned by proposer
3	Country of Origin	To be mentioned by proposer
4	Country of Manufacturer	To be mentioned by proposer
5	Data Sovereignty	All data, including but not limited to transaction data and user data, must be stored and processed in Bangladesh. The private cloud architecture is required.

Sl.	Product Names/Items	Description of requirements
6	Cloud Platform Requirements	Provide the self-service console for tenants on the cloud management platform. Tenants can apply for cloud services over the console. The cloud operation management and cloud O&M capabilities are provided for administrators. Operation management supports cloud service management. O&M management provides cloud monitoring.
7		To ensure consistent user experience, and stability, reliability, and continuous evolution of the platform architecture, the bidding cloud platform should use the same architecture as the vendor's public cloud. The cloud management platform enables unified account login and unified O&M of the public and dedicated clouds.
8		To ensure service reliability, the cloud platform should provide various self-help DR services for tenants and DR capabilities, including EVS, CSBS, CSHA, and CSDR. Tenants can access related DR and backup services in the service catalog.
9		To ensure scalability of the cloud platform, the bidding cloud platform should support flexible scaling of PaaS services (such as microservices, application middleware, and DevOps), big data services (such as Hadoop, data warehouse, and Flink), AI services (such as natural language processing, video technology, and voice interaction), and IoT services.
10		To ensure consistent user experience, and stability, reliability, and continuous evolution of the platform architecture, the bidding cloud platform should use the same architecture as the vendor's public cloud. The cloud management platform enables unified account login and unified O&M of the public and dedicated clouds.
11	Cloud Platform Business Management Requirements	Supports metering and charging resources used by each organization. Different charging rates can be configured for different resources in the system and historical pricing information can be viewed. System administrators can view the fees of each organization. Organization administrators can view the resource usage in the organization. Fee reports can be regularly sent to user emails.
12		Supports user management. Users can create, delete, change, query, disable, or reset passwords. Administrators can assign or cancel assignment of resources that can be operated by users. If a tenant forgets the password, the tenant can use the email or

Sl.	Product Names/Items	Description of requirements
		mobile number that was used to register the account to reset the password on the self-service console.
13		Supports the defining of service templates and the defining of various services as services that users can apply for. During service definition, administrators can set basic information such as the service name and description, and flexibly configure service parameters. For example, when defining a VM template, administrators can determine whether a tenant needs to configure a VM flavor (CPU quantity, memory size, and storage capacity) or use an existing VM flavor (fixed CPU quantity and memory size) when applying for the service. If administrators have set the CPU to two and memory size to 4 GB, the flavors cannot be changed by tenants during VM application. If administrators set the flavors to user-defined, tenants can select the VM flavors when applying for the VM. The service can be associated with approval processes. Users can determine whether the application, modification, or deletion operation requires approval, the specific approval process, and the approvers.
14		Virtual data centers (VDCs) can be managed. A maximum of five VDC levels are allowed to match customers' diverse organizational structures. Independent resource access permissions and cloud service management permissions are configured for each VDC.
15		Quotas can be configured for resources used by VDCs. The resources include VMs, BMSs, images, EVS disks, VPCs, EIPs, network ACLs, VPNs, and virtual load balancers. Quotas are collected by VDC, project, cloud service, and region. Top quota usage charts are displayed by region, service, resource pool, and AZ.
16		Supports the VDC threshold-crossing alarm function. Administrators can define quota thresholds and performance thresholds for organizations. A quota threshold can be used to trigger alarms when the resource allocation of each type of service reaches the threshold. A performance threshold can be used to trigger alarms when the resource usage of each type of service reaches the threshold. The alarm notification function is supported. When the specified conditions are met, alarm notifications can be sent by email and SMS message.

Sl.	Product Names/Items	Description of requirements
17		Users can add resources to or delete resources from applications. The resources include ECSs and BMSs. Applications can be used to manage objects corresponding to business units of a business system. The objects are created by orchestrating a group of cloud service instances.
18		When a cloud service instance is requested, a request duration can be specified. After the duration ends, the instance can be automatically released or manually renewed. This improves the utilization of cloud resources.
19		Cloud resources of at least the following services need to be supported: ECS, BMS, EVS, IMS, VPC, Direct Connect, and EIP
20		Supports network service and SDN functions include VPN, EIP, vFW, VLB and configure the parameters for network,
21		Access mode: Heterogeneous cloud service directly interconnects Region planning: Heterogeneous resource pool can be connected to the same CMP system accesses as an independent region. A set of Cloud Service components must be deployed in the region where each resource pool is located. Support Create/delete virtual machines, Support affinity/anti-affinity when creating virtual machines, Virtual machine power on/off etc. Performance data reporting and collect to CMP platform
22	Cloud Platform Operation & Management Requirements	Secure O&M, unified health checks, and central management of certificates, licenses, logs as well as backup tasks are supported to improve the standardization and consistency of the cloud platform maintenance. Must have key maintenance functions, such as password management, certificate management, health check, license management, and management plane backup, which relieves O&M administrators from numerous maintenance chores while greatly improving the maintenance efficiency.
23		Operation Center provides functions such as centralized monitoring, resource topology display, automated O&M, routine O&M, O&M analysis, and system management. Specifically, on Maintenance Portal, you can comprehensively monitor resources from physical devices to applications, collect and display alarms and

Sl.	Product Names/Items	Description of requirements
		logs of O&M objects as well as analyze O&M data by reports and dashboards. All these functions simplify routine O&M and improve O&M efficiency.
24		Alarms and performance metrics of resources in each region are comprehensively monitored for you to have a good command of the resource running status. If an alarm is generated, Maintenance Portal notifies related personnel of the alarm through page prompts, SMS messages, or emails to swiftly act to locate and demarcate faults.
25		Provides the system capacity view. The system can display usage and allocation of computing, storage, and network resources by region, resource pool, location, or availability zone (AZ). Supports capacity trend analysis and prediction. The system can predict the remaining usage duration of existing resources based on historical trend data.
26		Physical and virtual resources on the cloud platform can be centrally monitored and managed. Locations, alarms, and performance of physical resources, such as servers, network devices (switches, routers, firewalls, and load balancers), and storage devices, can be managed. The information about virtual resources can be managed: service usage statistics by VDC, total resource statistics by resource pool, and performance monitoring information (including the number of connections for virtual load balancing) of virtual NEs in the cloud.
27		In high-security scenarios, two-factor authentication based on mobile phone verification codes and email verification codes is supported to ensure cloud management security.
28		The solution must support the most widely used open source virtualization technology
29	Computing and Storage Requirements	The virtualization platform must support virtual machine lifecycle management, which allows users to perform the following operations: create, delete, start, stop, or restart a virtual machine
30		The virtualization platform must support virtual machine affinity and aggregation rules, that is, multiple virtual machines must run on the same host.

Sl.	Product Names/Items	Description of requirements
31		The virtualization platform must support virtual machine anti-affinity rules, that is, multiple virtual machines must run on different hosts.
32		Supports multi-storages unified management, scheduling, and allocation of SAN, NAS, distributed SAN, and distributed NAS storage devices in resource pools.
33		Support automatically block storage resource provisioning, include creating, allocating volumes, auto-zoning, and automatically applying storage service capabilities, including QoS policies, replication, volume backup.
34		Support automatically file storage resource provisioning, include creating file systems and shares, automatically assigning ports and IP address, and automatically applying storage service capabilities.
35		Supports the object storage service. Users can apply for the object storage service on the cloud management platform of their own organizations. Users can create buckets, set bucket quotas, and add administrators for buckets.
36	Network Requirements	Private network support: enable to deploy multiple isolated network address segments and each address segment must support subnets, routing tables, Internet gateways, VPN gateways, network ACLs, and other networks elements in order to fully implement the same network logic as the physical data center. Users can flexibly customize the cloud private network IP address segment and IP number through CIDR notation. Provide private network-level traffic monitoring log service in the virtual private network, record the type, source, and size of the incoming and outgoing traffic, so as to facilitate post-event security analysis.
37		Provide advanced security functions such as host-level security groups and subnet-level network access control lists to support redirected access.
38		Multiple virtual networks with independent address segments (addresses do not overlap) can be set up for one-to-one interoperability connections.
39		Support the allocation of subnets in a custom private address segment, and realize network partitions such as core area, external area, Internet access area, DMZ area, etc. by setting routing, access control list (ACL), firewall, etc.

Sl.	Product Names/Items	Description of requirements
40		Load balancing supports real-time automatic routing of traffic across multiple AZs and supports automatic routing of traffic to instances into other AZs when one AZ fails.
41		Provide load balancing service which support HTTP/HTTPS/TCP load balancing and encryption & decryption functions; load balancing service has redundancy and flexibility and can be dynamically expanded along with the traffic.
42		The load balancing service provides integrated certificate management and SSL encryption functions; supports the centralized management of the SSL settings of the load balancer and offloading.
43		Support the connections via dedicated connection, ensure the bandwidth throughput, and friendly user experience.
44		Support the connection of the private network segment on the public cloud to the physical data center through VPN. VPN supports IPSec VPN, etc. The VPN gateway of the public cloud can be adopted via open-source coding or commercial software.
45		Entitled with multiple recognized certificates, such as PCI DSS, ISO 9001, ISO 27001, and a trusted cloud service certification issued by the Data Centre Alliance
46		The cloud platform should provide at least 10 CPUs cloud software license for DC and 4 CPUs cloud software license for DR.
47		Provides ECSs. When creating an ECS, users can configure an elastic IP address (EIP) for public network access, set the created ECS in the stop state, specify usernames and passwords for non-administrator accounts (non-root accounts in Linux OSs and non-administrator accounts in Windows OSs), and configure advanced functions, including the standard IPMI watchdog detection capability, enabling/disabling affinity and anti-affinity, and user data injection.
48		Allows users to bind an EIP to an ECS when requesting the ECS. After an ECS is bound with an EIP, the ECS can access the Internet through the EIP.
49		Supports customization of the commands, scripts, or injection files to be executed upon ECS startup during the application for an ECS.
50	Supports deployment of cross-generation CPUs in the same cluster and live migration of the CPUs in x86	

Sl.	Product Names/Items	Description of requirements
		scenarios to fully reuse resource pools, and supports next-generation CPUs for continuous scale-out in the future.
51		Supports the passthrough technology, which gives ECSs direct access to USB, GPU, and SSD devices.
52		Supports ECS lifecycle management. After an ECS is requested, users can start, stop, restart, delete, and remotely log in to the ECS, create snapshots for disks, create a snapshot for the ECS, reset the password for the ECS, clone the running ECS (without interrupting services), clone the stopped ECS, attach a CD-ROM drive to the ECS, and quickly search for and filter ECSs by ECS name, private IP address, EIP, ID, running status, or custom tag on the management platform.
53		Supports multiple ECS login authentication modes for easy configuration and management of an ECS. Available login options include a key pair and password
54		Supports OS reinstallation or change for provisioned ECSs, facilitating self-service resetting when the ECS system is faulty or does not meet service requirements.
55		Supports change of CPUs and memory on a running ECS with no need of stopping services during the change and restarting the ECS after the change.
57		Supports watchdog configuration for an ECS to monitor the health status of applications on the ECS and automatically restart the ECS if an application fault occurs.
58		Allows users to remove ECSs into the recycle bin and restore ECSs from the recycle bin, preventing data loss and service interruption caused by mis-deletion of ECSs. ECSs in the running state can be permanently deleted only when the frozen period expires after they are put into the recycle bin. The frozen period can be customized.
59		Supports centralized SAN storage, which can be NoF SAN, IP SAN, or FC SAN.
60	Image Management Service	Supports data disk images. Users can create data disk images using ECS data disks on the tenant portal, create EVS disks using data disk images, and export or import data disk images.
61	Image Management Service	Supports full-ECS images. Users can create images containing system and data disks on the tenant portal to

Sl.	Product Names/Items	Description of requirements
		provide OSs, preinstalled common applications, users' private applications, and user service data.
62		Supports image management. Users can view the basic information of images, such as the name, OS, image type (virtualized/non-virtualized), image file size, and post-deployment disk size.
63		Allows users to delete private images created by themselves.
64		Allows users to apply for block storage for VMs on the management platform and attach an obtained block storage to one or multiple VMs, or expand the capacity of existing EVS disks online or offline.
65		Supports creation of EVS disks (system disks and data disks) from different data sources such as images, existing disk, backups, and snapshots.
66		Scale-out block storage supports EC to ensure data reliability and maximize storage utilization.
67		Supports block storage disk management. Users can view the existing disk list, including the disk name, status, capacity, server it is attached to, and creation time. Users can also quickly search for the target disk or disk group based on the criteria such as the disk name or attaching status.
68	Block Storage Service	Supports intelligent tiered data storage, which allows SSDs, SAS disks, and NL-SAS disks to share the same resource pool, implementing automated tiered data storage. Hot data is automatically migrated to high-performance disks, and cold data is automatically migrated to low-performance disks.
69		Supports migration cross disk types by copying without occupying compute resources. Supports migration of data from one disk type to another without interrupting services. During the migration, the internal copy capability of the storage system is used to quickly migrate data without occupying host resources.
70		Supports the enabling and disabling of deduplication and compression for storage pools to improve storage utilization.
71		Supports disk rate limiting using QoS policies. The I/O performance of a specified disk type can be limited, including the IOPS upper limit, bandwidth, and I/O priority, to prevent some services from preempting

Sl.	Product Names/Items	Description of requirements
		storage resources and ensure that the performance of all services is balanced.
72		Supports snapshots. Users can create snapshots for their VMs, VM disks, or bare device disks on the management platform and use snapshots to restore the disk data. A single disk supports a maximum of 128 snapshots.
73		Supports creation of shared disks to meet the shared storage requirements of the cluster system.
74		Supports the online capacity expansion of system disks and data disks without interrupting services.
		The cloud platform should provide minimum 115 TB available capacity of object storage software license for DC.
75		Supports the upload, download, deletion, query, and sharing of objects and creation, deletion, and listing of buckets, as well as versioning, SDR storage, bucket quota setting and query, and object lifecycle configuration. A single bucket can contain up to 100 billion objects. HTTPS access is supported.
76		Supports versioning. A versioning-enabled bucket can keep multiple versions of the same object in it.
77		Allows users to limit a bucket's capacity for storing objects.
78		Allows users to configure the bucket or object ACL to control read, write, and access permissions.
79	Object Storage Service	Supports SDKs in mainstream programming languages, such as Java and Python. Supports the RESTful API. Objects can be accessed over HTTP or HTTPS.
80		Supports bucket logging. After logging is enabled for a bucket, all requests for the bucket will be logged for later analysis or audit.
81		Allows users to upload, download, copy, or delete objects.
82		OBS offers high-performance parallel file systems. They offer access with latency in milliseconds, TB/s-level bandwidth, and millions of IOPS, and can quickly process high-performance computing (HPC) workloads.
83		Supports data redundancy that uses the EC algorithm to allow failures of three disks. The disk utilization can reach up to 80% of the raw disk capacity.

Sl.	Product Names/Items	Description of requirements
84		Allows users to configure a lifecycle rule to automatically expire the specified objects and then delete them.
85		Supports cross-region replication. Data in a bucket can be automatically and asynchronously replicated to another bucket in a different region.
86		Allows users to enable server-side encryption when creating a bucket. After server-side encryption is enabled for a bucket, all objects newly uploaded to the bucket will be automatically encrypted.
87		Supports static website hosting, cross-origin resource sharing (CORS), and URL validation, for users to easily host websites on OBS.
88	Virtual Private Cloud	Allows users to create logically isolated private virtual networks. Each isolated virtual network can contain a set of virtual egress routers, several network ACLs, and subnets. Users can independently configure their own networks, such as creating a subnet (IPv4 and IPv4&IPv6), specifying a subnet CIDR block, gateway, mask, and DNS server IP address for the subnet, and configuring static routes for cloud servers in the subnet.
89		Supports VPC multicast. Users can enable and disable multicast on the GUI
90		Supports VPC flow logs and provides the query of network security logs in a VPC, including recording security group/network ACL traffic logs and querying the logs that match the permitted/denied policies.
91	Security Group	Provides rules for filtering the network packets sent and received by VM ports. After a VM port is associated with a security group, security group rules are used for filtering network packets sent and received by the VM port. Only the packets that comply with the rules are allowed to pass.
92		Allows users to export security group rules.
93		Allows users to bind a security group to cloud servers in different VPCs.
94		Allows users to configure protocols for a security group, such as TCP, UDP, ICMP, and ANY. Users can specify the filtered objects in the inbound and outbound directions of the security group. The filtered objects can be IP address ranges (source/destination IP addresses and ports for TCP/UDP) or other security groups.

Sl.	Product Names/Items	Description of requirements
95	Direct Connect	Allows users to apply for Direct Connect connections. Direct Connect enables a subnet in a VPC to communicate with a network off the cloud. Users can specify a connection, virtual gateway, and remote subnet used to enable communication between two networks.
96		Users can apply for Layer 2 bridge instances for VPC subnets to enable layer-2 communications between an external subnet and a VPC subnet in the same network segment, and migrate services to the cloud without changing IP addresses. Screenshots or official documents must be provided.
97	NAT Gateway	Allows users to create, modify, and delete NAT gateway instances on the management platform. SNAT and DNAT rules can be configured for each NAT gateway instance.
98		Allows users to customize public IP addresses and subnets used by SNAT rules, and add, modify, and delete SNAT rules.
99		Allows users to configure a maximum of 20 EIPs for a single SNAT rule.
100		Allows users to customize public IP addresses and service ports, and private IP addresses and service ports used by DNAT rules. Users can specify a single port or a port range, and add, modify, or delete a single rule or multiple rules in batches.
101	Elastic IP	Allows users to bind an EIP to an ECS, BMS, load balancer, or virtual IP address. Allows users to bind, unbind, or release an EIP.
102		Allows users to apply for EIPs in batches. Users can select the IP address pool that EIPs belong to and the allocation mode (automatic or manual). When applying for EIPs, users can configure EIP QoS to specify the maximum EIP bandwidth. When applying for an EIP, users can also specify a required duration for it as required. The required duration ranges from days to an unlimited period.
103	Elastic Load Balancer	Supports advanced forwarding. After advanced forwarding is enabled, users can sort the forwarding policies, configure multiple forwarding rules in a single forwarding policy, and set the forwarding action to Redirect to another URL or Rewrite URL.
104		Supports the Reset if Offline function for backend server groups, enabling quick response to faults.

Sl.	Product Names/Items	Description of requirements
105		Allows users to add multiple backend types to a backend server group on the GUI, including cloud servers, IP addresses, and supplementary NICs. The port and weight can be set for each backend. Screenshots must be provided.
106		Displays monitoring parameters such as the health check status, response time, and error code by backend server, improving the usability of load balancing monitoring.
107		Supports QoS. Rate limit can be performed based on TCP, UDP, HTTP, or HTTPS. Users can configure different specifications as required, including the number of concurrent connections, number of new connections per second, number of query requests per second, and throughput bandwidth.
108		Allows users to configure health check policies for listeners to check the status of backend servers. Layer-4 and layer-7 health checks are supported. Users can specify the health check interval, timeout duration, and maximum retries. When a layer-7 protocol (HTTP or HTTPS) is used, users can set interaction methods between the protocol and backend servers, as well as the response status code and URL.
109		Supports whitelist-based control on client IP addresses that access a load balancer. If access control is enabled, only allowed IP addresses can access the backend cloud servers or physical machines through the load balancer. If this function is disabled, any IP address is allowed to access the backend cloud servers or physical machines through the load balancer.
110		Supports cross-VPC load balancing. In addition to adding cross-VPC backend servers, users can add off-cloud servers to backend server groups through Direct Connect connections.
111		Supports active/standby backend servers and active/standby backend server groups. A load balancer can be bound to active/standby backend server groups, and active/standby switchovers can be performed in case of a fault.
112		Supports refined O&M. Users can specify the client IP address, client port, load balancer IP address, and load balancer port to query the CVS and Nginx NEs where requests are located, improving the O&M and session-level connection monitoring capabilities of the cloud

Sl.	Product Names/Items	Description of requirements
		platform. Supports one or more conditions such as client IP address, client (IP address + port), virtual server IP address, virtual server (IP address + port), server IP address, and server (IP address + port) for connection query and clearing.
113	Cloud Domain Name Service	Supports private domain name resolution. CloudDNS associates private domain names with private IP addresses to facilitate domain name resolution for cloud resources within VPCs. Users can create, modify, and delete record sets on the management console. Supports A, AAAA, CNAME, MX, TXT, SRV, PTR, NS, and SOA domain name records.
114		Supports IPv6 domain name resolution.
115		Allows one domain name to be associated with multiple VPCs for unified management.
116	Network Access Control List	Supports the network ACL service. Users can apply for, modify, and delete network ACLs on the management platform, and create, modify, and delete rules. Users can enable and disable rules on the management platform without the administrator.
117		Allows users to create security rules, define inbound and outbound security rules, specify a protocol such as TCP, UDP, ICMP, or ANY (any protocol), and specify an action such as Permit, Deny, or Reject. Users can specify an IP address or IP address range as the source or destination address, specify a port or port range as the source or destination port, and import or export security rules.
118		Supports security rule aggregation. A single security rule can contain multiple network segments or ports, reducing the number of rules and improving O&M efficiency.
119	Virtual Private Network	Supports the VPN service. Users can apply for VPNs and configure VPN parameters. Users can select the local network to be interconnected and the remote network. Users can specify IKE and IPsec policies. IKE policies support SHA1, SHA2-256, and more advanced authentication algorithms, as well as AES-128 and more advanced encryption algorithms. IPsec policies support SHA1, SHA2-256, and more advanced authentication algorithms.

Sl.	Product Names/Items	Description of requirements
120		Supports the configuration of a security protocol used for IPsec to transmit and encapsulate user data, which can be AH, ESP, or AH-ESP.
121	Key Management Service	The cloud platform should offer at least 1 suite of Key Management Service (KMS) license, including a three-year subscription and support period for the DC.
122		Performance requirements: Encryption and decryption API performance ≥ 1000 TPS Concurrent access users ≥ 500 Total keys $\geq 100,000$
123		Users can create, enable, disable, delete, modify, and set alias for customer master keys (CMKs), and manage the lifecycle of CMKs. Users can create, encrypt, and decrypt data encryption keys (DEKs).
124		Enabling, modifying, and disabling the key rotation interval
125		The root key cannot be exported outside the Hardware Security Machine (HSM). The Service should support minimum 3 HSM
126		Support algorithms such as Symmetric keys: AES_256 and SM4. Asymmetric keys: RSA_2048, RSA_3072, RSA_4096, ECC_P256, EC_P384 and SM2
127		Signing or verifying the signature of messages or message digests (supported only by calling APIs)
128		Support key usage audit. Audit all the non-query operations on keys.
129	Container Service	To ensure the advancement and sustainability of platform technologies, cloud vendors must be platinum members of Cloud Native Computing Foundation (CNCF).
130		Supports hybrid cluster deployment. Clusters can be deployed on both VMs and bare metal servers.
131		Supports auto scaling of new nodes and accepted nodes.
132		Supports standalone master nodes and master nodes in clusters to meet the requirements of the test environment with low reliability requirements and the production environment with high reliability requirements.
133		Supports cluster hibernation and wakeup. If a cluster is not required temporarily, the occupied compute resources can be released through hibernation. When the cluster is required again, the cluster can be quickly woken up.

Sl.	Product Names/Items	Description of requirements
134		Supports the batch computing scheduling add-on, which is applicable to batch processing workload scheduling of machine learning, deep learning, and other big data applications.
135		Supports lifecycle management of nodes, including node creation and deletion.
136		Supports Helm chart orchestration, simplifying application system deployment.
137		Supports enhanced auto scaling policies. Auto scaling can be performed based on metrics such as the CPU usage, memory usage, and pod percentage. The minimum step can be configured.
138		Supports private and public repositories, image pull from third-party repositories such as Harbor, and repository HA.
139		Supports image lifecycle management, such as uploading, downloading, and deleting images. Users are allowed to upload and download images through the Docker client or upload images through the web page.
140		Supports performance monitoring of clusters, nodes, pods, and load balancing.
141		Supports add-on selection and uninstall, and add-on parameter combinations. Add-on customization and one-stop add-on installation, rollback, and upgrade are supported.
142		Permissions on resources can be managed based on IAM fine-grained and Kubernetes RBAC authorization.
		The cloud platform should provide at least 200 VMs for Disaster Recovery software License.
143		Supports cross-region DR of management components, one-click switchover of the management plane to the DR site without affecting services, and reverse switchback.
144	Cloud Server Disaster Recovery	Supports 1:1 DR of cloud servers to the standby data center and N:1 DR of cloud servers from N data centers to one data center. Supports cross-DC DR for VMs and BMSs. Allows users to apply for the CSDR service for cloud servers. When the production data center (DC) is faulty, CSDR allows protected cloud servers to be quickly started in the DR DC to recover services. After the production DC recovers from the fault, CSDR allows the data generated by the DR cloud servers in the DR DC to be synchronized to the production cloud servers. In addition, CSDR supports migration of services from the

Sl.	Product Names/Items	Description of requirements
		DR cloud servers to the production cloud servers and re-protection of the cloud servers.
145		Supports customization of DR protection policies. Allows users to choose a synchronous or asynchronous protection policy based on the service requirements. In the asynchronous protection policy, CSDR allows users to specify the periodic replication point in time.
146		Allows tenants to apply for DR tests and test data clearing to test the availability of data replicated to the DR DC, without affecting the production VMs.
147		Users can perform DR tests on the management platform. When a data center is faulty, VMs that have applied for DR protection can be quickly started in the DR center.
148		Supports the administrator's control over the CSDR service quotas such as disk capacity and quantity of disks and instances required by CSDR protection.
149		Supports DR protection and replication of VM data to the DR center using storage volumes and mature storage replication technologies.
150	Volume and Server Backup	Allows users to apply for backup of VMs or VM applications (database openGauss, file, K8S container, HDFS, ES, and Redis), specify a backup policy, including the backup period, backup execution point in time, backup policy validity period, backup retention policy (quantity of backups to be retained or backup retention period), full or incremental backup, as well as remote backup period, and select a specific policy for manual backup or retain rules specified in a policy for automatic backup.
151		Allows users to manage EVS disk backups, use backups to restore data to the original EVS disk or to a specified EVS disk on the cloud management platform, delete unnecessary backup data, and create EVS disks using backups.
152		Allows users to manage ECS backups, use backups to restore data to the original ECS or to a specified ECS on the cloud management platform, delete unnecessary backup data, and search for backup data by a specified period of time or ECS name or ID.

Sl.	Product Names/Items	Description of requirements
153		Supports agent-free backup services. SAN-based backup implements LAN-free backup without occupying service VM resources and network resources. Users do not need to install plug-ins on VMs to complete backup.
154	Reference Document	Proposer should submit the required performance document and compliance reference document for the proposed device.
155	Compatibility	The new license should support to be expanded based on the existing Cloud Platform to reuse the existing cloud resources. It must be compatible and integrated with the existing Cloud Platform in BCC NDC.
156	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 03 (Three) years Support & Subscription should be provided for this unit from the date of commissioning
157	Installation & Commissioning	Installation, testing and commissioning has to be done by OEM and proposer must provide all necessary accessories required during installation & commissioning

4.1.9 Hardware Security Machine (QTY. 03 Nos)

Sl.	Product Names/Items	Description of requirements
1	Brand	Internationally reputed Brand
2	Model	To be mentioned by the proposer
3	Country of Origin	To be mentioned by proposer
4	Country of Manufacturer	To be mentioned by proposer
5	Form Factor	2U rack-mounted
6	Power Supply	Should be equipped with dual power supplies, each supporting AC input ranging from 100–240 V at 60/50 Hz and drawing between 7–3.5 A DC input at 240 V, 3.5 A for reliable and redundant power delivery
7	Power consumption	Should designed to consume no more than 280 watts of power, ensuring efficient operation and energy utilization
8	Certification	Should certified with a Commercial Password Product Certification Certificate, ensuring compliance with industry standards for security and password protection
9	Network port and USB port	Should feature RJ45 100/1000 Mbit/s auto-sensing network ports (LAN1 and LAN2) for high-speed network connectivity. Additionally, it should include USB ports for versatile peripheral connectivity

Sl.	Product Names/Items	Description of requirements
10	VGA port and serial port	Should include a VGA port and an RS232 serial port, which are utilized for connecting display devices and serial port terminals, respectively
11	Network Interface	Should have four RJ-45 ports supporting speeds of 10/100/1000 Mbps each for flexible network connectivity
12	Performance Parameter	Should support the following performance specifications: - 256-bit SM2 key pair generation (pairs/second) = 7000
13	Key Management	Asymmetric key generation and management: Support the generation and storage of the 1024/2048/3072/4096 bits RSA key pairs, ECDSA key pairs based on P/K/B curve parameters, and 1024/2048/3072 key pairs.
14		Symmetric key generation and management: Support the generation and storage of the 64/128/192 bits 3DES key and 128/192/256 bits AES key.
15		Key backup and recovery: The key’s backup and recovery is protected by the HSM LMK, which ensure the system security and reliability.
16		The user authority management: Support the multiple users’ (including administrator, operator, etc.) authority management, and up to three administrators can be configured in HSM. The sensitive operations including key generation, deleting keys requires more than half administrators logging in system.
17	Supported algorithms	Signature and signature verification based on RSA algorithm: Support signature and signature verification computation based on 1024/2048/3072/4096 bits RSA algorithm.
18		Signature and signature verification based on ECDSA algorithm: Support the ECDSA algorithm computation of signature and signature verification based on the cure parameters of P/K/B series.
19		Signature and signature verification based on DSA algorithm: Support signature and signature verification computation based on 1024/2048/3072 bits DSA algorithm.
20		Data digest generation and verification: Support the hash algorithms including SHA1, SHA2, etc.
21	Supported interfaces	Support the “Interface specifications of cryptography device application (GM/T 0018-2012)” specifications.
22		Support the “The Public-Key Cryptography Standards (PKCS)#11” specifications.
23		Support the “Java Cryptography Extension (JCE)” interface specifications.
24	Load Balance	Cluster deployment improves the HSM performance and fault tolerance ability.

Sl.	Product Names/Items	Description of requirements
25		The HSM API SDK is to schedule the cluster and load balance, and the service will not be affected when one HSM in the cluster is faulty.
26	Reference Document	Proposer should submit the required performance document and compliance reference document for the proposed device.
27	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum one (1) year warranty should be provided for this unit from the date of commissioning
28	Installation & Commissioning	Installation, testing and commissioning with necessary accessories

4.1.10 Hybrid- Flash Production Storage Expansion for DC (Qty.4 Nos)

SL.#	Product Names/Items	Description of requirements
1	Brand	Internationally reputed Brand
2	Model	To be mentioned by the proposer
3	Country of origin	To be mentioned by proposer
4	Manufacturing Country	To be mentioned by proposer
5	Hardware requirements per Node	CPU: at least 2 x 32-Core, 2.6GHz Memory: at least 96 GB System Disk: at least 2 x 480 GB SDD SATA Disks Cache Disk: at least 2 x 3.2 TB SSD NVMe Disks Data Disk: at least 10 x 10 TB SATA Disks
6	Performance management	Performance charts can be customized and objects specified. Statistics such as the CPU usage, memory usage, bandwidth, IOPS, latency, volume capacity usage, and storage pool usage can be collected.
7	Data redundancy	When a single node is faulty, the I/O suspension duration is less than 10 seconds. When a node is faulty, the EC ratio is automatically adjusted to ensure that the reliability of new data is not degraded. (In the N+M ratio, M remains unchanged.) A maximum of four nodes can be faulty at the same time with no service interruption or data loss. Test and certification report issued by the organization under the MIIT must be provided.
8	Clone and rebuild	Clone and rebuild are supported. When data on the original volume changes, the clone volume can be refreshed through rebuild to ensure data consistency.

SL.#	Product Names/Items	Description of requirements
9	EC	<p>1. Two-copy, three-copy, and EC data protection modes are supported, with flexible EC ratios of +2, +3, and +4.</p> <p>2. Large-ratio EC of 22+2 is supported.</p> <p>Test and certification report issued by the organization under the MIIT must be provided.</p>
10	Health management	<p>Network subhealth management function is supported: If packet loss, error packets, long latency, or rate mismatch occurs on the storage network of a node, an alarm is generated and the system automatically attempts to rectify the fault.</p> <p>Test and certification report issued by the organization under the MIIT must be provided.</p>
11		<p>Storage node subhealth management is supported. If the service latency of a storage node or the memory usage is too high, an alarm is generated and a solution is provided.</p> <p>Test and certification report issued by the organization under the MIIT must be provided.</p>
12		<p>Disk roaming is supported. The positions of any storage disk slots that belong to the same storage pool on the same storage node can be exchanged to prevent misoperations during maintenance.</p>
13	Alarm management	<p>Alarms can be sent by email. The system automatically sends alarm information to related personnel by email. Alarms can also be dumped to a third-party server. Alarms can be masked or unmasked.</p>
14		<p>Alarms can be reported to third-party platforms through SNMP V2/V3, facilitating unified O&M management.</p>
15	Scalability	<p>1. Horizontal scale-out capabilities are supported, without interrupting services during capacity expansion. Test and certification reports issued by organizations under the MIIT must be provided.</p> <p>2. A single cluster can be expanded to at least 256 nodes.</p>
16	O&M interconnection	<p>Intelligent O&M (eService) is supported, with official certification.</p>
17	Compatibility	<p>The Item must be compatible and integrated with the existing Cloud platform in BCC NDC.</p>
18		<p>The bidding Item should be the same brand of the existing hybrid flash production storage.</p>
19	Reference Document	<p>Proposer should submit the required performance document and compliance reference document for the proposed device.</p>
20	Warranty	<p>Mentioning Manufacturer's warranty should be quoted, minimum 03(Three) years warranty should be provided for this unit from the date of commissioning</p>

SL.#	Product Names/Items	Description of requirements
21	Installation & Commissioning	Installation, testing and commissioning with necessary accessories

4.1.11 All- Flash Production Storage Expansion for DC (Qty. 2 Nos)

SL.#	Product Names/Items	Description of requirements
1	Brand	Internationally reputed Brand
2	Model	To be mentioned by the proposer
3	Country of origin	To be mentioned by proposer
4	Manufacturing Country	To be mentioned by proposer
5	Hardware requirements	CPU: at least 2 x 40-Core, 2.6GHz Memory: at least 128 GB System Disk: at least 2 x 480 GB SSD SATA Disks Data Disk: at least 13 x 7.68 TB SSD SAS Disks
6	Performance management	Performance charts can be customized and objects specified. Statistics such as the CPU usage, memory usage, bandwidth, IOPS, latency, volume capacity usage, and storage pool usage can be collected.
7	Data redundancy	When a single node is faulty, the I/O suspension duration is less than 10 seconds. When a node is faulty, the EC ratio is automatically adjusted to ensure that the reliability of new data is not degraded. (In the N+M ratio, M remains unchanged.) A maximum of four nodes can be faulty at the same time with no service interruption or data loss. Test and certification report issued by the organization under the MIIT must be provided.
8	Clone and rebuild	Clone and rebuild are supported. When data on the original volume changes, the clone volume can be refreshed through rebuild to ensure data consistency.
9	EC	1. Two-copy, three-copy, and EC data protection modes are supported, with flexible EC ratios of +2, +3, and +4. 2. Large-ratio EC of 22+2 is supported. Test and certification report issued by the organization under the MIIT must be provided.
10	Health management	Network health management function is supported: If packet loss, error packets, long latency, or rate mismatch occurs on the storage network of a node, an alarm is generated and the system automatically attempts to rectify the fault. Test and certification report issued by the organization under the MIIT must be provided.

SL.#	Product Names/Items	Description of requirements
11		Storage node health management is supported. If the service latency of a storage node or the memory usage is too high, an alarm is generated and a solution is provided. Test and certification report issued by the organization under the MIIT must be provided.
12		Disk roaming is supported. The positions of any storage disk slots that belong to the same storage pool on the same storage node can be exchanged to prevent improper operations during maintenance.
13	Alarm management	Alarms can be sent by email. The system automatically sends alarm information to related personnel by email. Alarms can also be dumped to a third-party server. Alarms can be masked or unmasked.
14		Alarms can be reported to third-party platforms through SNMP V2/V3, facilitating unified O&M management.
15	Scalability	1. Horizontal scale-out capabilities are supported, without interrupting services during capacity expansion. Test and certification reports issued by organizations under the MIIT must be provided. 2. A single cluster can be expanded to at least 256 nodes.
16	O&M interconnection	Intelligent O&M (eService) is supported, with official certification.
17	Compatibility	The Item must be compatible and integrated with the existing Cloud platform in BCC NDC.
18		The bidding Item should be the same brand of the existing all flash production storage.
19	Reference Document	Proposer should submit the required performance document and compliance reference document for the proposed device.
20	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 03(Three) years warranty should be provided for this unit from the date of commissioning
21	Installation & Commissioning	Installation, testing and commissioning with necessary accessories

4.1.12 Hybrid- Flash Production Storage Expansion for DR (Qty. 2 Nos)

SL.#	Product Names/Items	Description of requirements
1	Brand	Internationally reputed Brand
2	Model	To be mentioned by the proposer
3	Country of origin	To be mentioned by proposer

SL.#	Product Names/Items	Description of requirements
4	Manufacturing Country	To be mentioned by proposer
5	Hardware requirements per Node	CPU: at least 2 x 32-Core, 2.6GHz Memory: at least 96 GB System Disk: at least 2 x 480 GB SDD SATA Disks Cache Disk: at least 2 x 3.2 TB SSD NVMe Disks Data Disk: at least 10 x 10 TB SATA Disks
6	Performance management	Performance charts can be customized and objects specified. Statistics such as the CPU usage, memory usage, bandwidth, IOPS, latency, volume capacity usage, and storage pool usage can be collected.
7	Data redundancy	When a single node is faulty, the I/O suspension duration is less than 10 seconds. When a node is faulty, the EC ratio is automatically adjusted to ensure that the reliability of new data is not degraded. (In the N+M ratio, M remains unchanged.) A maximum of four nodes can be faulty at the same time with no service interruption or data loss. Test and certification report issued by the organization under the MIIT must be provided.
8	Clone and rebuild	Clone and rebuild are supported. When data on the original volume changes, the clone volume can be refreshed through rebuild to ensure data consistency.
9	EC	1. Two-copy, three-copy, and EC data protection modes are supported, with flexible EC ratios of +2, +3, and +4. 2. Large-ratio EC of 22+2 is supported. Test and certification report issued by the organization under the MIIT must be provided.
10	Health management	Network subhealth management function is supported: If packet loss, error packets, long latency, or rate mismatch occurs on the storage network of a node, an alarm is generated and the system automatically attempts to rectify the fault. Test and certification report issued by the organization under the MIIT must be provided.
11		Storage node subhealth management is supported. If the service latency of a storage node or the memory usage is too high, an alarm is generated and a solution is provided. Test and certification report issued by the organization under the MIIT must be provided.
12		Disk roaming is supported. The positions of any storage disk slots that belong to the same storage pool on the same storage node can be exchanged to prevent misoperations during maintenance.

SL.#	Product Names/Items	Description of requirements
13	Alarm management	Alarms can be sent by email. The system automatically sends alarm information to related personnel by email. Alarms can also be dumped to a third-party server. Alarms can be masked or unmasked.
14		Alarms can be reported to third-party platforms through SNMP V2/V3, facilitating unified O&M management.
15	Scalability	1. Horizontal scale-out capabilities are supported, without interrupting services during capacity expansion. Test and certification reports issued by organizations under the MIIT must be provided. 2. A single cluster can be expanded to at least 256 nodes.
16	O&M interconnection	Intelligent O&M (eService) is supported, with official certification.
17	Compatibility	The Item must be compatible and integrated with the existing Cloud platform in BCC NDC.
18		The bidding Item should be the same brand of the existing hybrid flash production storage.
19	Reference Document	Proposer should submit the required performance document and compliance reference document for the proposed device.
20	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 03(Three) years warranty should be provided for this unit from the date of commissioning
21	Installation & Commissioning	Installation, testing and commissioning with necessary accessories

4.1.13 All-Flash Production Storage Expansion for DR (Qty. 04 Nos)

SL.#	Product Names/Items	Description of requirements
1	Brand	Internationally reputed Brand
2	Model	To be mentioned by the proposer
3	Country of origin	To be mentioned by proposer
4	Manufacturing Country	To be mentioned by proposer
5	Hardware requirements	CPU: at least 2 x 40-Core, 2.6GHz Memory: at least 128 GB System Disk: at least 2 x 480 GB SSD SATA Disks Data Disk: at least 13 x 3.84 TB SSD SAS Disks
6	Performance management	Performance charts can be customized and objects specified. Statistics such as the CPU usage, memory usage, bandwidth, IOPS, latency, volume capacity usage, and storage pool usage can be collected.

SL.#	Product Names/Items	Description of requirements
7	Data redundancy	When a single node is faulty, the I/O suspension duration is less than 10 seconds. When a node is faulty, the EC ratio is automatically adjusted to ensure that the reliability of new data is not degraded. (In the N+M ratio, M remains unchanged.) A maximum of four nodes can be faulty at the same time with no service interruption or data loss. Test and certification report issued by the organization under the MIIT must be provided.
8	Clone and rebuild	Clone and rebuild are supported. When data on the original volume changes, the clone volume can be refreshed through rebuild to ensure data consistency.
9	EC	1. Two-copy, three-copy, and EC data protection modes are supported, with flexible EC ratios of +2, +3, and +4. 2. Large-ratio EC of 22+2 is supported. Test and certification report issued by the organization under the MIIT must be provided.
10	Health management	Network health management function is supported: If packet loss, error packets, long latency, or rate mismatch occurs on the storage network of a node, an alarm is generated and the system automatically attempts to rectify the fault. Test and certification report issued by the organization under the MIIT must be provided.
11		Storage node health management is supported. If the service latency of a storage node or the memory usage is too high, an alarm is generated and a solution is provided. Test and certification report issued by the organization under the MIIT must be provided.
12		Disk roaming is supported. The positions of any storage disk slots that belong to the same storage pool on the same storage node can be exchanged to prevent improper operations during maintenance.
13	Alarm management	Alarms can be sent by email. The system automatically sends alarm information to related personnel by email. Alarms can also be dumped to a third-party server. Alarms can be masked or unmasked.
14		Alarms can be reported to third-party platforms through SNMP V2/V3, facilitating unified O&M management.
15	Scalability	1. Horizontal scale-out capabilities are supported, without interrupting services during capacity expansion. Test and certification reports issued by organizations under the MIIT must be provided. 2. A single cluster can be expanded to at least 256 nodes.
16	O&M interconnection	Intelligent O&M (eService) is supported, with official certification.

SL.#	Product Names/Items	Description of requirements
17	Compatibility	The Item must be compatible and integrated with the existing Cloud platform in BCC NDC.
18		The bidding Item should be the same brand of the existing all flash production storage.
19	Reference Document	Proposer should submit the required performance document and compliance reference document for the proposed device.
20	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 03(Three) years warranty should be provided for this unit from the date of commissioning
21	Installation & Commissioning	Installation, testing and commissioning with necessary accessories

4.1.14 DC Storage TOR Switch (Qty. 02 Nos)

SL	Product Names/Items	Description of requirements
1	Brand	Internationally reputed Brand
2	Model	To be mentioned by the bidder
3	Country of Origin	To be mentioned by bidder
4	Country of Manufacturer	To be mentioned by bidder
5	3rd Party Certification	The OEM of the Proposed brand must be Leader or Challenger in the Gartner Magic Quadrant for Wired and Wireless LAN Infrastructure.
6	Enclosure Type	Rack mountable
7	Hardware Architecture and Performance	The equipment must have minimum Four (04) Fan module and Two (02) AC Power Supply integrated from day one.
8		The proposed equipment must support switching capacity minimum 3.5Tbps.
9		The equipment must support forwarding performance minimum 900Mpps or more.
10		The equipment airflow should be port-side intake
11	Interface	The equipment must have minimum 48 x 25G/10G fiber ports and 06 x 100G QSFP28 ports from day one.
12		Bidder must supply at least 3 x 1GE/1000BaseT Electrical Module (100m, RJ45), 14*10G Multi-mode SFP+ (0.3Km, LC) module, 50*25G Multi-mode SFP28 (0.1Km, LC) module and 04*100G QSFP28 (0.1Km, MPO) module with necessary patch cord from day one. And 1 x QSFP+ High Speed Cable (5m) for stacking.
13	Switch Features	Support Static, dynamic, and blackhole MAC address entries

SL	Product Names/Items	Description of requirements
14		Support Packet filtering based on source MAC addresses
15		Support minimum 250K MAC address entries
16		Support minimum 30K IPv4 number of multicast routes
17		Support minimum 30K ACL number
18		Support VXLAN
19		Support IPv4 routing protocols, such as RIP, OSPF, IS-IS, and BGP
20		Support Multicast routing protocols such as IGMP, PIM-SM
21	Security & QoS Features	Support AAA, RADIUS and TACACS or similar authentication
22		Support defense against DoS attacks, ARP storms, and ICMP attacks
23		Support Port isolation, port security, and sticky MAC
24		Support Binding of the IP address, MAC address, port number, and VLAN ID
25		Support Traffic classification based on Layer 2, Layer 3, Layer 4, and priority information
26	Management and Maintenance	Support SNMPv1/v2c/v3
27		Support RMON
28		Support Console, Telnet, and SSH terminals
29		Support User operation logs
30		Support Zero Touch Provisioning
31	Reference Document	Bidder should submit the required performance document and compliance reference document for the proposed device.
32	Compatibility	The Item must be compatible and integrated with the existing Cloud platform in BCC NDC.
33		The bidding Item should be the same brand of the Cloud Platform
34	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 03(Three) years warranty should be provided for this unit from the date of commissioning
35	Installation & Commissioning	Installation, testing and commissioning with necessary accessories

4.1.15 DC & DR Border Firewall (Qty. DC 02 + DR 02 Nos)

SL.#	Product Names/Items	Description of requirements
1	Brand	Internationally reputed Brand
2	Model	To be mentioned by the bidder
3	Country of origin	To be mentioned by bidder

SL.#	Product Names/Items	Description of requirements
4	Manufacturing Country	To be mentioned by bidder
5	3rd Party Certification	The OEM of the Proposed brand must be Leader or Challenger in the Gartner Magic Quadrant for Network Firewalls.
6	Enclosure Type	Rack mountable
7	System Architecture	The appliance based security platform should be next-generation AI firewalls provide content security functions, such as firewall, application identification, IPS, antivirus, URL filtering, intelligent defense, accurately block known and unknown Threats, anti-DDoS, bandwidth management in a single appliance.
8		The appliance equipped with multiple built-in security-dedicated acceleration engines such as content security detection, and IPsec service processing acceleration.
9	Hardware architecture	The equipment must have minimum 8×GE COMBO + 4×GE RJ45 + 10×10GE SFP+ interface from day one.
10		Bidder must supply at least 8 x 10G Multi-mode SFP+ (0.3Km, LC) module with necessary patch cord from day one. The entire module must be same OEM original.
11		Provide Dual AC power supplies from day one.
12		Provide 240 GB SSD-SATA storage module from day one.
13	Performance requirements	Support Firewall throughput minimum 80Gbps (1518 byte, UDP) from day one.
14		concurrent connections (HTTP) per second minimum 25,000,000; new connections (HTTP) per second minimum 750,000
15		IPSec VPN throughput (AES-256+ SHA256,1420 byte) minimum 30 Gbps
16		NGFW throughput minimum 18 Gbps
17		Threat Protection Throughput (Enterprise Mix) minimum 7 Gbps
18		Virtual Firewalls support minimum 1000 from day 1
19		Security Policies (Minimum) 100,000
20	Routing	Supports static routes, policy-based routing, and routing protocols such as RIP, OSPF, BGP, IS-IS, RIPng, OSPFv3, BGP4+, and IPv6 IS-IS.
21	Intelligent uplink selection	Supports service-specific PBR and intelligent uplink selection based on multiple load balancing algorithms in multi-egress scenarios.

SL.#	Product Names/Items	Description of requirements
22	VPN Service	Supports multiple highly available VPN features, such as IPsec VPN, SSL VPN and GRE.
23		Support Concurrent SSL VPN Users minimum 10000 from day one
24	Bandwidth management	Support to manages per-user and per-IP bandwidth based on service application identification.
25	Intrusion prevention and web protection	Supports coverage of minimum tens of thousands of Common Vulnerabilities and Exposures. Detects malicious traffic, such as vulnerability attack traffic, web attack traffic (such as SQL injection and cross site scripting attacks), botnets, remote control, and Trojan horses.
26		Supports brute-force attack detection.
27		Supports minimum 20,000+ IPS signatures and IPS blocking rate should up to 85%.
28		Support user defined signatures.
29		Supports brute-force cracking detection based on user behaviors, and user-defined statistical periods.
30	URL filtering	Provides a URL category database with over 500 million URLs and accelerates access to specific categories of websites, improving access experience of high-priority websites. Supports DNS filtering, in which accessed web pages are filtered based on domain names. Supports the SafeSearch function to filter resources of search engines, such as Google, to guarantee access to only healthy network resources.
31	DDoS defense	Supports defends against more than 10 types of common DDoS attacks, including SYN flood and UDP flood attacks.
32	Security policy management	Manages and controls traffic based on VLAN IDs, quintuples, security zones, regions, applications, URL categories, and time ranges
33	Application identification and control	Identifies over 6000 applications and supports the access control granularity down to application functions; combines application identification with intrusion detection, antivirus, and data filtering, for improving detection performance and accuracy.
34	Industrial control security	Supports management and control of 27 industrial control application protocols; supports intrusion detection and blocking for more than 100 industrial control systems signature detection and blocking to reduce intrusion risks of known vulnerabilities.
35	Asset management	Provides asset-based threat visualization, which supports associating IPS and Antivirus threat logs with user assets and displaying asset risk assessment results.

SL.#	Product Names/Items	Description of requirements
36	Reliability	Supports availability (HA), including the Active/Active and Active/Standby modes.
37	Firewall Management	Proposed Firewall should be manageable through existing firewall manager
38	Reference Document	Bidder should submit the required performance document and compliance reference document for the proposed device.
39	Compatibility	The Item must be compatible and integrated with the existing Cloud platform in BCC NDC.
40	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 3(Three) years warranty and 03 (Three) years threat protection licenses of IPS, URL, AV should be provided for this unit from the date of commissioning
41	Installation & Commissioning	Installation, testing and commissioning with necessary accessories

4.1.16 DC Management Node Server (QTY. 1 Nos)

SL.#	Product Names/Items	Description of requirements
1	Brand	Internationally reputed Brand
2	Model	To be mentioned by the bidder
3	Country of Origin	To be mentioned by bidder
4	Country of Manufacturer	To be mentioned by bidder
5	Form Factor	Rack Server with Rack Mountable Rail Kit along with cable organization arm and Bezel Kit
6	Processor	Intel Xeon Gold (2.2 Ghz) or higher
7	Number of Processor	2 (Two) Processor
8	Chipset	Intel C620 series Chipset or higher
9	Core per Processor	Minimum 24 (Twenty-Four) core or higher
10	Cache Memory per processor	Minimum 35 MB or higher
11	Memory	Should provide with 768GB 2933 MT/s or higher and also DDR4 with advanced ECC capability
12		Min. 32 DIMM slots per server
13	Graphics	Integrated video card for standard configuration
14	Hard Drive	System disk: Should provide with 2 x 960GB SATA SSD Data disk: Should provide with 1x480GB SSD & 1x960GB SSD & 8x4TB SATA & 1x3.2T NVMe SSD
15		Should provide the chassis with minimum 8 (eight) hard disk drive bay.

SL.#	Product Names/Items	Description of requirements
17	Storage Array Controller	Should provide required RAID Controller Card.
18	PCIe Expansion slots	Should support minimum 08 (Eight) or higher PCIe 3.0 I/O expansion Slots
19	Network Interface Controller	Should be supplied with Dual 1Gb Ethernet ports.
20		Should be supplied with 2 x 10Gb Optical ports with 2 x 10Gb SFP+ Multimode transceiver.
21	Remote management port & features	Integrated remote management with following feature
22		Should support out of band upgrades, Agentless out-of-band management, integrated diagnostics and Power monitoring and reporting.
23		· Should support multiple management interfaces including web user interface and command line interface.
24	Power Supply & System Fan Support	Should have standard redundant power supply & hot-swappable fan modules, providing protection against single-fan failures
25	Operating System Support	Operating Systems and Virtualization Software
26		· Windows Server
27		· VMware ESXi
28		· Red Hat Enterprise Linux (RHEL)
29		· SUSE Linux Enterprise Server (SLES)
30	Other Features	· Should support Hardware Policy based security
31		· Should support System Lock Down.
32	Industry Standard Compliance	· PCIe 3.0 Compliant or higher version
33		· USB 3.0 Compliant; USB 2.0 Compliant or higher version
34		· BIOS
35		· UEFI
36	Reference Document	Bidder should submit the required performance document and compliance reference document for the proposed device.
37	Compatibility	The Item must be compatible and integrated with the existing Cloud platform in BCC NDC.
38	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 03(Three) years warranty should be provided for this unit from the date of commissioning
39	Installation & Commissioning	Installation, testing and commissioning with necessary accessories

4.1.17 DC Non-GPU Computing Node Server (Qty. 4 Nos)

SL.#	Product Names/Items	Description of requirements
1	Brand Name	Internationally Reputed brand (To be mentioned by the Proposer)
2	Quality	ISO 9001/9002 for manufacturer, CE/FCC Class A/B for quality assurance
3	Model	To be mentioned by Proposer
4	Country of origin	To be mentioned by Proposer
5	Country of Assemble	To be mentioned by Proposer
6	Form Factor	Rack Server with Rack Mountable Rail Kit along with cable organization arm and Bezel Kit
7	Processor	Intel Xeon Gold (2.5 Ghz) or higher
8	Number of Processor	2 (Two) Processor
9	Chipset	Intel C620 series Chipset or higher
10	Core per Processor	Minimum 32 (Thirty-Two) core or higher
11	Cache Memory per processor	Minimum 48 MB or higher
12	Memory	Should provide with 1024GB DDR4 3200 MT/s or higher with advanced ECC capability
13		Min. 32 DIMM slots per server
14	Graphics	Integrated video card for standard configuration
15	Hard Drive	Should provide with 2 x 480GB SATA SSD
16		Should provide the chassis with minimum 8 (eight) hard disk drive bay.
17	Storage Array Controller	Should provide required RAID Controller Card.
18	PCIe Expansion slots	Should support minimum 08 (Eight) or higher PCIe 3.0 I/O expansion Slots
19	Network Interface Controller	Should be supplied with Dual 1Gb Ethernet ports.
20		Should be supplied with 4 x 10GE Optical ports with 4 x 10Gb SFP+ Multimode transceiver.
21		Integrated remote management with following feature

SL.#	Product Names/Items	Description of requirements
22	Remote management port & features	· Should support out of band upgrades, Agentless out-of-band management, integrated diagnostics and Power monitoring and reporting.
23		· Should support multiple management interfaces including web user interface and command line interface.
24	Power Supply & System Fan Support	Should have standard redundant power supply & hot-swappable fan modules, providing protection against single-fan failures
25	Operating System Support	Operating Systems and Virtualization Software
26		· Windows Server
27		· VMware ESXi
28		· Red Hat Enterprise Linux (RHEL)
29		· SUSE Linux Enterprise Server (SLES)
30	Reference Document	Proposer should submit the required performance document and compliance reference document for the proposed device.
31	Compatibility	The Item must be compatible and integrated with the existing Cloud platform in BCC NDC.
32	Warranty	The Item must be compatible and integrated with the existing Cloud platform in BCC NDC.
33	Installation & Commissioning	Installation, testing and commissioning with necessary accessories

4.1.18 DC Object Storage Node Server (Qty. 3 Nos)

SL.#	Product Names/Items	Description of requirements
1	Brand Name	Internationally Reputed brand (To be mentioned by the Proposer)
2	Quality	ISO 9001/9002 for manufacturer, CE/FCC Class A/B for quality assurance
3	Model	To be mentioned by Proposer
4	Country of origin	To be mentioned by Proposer
5	Country of Assemble	To be mentioned by Proposer
6	Form Factor	Rack Server with Rack Mountable Rail Kit along with cable organization arm and Bezel Kit
7	Processor	Intel Xeon Gold (2.4 Ghz) or higher
8	Number of Processor	2 (Two) Processor

SL.#	Product Names/Items	Description of requirements
9	Chipset	Intel 420 series Chipset or higher
10	Core per Processor	Minimum 16 (Sixteen) core or higher
11	Cache Memory per processor	Minimum 16 MB or higher
12	Memory	Should provide with 256GB DDR4 2933 MT/s or higher with advanced ECC capability
13		Min. 24 DIMM slots per server
14	Graphics	Integrated video card for standard configuration
15	Hard Drive	Should provide with 2 x 960GB SATA SSD, 2*3.2TB NVME SSD,12*16TB SATA HDD
16		Should provide the chassis with minimum 8 (eight) hard disk drive bay.
17	Storage Array Controller	Should provide required RAID Controller Card.
18	PCIe Expansion slots	Should support minimum 08 (Eight) or higher PCIe 3.0 I/O expansion Slots
19	Network Interface Controller	Should be supplied with Dual 1Gb Ethernet ports.
20		Should be supplied with 4 x 10Gb Optical ports with 4 x 10Gb SFP+ Multimode transceiver.
21	Remote management port & features	Integrated remote management with following feature
22		· Should support out of band upgrades, Agentless out-of-band management, integrated diagnostics and Power monitoring and reporting.
23		· Should support multiple management interfaces including web user interface and command line interface.
24	Power Supply & System Fan Support	Should have standard redundant power supply & hot-swappable fan modules, providing protection against single-fan failures
25	Operating System Support	Operating Systems and Virtualization Software
26		· Windows Server
27		· VMware ESXi
28		· Red Hat Enterprise Linux (RHEL)
29		· SUSE Linux Enterprise Server (SLES)
30	Reference Document	Proposer should submit the required performance document and compliance reference document for the proposed device.
31	Compatibility	The Item must be compatible and integrated with the existing Cloud platform in BCC NDC.
32	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 03(Three) years warranty should be provided for this unit from the date of commissioning

SL.#	Product Names/Items	Description of requirements
33	Installation & Commissioning	Installation, testing and commissioning with necessary accessories

4.1.19 DR Management Node server (QTY. 2 Nos)

SL	Product Names/Items	Description of requirements
1	Brand	Internationally reputed Brand
2	Model	To be mentioned by the bidder
3	Country of Origin	To be mentioned by bidder
4	Country of Manufacturer	To be mentioned by bidder
5	Form Factor	Rack Server with Rack Mountable Rail Kit along with cable organization arm and Bezel Kit
6	Processor	Intel Xeon Gold (2.2 Ghz) or higher
7	Number of Processor	2 (Two) Processor
8	Chipset	Intel C620 series Chipset or higher
9	Core per Processor	Minimum 24 (Twenty-Four) core or higher
10	Cache Memory per processor	Minimum 35 MB or higher
11	Memory	Should provide with 768GB 2933 MT/s or higher and also DDR4 with advanced ECC capability
12		Min. 32 DIMM slots per server
13	Graphics	Integrated video card for standard configuration
14	Hard Drive	System disk: Should provide with 2 x 960GB SATA SSD Data disk: Should provide with 1x480GB SSD & 1x960GB SSD & 8x4TB SATA & 1x3.2T NVMe SSD
15		Should provide the chassis with minimum 8 (eight) hard disk drive bay.
17	Storage Array Controller	Should provide required RAID Controller Card.
18	PCIe Expansion slots	Should support minimum 08 (Eight) or higher PCIe 3.0 I/O expansion Slots
19	Network Interface Controller	Should be supplied with Dual 1Gb Ethernet ports.
20		Should be supplied with 2 x 10Gb Optical ports with 2 x 10Gb SFP+ Multimode transceiver.
21	Remote management port & features	Integrated remote management with following feature
22		· Should support out of band upgrades, Agentless out-of-band management, integrated diagnostics and Power monitoring and reporting.
23		· Should support multiple management interfaces including web user interface and command line interface.

SL	Product Names/Items	Description of requirements
24	Power Supply & System Fan Support	Should have standard redundant power supply & hot-swappable fan modules, providing protection against single-fan failures
25	Operating System Support	Operating Systems and Virtualization Software
26		· Windows Server
27		· VMware ESXi
28		· Red Hat Enterprise Linux (RHEL)
29		· SUSE Linux Enterprise Server (SLES)
30	Other Features	· Should support Hardware Policy based security
31		· Should support System Lock Down.
32	Industry Standard Compliance	· PCIe 3.0 Compliant or higher version
33		· USB 3.0 Compliant; USB 2.0 Compliant or higher version
34		· BIOS
35		· UEFI
36	Reference Document	Bidder should submit the required performance document and compliance reference document for the proposed device.
37	Compatibility	The Item must be compatible and integrated with the existing Cloud platform in BCC NDC.
38	Warranty	Mentioning Manufacturer's warranty should be quoted, minimum 03(Three) years warranty should be provided for this unit from the date of commissioning
39	Installation & Commissioning	Installation, testing and commissioning with necessary accessories

4.1.20 Data Center Core Switch (QTY. 2 Nos)

SL	Product Names/Items	Description of requirements
1	Brand	To be mentioned by the bidder
2	Country of Origin	To be mentioned by the bidder
3	Country of Manufacturer	To be mentioned by the bidder
4	Form Factor	Rack mountable Chassis based switch should be of maximum 8 RU
5	HA and Resiliency	<ul style="list-style-type: none"> - Switch should support field replaceable components such as Supervisor, Line cards, Power-supply and Fan trays - Switch should have redundant power supply from day 1. Power supplies should be configurable in either combined or N+1 node. - Shall support In Service Software Upgrade (ISSU) or Hit less update to provide an upgrade

SL	Product Names/Items	Description of requirements
		of the entire chassis or an individual task/process without impacting hardware forwarding
6	General Feature	<ul style="list-style-type: none"> - Chassis based switch should have at least 4 payload slots and additional two slot to accommodate redundant switch processor. - The proposed switch will have redundant CPUs from day-1. Should support Non-Stop Forwarding and Stateful Switchover to ensure information between supervisor engines are fully replicated, to allow the standby supervisor engine to take over in subsecond time if the primary supervisor fails. - Should have min. 16 GB DRAM and 16 GB Flash or more with optional SSD to host 3rd party container based application. - Switch should have min. 100 MB Packet buffer - Switch should be able to support VRF. - Switch should have Jumbo frame min.9216
7	Performance Feature	<ul style="list-style-type: none"> - The switch should have upto 8 Tbps or more switching capacity. - The switch should have forwarding rate minimum 3 Bpps or more. - Switch should have capacity to support 128K MAC addresses - Switch should be able to support 4K VLAN - Switch should support 256K IPv4/IPv6 Routes. - Multicast Routing entry support shall be 32K - Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES), 802.3x, 802.1p, 802.1Q, 1588v2 - Switch must support STP, MSTP, PVLAN, First Hop Security, Link Aggregation Protocol (LACP) and IGMPv1/v2 from day 1. - Must support BGP, IS-IS, VRF, VXLAN, OSPFv2, Policy-Based Routing (PBR), PIM-SM, PIM-SSM and Virtual Router Redundancy Protocol (VRRP) from Day 1, MPLS L3 VPN, BGP EVPN-VXLAN - Must support RIPng, OSPFv3, BGPv6, MLDv1/v2, VRRPv3 and IPv6 management from day 1. - The device should be IPv6 ready from day 1 - Must support BGP, MPLS, IS-IS, VRF,

SL	Product Names/Items	Description of requirements
		<p>VXLAN, OSPF Routed Access, Policy-Based Routing (PBR), PIM SM, and Virtual Router Redundancy Protocol (VRRP) from Day 1</p> <ul style="list-style-type: none"> - STP, PVLAN, First Hop Security, Link Aggregation Protocol (LACP) - STP, Trunking, Private VLAN (PVLAN), Q-in-Q, Shaped Round Robin (SRR) scheduling, Committed Information Rate (CIR), and eight egress queues per port - Should have AES-256 support with MACSEC-256 encryption algorithm on hardware - During system boots, the system’s software signatures should be checked for integrity. System should be capable to understand that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.
8	Network Security Features	<ul style="list-style-type: none"> - ACL & QOS entry support: 36K - Campus core should have the capability to support traditional NAT - Switch should support IEEE for user authentications, accounting, RADIUS and TACACS.
9	Quality of Service	<ul style="list-style-type: none"> - Switch should be able to classify traffic based on ACLs (source/destination IP, TCP/UDP port, etc), DSCP, IP Precedence, CoS, applications and Vlans - Switch must support Strict Priority Queuing, WFQ/WRR, Policing and shaping - Switch should be able to support HQos - Switchports should have 8 egress Queues. - Should support VRF-Aware Policy Based Routing to enable policy based routing of packets for a VRF instance
10	Management and Security	<ul style="list-style-type: none"> - Switch should support CLI, SSHv2, telnet for management - The Core Switch should support SNMP v1, v2 & v3 for management. - Switch must support IEEE 1588v2 to provide accurate clock synchronization with sub-microsecond accuracy - During system boots, the system’s software signatures should be checked for integrity.

SL	Product Names/Items	Description of requirements
		<p>System should be capable to understand that system OS are authentic and unmodified, it should have cryptographically signed images to provide assurance that the firmware & BIOS are authentic.</p> <ul style="list-style-type: none"> - OS should have support for Management automation via Netconf/Yang or equivalent - Should support Streaming Telemetry, Netflow/Sflow/Jflow, SPAN, RSPAN or equivalent
11	Network Interface	<p>Switch should be capable of supporting 1000Base-TX, 1000Base-SFP, 10G SFP+, 40G QSFP+ and 100G QSFP28 options. The Switch will be populated with:</p> <ul style="list-style-type: none"> - 1x24-Port 40GE/12-Port 100GE with 10x 40GBASE-SR4 OEM original Transceiver from Day 1. - 1x48-Port 25GE/10GE/1GE with 16x10GBASE-SR original Transceiver from Day 1. - 1x48-Port Copper Port - 1xRJ-45 Console port - 1xUSB Port
12	Certification	<ul style="list-style-type: none"> - The switch should be UL 60950-1, EN 60950-1, IEC 60950-1, 47 CFR Part 15, EN 300 386, EN61000-3-2, EN61000-3-3, EN 55032, CISPR 32 - Maintain International Quality Environmental Safety standard - ISO 9001/9002 for manufacturer for quality assurance
13	Power Supplies & Fan	Redundant power supplies and Fans to be proposed
14	EOL/EOS Information	Offered product must not be End of Support (EoS) in 5 years (from the date of delivery)
15	Local Support	Must have local spare depot/spare management service in Bangladesh for smooth after sales support and service.
16	Installation & Commissioning	Must provide installation and commissioning support with all necessary patch cords, cables and accessories
17	Warranty and Maintenance	Comprehensive 3 years with 24 x 7 x 365 Technical Support & Assistance

4.1.21 Next generation Firewall (QTY. 2 Nos)

SL	Product Names/Items	Description of requirements
1	Brand & Model	To be mentioned by the bidder
2	Country of Origin	USA/UK/EU
3	Country of Manufacturer	To be mentioned by the bidder
4	Form Factor	Rack mountable
5	Architecture	<ul style="list-style-type: none"> - The NGFW architecture should have Control Plane separated from the Data Plane in the Device architecture itself, whereby Control Plane should handle Management functions like configuration, reporting and route update & Data Plane should handle Signature matching (like exploits, virus, spyware), Security processing (like apps, users, content/URL, policy match, SSL decryption, app decoding etc) & Network Processing (like flow control, route lookup, MAC lookup, QoS, NAT etc). Proposed Firewall should not be proprietary ASIC based in nature & should be open architecture based on multi-core CPU's to protect & scale against dynamic latest security threats. - Proposed NGFW appliance (Each appliance) must have minimum 1 CPU with 24 Physical Cores from day one. Virtual core count and ASIC architecture will not be considered
6	Storage & DRAM	<ul style="list-style-type: none"> - Proposed NGFW appliance must have minimum internal storage of 480 GB SSD from day 1. - Minimum 128 GB DRAM from Day one
7	Interface Requirement	<ul style="list-style-type: none"> - Minimum 8 x 1G/10G Cu Interfaces from day one - Minimum 12 x 1G/10G SFP/SFP+ Interfaces populated with 4 x 10G optical transceivers SR from same OEM from day one - Minimum 4 x 25G SFP28 Interfaces and 4 x 40G/100G QSFP+/QSFP28 populated with 2 X 25G, 2 X 40G and 2 X 100G optical transceivers from same OEM from day one - Dedicated HA ports, RJ-45 console port and management port in addition to requested data ports
8	Virtual systems	Solution should support minimum 10 virtual systems from day one
9	HA Requirement	Should support Active - Active and Active - Passive high availability for future enhancement

SL	Product Names/Items	Description of requirements
10	Interface Operation Mode	The proposed firewall shall support Dual Stack IPv4 / IPv6 application control and threat inspection support in: Tap Mode, Transparent mode (IPS Mode), Layer 2, Layer 3 and Should be able operate mix of multiple modes
11	General Feature	<ul style="list-style-type: none"> - Provide complete visibility of Network, all applications (including cloud & SaaS), all users and devices (including all locations) and encrypted traffic from day 1. - Reduce attack surface area by enabling business apps, block ‘bad’ apps, Limit application functions, limit high risk websites and content and require MFA(Multifactor authentication) from day 1; - Prevents all known threats – Network DoS & DDoS, Malware, Spyware, Ransomware, Trojan, C&C, Malicious & Phishing Websites and Bad/Malicious Domains protection from day 1; - Detect and prevent new threats – unknown malware, zero-day exploits and custom attack behavior from day 1; - The solution should Inspect and control applications that are encrypted with SSL/TLS/SSH traffic and stops threats within the encrypted traffic from day 1. The solution should be inbuilt within the device from Day 1. - The solution should have capabilities to assesses the health and security posture of the existing and proposed NGFW by analyzing telemetry data generated by NGFW to help BCC Security team to identify areas of improvement and close security gaps - The solution should continuously recommend existing and proposed NGFW configuration best practices assessment, Recommendations for closing security gaps, CLI commands for remediation, hardware issues, software and license issues, config and resource limit issues, anomaly detection, operational outcome predictions, device ranking based on health and security posture, Best practices assessment dashboard and report, Application, User Activity, and Network Activity Dashboards and Reports through machine learning-powered

SL	Product Names/Items	Description of requirements
		<p>predictions to improve BCC’s overall security posture and keep network running smoothly.</p> <ul style="list-style-type: none"> - The proposed solution support to ability to create security groups according to logical grouping/business entity if required in future. - The proposed firewall must be able to support Network Address Translation (NAT) - The proposed firewall must be able to support Port Address Translation (PAT) - The proposed firewall shall support Dual Stack IPv4 /IPv6 (NAT64, NPTv6) - Should support Dynamic IP reservation, tunable dynamic IP and port over subscription - Must be IPv6 compatible from day 1 and IPv6 support for L2, L3, Tap and Transparent mode operation has to be available - Should support SSL decryption on IPv6 - IPv6 must be supported on firewall policy with User and Applications - Should support SSL decryption on IPv6 - Should support Stateless Address Auto configuration(SLAAC)
12	Performance Feature	<ul style="list-style-type: none"> - NG Firewall application throughput in real world/production environment (by enabling and measured with application control and logging enabled using 64 KB HTTP/IMIX/appmix transactions) – Minimum 50 Gbps. - NG Threat prevention throughput in real world/production environment (by enabling and measured with application control, IPS, antivirus, Anti malware anti-spyware, Advance Threat, Zero day Protection, file blocking, and logging enabled, utilizing IMIX/appmix transactions – Minimum 35 Gbps. - Minimum IPSec VPN throughput – 20 Gbps - Minimum tunnels SSL, IPSec, and IKE (V1 & V2 supported with XAUTH) – 10000 from day one - Proposed appliance should support New sessions per second – Minimum 260,000 utilizing 1byte HTTP transactions OR Minimum 12 Million utilizing 64 byte HTTP transactions. - Proposed appliance should support Concurrent Connection per second with threat prevention features enabled – Minimum 5 Million

SL	Product Names/Items	Description of requirements
		<ul style="list-style-type: none"> - Above Mentioned performance throughput must be deliver by each appliance, it should not be consolidated throughput of multiple appliance cluster or context. The bidder shall submit the performance test report from Global Product Engineering department / Global Testing Department/ Global POC team of OEM to certify the mentioned performance.
13	Next Generation Firewall Features	<ul style="list-style-type: none"> - The proposed firewall shall have network traffic classification which identifies applications across all ports irrespective of port/protocol/evasive tactic. - The proposed firewall shall be able to handle (alert, block or allow) unknown/unidentified applications like unknown UDP & TCP - Solution should support blocking of IPs/Domains/URLs either via External Dynamic List hosted on an external web server or via any other service with minimum 150,000 IPs, 4 Million domains and 250,000 URLs from day one - The proposed firewall shall be able to create custom application signatures and categories using the inline packet capture feature of the firewall without any third-party tool or technical support. - The proposed firewall shall be able to implement Zones, IP address, Port numbers, User ID, Device ID, Application ID and threat protection profile under the same firewall rule or the policy configuration. - The proposed firewall shall delineate different parts of the application such as allowing Facebook chat but blocking its file-transfer capability inside the chat application base on the content. - The proposed solution must support policy-based forwarding based on zone, source or destination address and port, application, AD/LDAP user or user group and services or ports - The proposed firewall shall be able to protect the user from the malicious content upload or download by application such as Facebook chat or file sharing by enforcing the total threat

SL	Product Names/Items	Description of requirements
		<p>protection for known and unknown malicious content such as virus, malware or bad URLs.</p> <ul style="list-style-type: none"> - The proposed firewall shall be able to identify, decrypt and evaluate SSL traffic in an outbound connection (forward-proxy) and inbound connection. The proposed firewall shall be able to identify, decrypt and evaluate SSH Tunnel traffic in inbound and outbound connections. - The proposed firewall shall be able to identify port-based rules/policies so admin / security team can convert them to application-based whitelist rules or add applications to existing rules without compromising application availability. - Firewall must have inbuilt Automatic policy optimization to identify port-protocol based policies and convert the same into true application-based policies. For example-Firewall is configured with Security policy to allow port 80/443 and multiple applications (Facebook/Rapidshare etc.) traffic going through the same policy, then the firewall should automatically identify those risky applications and help to add more application specific security policies which might be using the same ports (80/443). This will help us to tighten the application flow control and reduce the attack surface area. - The proposed firewall shall be able to identifies the rules configured with unused applications and prioritize which rules to migrate or clean up first - The proposed firewall shall be able restrict application traffic to its default ports to prevent evasive applications from running on non-standard ports. - The Proposed firewall should support to create policy that provides auto-remediation for anomalous user behavior and malicious activity while maintaining user visibility. - The NGFW must support the ability to dynamically and automatically regroup user/s based on security events relating to that user, no manual response needed. - The proposed firewall should have data filtering

SL	Product Names/Items	Description of requirements
		<p>features to prevent sensitive, confidential, and proprietary information from leaving BCC network</p>
14	Threat Protection Feature	<ul style="list-style-type: none"> - Should support protocol decoder-based analysis stateful decodes the protocol and then intelligently applies signatures to detect network and application exploits - Intrusion prevention signatures should be built based on the vulnerability itself, A single signature should stop multiple exploit attempts on a known system or application vulnerability. - Should block known network and application-layer vulnerability exploits from day 1 - The proposed firewall shall perform content based signature matching beyond the traditional hash base signatures - The proposed firewall shall have on box Anti-Virus/Malware, Anti Spyware signatures and should have minimum signatures update window of every one hour - All the protection signatures should be created by vendor based on their threat intelligence and should not use any 3rd party IPS or AV engines. - The proposed solution should stop unknown command-and-control attacks by leveraging AI and deep learning techniques in real time. - The proposed solution should predict and prevent malicious newly registered domains, DGA attacks, DNS tunneling and other sophisticated DNS threats leveraging AI and deep learning techniques in real time - Should perform stream-based Anti-Virus inspection and not store-and-forward traffic inspection to keep the maximum firewall performance. Stream based Antivirus scanning should be used for scanning the contents of the files being transferred over the wire for virus/malwares and should block the file transfer when a virus or malware signatures is triggered. - Should be able to perform Anti-virus scans for SMB traffic. - Should support DNS sink holing for malicious DNS request from inside hosts to outside bad domains and should be able to integrate and query third party external threat intelligence

SL	Product Names/Items	Description of requirements
		<p>databases to block or sinkhole bad IP address, Domain and URLs</p> <ul style="list-style-type: none"> - Should be able to call 3rd party threat intelligence data on malicious IPs, URLs and Domains to the same firewall policy to block those malicious attributes and list should get updated dynamically with latest data - Vendor should automatically push dynamic block list with latest threat intelligence database on malicious IPs, URLs and Domains to the firewall policy as an additional protection service. - Solution must prevent sensitive information such as credit card or social security numbers from leaving a protected network from day 1. It should also allow administrator to filter on key words, such as a sensitive project name or the word confidential. - The NGFW should prevent credential theft attack. Vendor should provide features with the ability to prevent the theft and abuse of stolen credentials, one of the most common methods of cyber adversaries use to successfully compromise and maneuver within an organization to steal valuable assets. It should also complement additional malware and threat prevention and secure application enablement functionality, to extend customer organizations' ability to prevent cyber breaches. - Automatically identify and block phishing sites - Prevent users from submitting credentials to phishing sites - Prevent the use of stolen credential
15	Advanced Persistent Threat (APT) Protection	<ul style="list-style-type: none"> - Unknown malware analysis service must prevent unknown/zero-day threats inline and real-time using machine learning-based approach beyond traditional sandboxing - Solution should be able to capture snapshots of malicious activity in memory and conducts real-time analysis to identify malicious behavior, detecting highly evasive malware that would have otherwise gone undetected. - AI / ML based learning should be able to extract unique features from each file which is not possible with static or dynamic analysis alone

SL	Product Names/Items	Description of requirements
		<p>and should be able to use the information to further train the predictive machine learning models to identify new malware.</p> <ul style="list-style-type: none"> - Solution should be able to identify potentially malicious scripts, such as JScript and PowerShell for analysis and execution by AI/ML. - Should be able to monitor all network activity produced by a suspicious file, including backdoor creation, downloading of next-stage malware, visiting low-reputation domains, network reconnaissance, and much more. - Solution should be able to conduct stealthy observation to uncover malicious behavior during malware execution, including actions performed in memory, remaining completely invisible to the program under analysis. - Solution should have capability of automated unpacking for full visibility into file contents for the analysis of obfuscated payloads (obfuscated may be done using tools like encoding, encryption, and packing by threat vectors). - Cloud based/on-prem sandboxing should support analysis of minimum 100000 files/Day - Cloud base unknown malware analysis service should be certified with SOC2 or any other Data privacy compliance certification for customer data privacy protection which is uploaded to unknown threat emulation and analysis. - Cloud base unknown malware analysis service should be able to perform dynamic threat analysis on such as EXEs, DLLs, ZIP files, PDF documents, Office Documents, Java®, Android APKs, Adobe Flash applets, Web pages that include high-risk embedded content like JavaScript, Adobe Flash files. MAC OS and DMG file types - The advanced malware analysis (malware sandboxing) solution must be OS agnostic. - This solution should prevent malicious file-based content, such as portable executable files and dangerous fileless attacks stemming from PowerShell, completely inline with no cloud analysis step. The ML models should be updated daily for the most up-to date detection

SL	Product Names/Items	Description of requirements
		<p>capabilities.</p> <ul style="list-style-type: none"> - The proposed next generation security platform should be able to detect and prevent zero day threats infection through HTTP, HTTPS, FTP, SMTP, POP3, IMAP use by any of application used by the users (eg: Gmail, Facebook, MS outlook) - Advance unknown malware analysis engine should be able to creates automated high-fidelity signature for command and control connections and spyware to inspect command and control http payload to create one to many payload base signatures protection from multiple unknown spyware and command and control channels using single content base signature - The protection signatures created base unknown malware emulation should be payload or content base signatures that could block multiple unknown malware that use different hash but the same malicious payload.
16	URL Filtering and Web Protection Feature	<ul style="list-style-type: none"> - Same Hardware platform should be scalable to provide URL filtering and web protection and should maintain same performance/throughputs mention in primary scope - Proposed solution should provide inline protection from new and unknown web-based attacks in less than 100 milliseconds to prevent patient zero - Solution should have detection and prevention capabilities of evasive and targeted attacks by detecting real web traffic and not web crawler data. - Solution should prevent known and brand-new phishing sites by stopping credential phishing in real time. - The proposed firewall shall have the database located locally on the device - The proposed firewall shall have custom URL-categorization - The proposed firewall shall have customizable block pages capability - The proposed firewall shall block and continue (i.e. allowing a user to access a web-site which potentially violates policy by presenting them a block page with a warning with a continue

SL	Product Names/Items	Description of requirements
		<p>option allowing them to proceed for a certain time)</p> <ul style="list-style-type: none"> - The proposed firewall shall have logs populated with end user activity reports for site monitoring within the local firewall - Should protect against never-before-seen phishing and JavaScript attacks inline. Solution should be capable to use both signature based and ML based signature less technology - The proposed firewall shall have Drive-by-download control - The proposed firewall shall have URL Filtering policies by AD user, group, machines and IP address/range - Should have full-path categorization of URLs only to block re categories the malicious malware path not the full domain or website - Should have zero-day malicious web site or URL blocking update less than 15 minutes for URL DB update for zero-day malware command and control, spyware and phishing websites access protection - Should have URL or URL category base protection for user cooperate credential submission protection from phishing attack with malicious URL path
17	SSL/SSH Decryption	<ul style="list-style-type: none"> - The proposed firewall shall be able to identify, decrypt and evaluate SSL traffic in an outbound connection (forward-proxy) - The proposed firewall shall be able to identify, decrypt and evaluate SSL traffic in an inbound connection - The proposed firewall shall be able to identify, decrypt and evaluate SSH Tunnel traffic in an inbound and outbound connections - The NGFW shall support the ability to have a SSL inspection policy differentiate between personal SSL connections i.e. banking, shopping, health and non-personal traffic. - SSL decryption must be supported on any port used for SSL i.e. SSL decryption must be supported on non-standard SSL port as well - Bidder must provide all the necessary Hardware/Software/License/Public Certificate to deploy SSL Decryption features to inspect SSL

SL	Product Names/Items	Description of requirements
18	Routing and Multicast support	<p>Traffic by proposed NFGW.</p> <ul style="list-style-type: none"> - Proposed firewall must support Static, OSPF (V2 & V3) and BGP routing protocols. - Must support Policy-based forwarding - Must support PIM-SM, PIM-SSM, IGMP v1, v2, and v3. - Must support Bidirectional Forwarding Detection (BFD)
19	Authentication Feature	<ul style="list-style-type: none"> - Solution should support LDAP, Radius, Kerberos, Token-Based authentication protocols. - The proposed firewall’s SSL VPN shall support LDAP, Radius, Kerberos, SAML, Token-Based etc. authentication protocols. - Proposed Solution must have capability to integrate with Active Directory from day 1. Solution should also be capable to impose Firewall Policy on AD User, Groups etc. from day 1.
20	Monitoring, Management and Reporting	<ul style="list-style-type: none"> - Should support on device or centralized management with complete feature parity on firewall administration. - Should have real time logging based on all Traffic, Threats, User IDs, URL filtering, Data filtering, Content filtering, unknown malware analysis, Authentication, Tunneled Traffic and correlated log view base on other logging activities. - Should support the report generation on a manual or schedule (Daily, Weekly, Monthly, etc.) basis. - Should allow the report to be exported into other format such as PDF, HTML, CSV, XML etc. - Should have built in report templates based on Applications, Users, Threats, Traffic and URLs. - Should be able to create report based on SaaS application usage - Should be able to create reports based on user activity - Should be able to create custom report based on custom query base any logging attributes. - On device management service should be able to provide all the mentioned features in case of central management server failure.
21	Compliance/Certification	<ul style="list-style-type: none"> - Offered Product Model should have ICSA Lab Certified for Network Firewall Categories.

SL	Product Names/Items	Description of requirements
		<ul style="list-style-type: none"> - The proposed OEM must have recent records of being in the Leader’s quadrant of “Forrester Wave” in Enterprise Firewall categories. - The proposed OEM must be in the Leader’s quadrant of the Enterprise Firewall Gartner Magic Quadrant for the last consecutive Five years. Reports to be submitted by the bidder as proof.
22	Power Supplies & Fan	Redundant hot-swappable power supplies and Fans to be proposed
23	EOL/EOS Information	Offered product must not be End of Support (EoS) in 5 years (from the date of delivery)
25	Installation & Commissioning	Must provide installation and commissioning support with all necessary patch cords, cables and accessories
26	Subscription, Support, Warranty and Maintenance	<ul style="list-style-type: none"> - 05 (Five) Years Premium support bundle including parts & labour with (24x7) TAC support, RMA, software updates and subscription update support. - The NGFW should be proposed with 05 (Five) years subscription licenses for (i) NGFW, (ii) NGIPS, (iii) Anti-Virus, (iv) Anti Spyware, (v) Anti Botnet (vi) Zero day Protection (vii) URL Filtering. Bidder should have 05 (Five) years warranty (all parts replacement and 24x7 service)

4.1.22 Email Security Gateway Virtual Appliance

SL	Product Names/Items	Description of requirements
1	Brand & Model	To be mentioned by the bidder
2	Country of Origin	USA/UK/EU
3	Country of Manufacturer	To be mentioned by the bidder
4	HA Requirement	The solution should be on premise and should support active/active or active/passive High Availability mode.
5	General Features Requirement	<ul style="list-style-type: none"> - The email security system offering should be dedicated OEM virtual Machine/ hardware including virtualization License based solution and not a subset of NGFW, Proxy or other security solution. The proposed solution should support VMware ESXI, KVM, HyperV or Nutanix - The gateway should support a comprehensive email security solution that integrates inbound

SL	Product Names/Items	Description of requirements
		<p>and outbound defenses against latest email threats such as Graymail Safe unsubscribing, snowshoe spam, viruses, Malicious URL Blocking, URL category based filtering, Robust anti-APT, DNS RBL verification, reputation filtering, DLP, Encryptions and phishing filtering utilizing a strong global threat intelligence capability</p> <ul style="list-style-type: none"> - The solution should have false positive efficacy of 1 in 1 million - Proposed solution should not be software-based and installed in the mail server. It should be purpose-built dedicated email security gateway. - The solution should have the capability to force an SMTP over the TLS connection when sending emails to or receiving emails from a specific domain. - The solution should support ability to perform SMTP session control and traffic rate limiting according to sender’s IP address/range, domain or email reputation. The solution should be able to assign maximum SMTP sessions per IP address on appliance - The solution should perform SMTP conversational bounce for invalid recipients (prevent Non-Delivery Report Attack), directory harvest prevention, and have ability to perform SMTP session control and traffic rate limiting (down to per recipient) according to sender’s IP address/range, domain or email reputation. - The solution should have the ability to utilize a database of IP addresses and domain pairs to help block spam and allow good email through, similar to a Registered Email Sender List (RESL). - The solution should be able to block bounce messages/NDR from forged return addresses that did not originate from your network. - The solution should have the ability to enforce email policy based on the character set of message parts. - The solution should be able to perform a reverse DNS lookup on the sender IP address, determine the Top Level Domain (TLD) and block emails

SL	Product Names/Items	Description of requirements
		<p>originating from IP addresses assigned to providers in common spamming countries.</p> <ul style="list-style-type: none"> - The solution should be enable administrators to create custom rules based on results of reverse DNS lookup of sender IP address. - The solution should be able to enforce email policy by checking the name server of a domain referenced in an embedded URI and validating against a list of name servers known to be used exclusively by spammers. - The solution should support following for system monitoring: - SNMP v2/v3, MIB-II, XML, Syslog support - The solution should support authenticate users using RADIUS or LDAP and two-factor authentication for secure access into appliance for management purpose - The appliance should support the use of IPv6 for: <ul style="list-style-type: none"> a) Appliance interfaces b) Gateways (default routes) c) Static routes d) SMTP Routes e) Querying external SMTP server with IPv6 address (for Recipient validation) f) IPv6 Sending hosts g) Content Filters h) Sending to IPv6 destinations i) Report searches - The solution should support configuring appliance to scan for URLs in message attachments, and perform configured actions on such messages if malicious. - The solution should be able to consume external threat information in STIX Format communicated over TAXII Protocol - The solution should be able to integrate with Domain Reputation Service that provides a reputation verdict for email messages based on a sender's domain and other attributes. - The solution should support DNS-based Authentication of Named Entities (DANE) for outgoing TLS connections on your appliance.

SL	Product Names/Items	Description of requirements
6	System Performance	<ul style="list-style-type: none"> - The solution must offer a layered approach to scanning email, using both connection management and mail scanning techniques to filter email. - The solution should be scalable per domain up to 10,000 active email users from day one & should support up to 5000 domains. - The solution must have Advanced Threat Protection license from day 1 to mitigate ZERO Day attack from OEM cloud
7	Anti-spam Features	<ul style="list-style-type: none"> - The proposed solution should support spam quarantine on the centralized appliance. Holds spam and suspected spam messages for end users, and allow end users and administrators to review messages that are flagged as spam before making a final determination. - The proposed solution should have the Multi-layer Anti-spam filter: It should have the capability to scan emails for spam with 3rd party SPAM engine before the OEM Spam engine. - The solution should offer users the ability to whitelist/blacklist senders as well as manage their own spam scores. - The solution should have the ability for administrators to block emails via header/subject/body using regular expressions and exact word matches. - The solution should be able to block attachments by file type and file extension. - The user intervention should not be required to install/update spam, virus, and security definitions. - Message delivery options should include - Inbound and outbound (unless specified): <ul style="list-style-type: none"> a) Discard b) Deliver immediately c) Reject (outbound) d) Quarantine e) Add banner f) Tag the subject and continue - The solution should block phishing URLs including targeted spear phishing attacks - The solution should convert any types of URL link to plain text that contains in the mail body. - The solution should offer users the ability to

SL	Product Names/Items	Description of requirements
		<p>whitelist/blacklist senders as well as manage their own spam scores.</p> <ul style="list-style-type: none"> - The solution should offer Per User Scoring Setting - The solution should offer-size based as well as age-based retention for storing user's quarantined messages - The solution should offer separate queue for outbound quarantine emails - The solution should offer GRC account/role only has access to Outbound Quarantine and can decide which messages to deliver, reject or delete based on DLP/content policy. - The solution should have dedicated RBL - Proposed solution should offer separate tab for ATP logs - The solution should offer an option to block or quarantine messages based on country of origin or language - Must offer Bayesian Analysis - Must offer Spam scoring - URL Reputation within email messages - The solution should offer SPF & DKIM Check - Directory Harvest Attack (DHA) protection
8	Anti-Virus and Malware Protection Features	<ul style="list-style-type: none"> - The solution must offer multilayer layers of antivirus protection. - The solution should have dual virus scanning available within the appliance. one of the AV engine should be from Gartner leader/Challenger quadrant - The solution should provide protection against zero-day and targeted attacks. It should be able to dynamically analyze message attachments for malware without sending files to cloud - The proposed solution should include Anti-APT/Next Generation detection ability to quarantine emails suspected to been infected with malware both for inbound as well as outbound email - The proposed solution shall support the ability to hold the email until sandbox analysis is complete and the threshold shall be configurable - To proactively respond to cyber threats such as malware, ransomware, phishing attacks, solution

SL	Product Names/Items	Description of requirements
		<p>should have capability to consume external threat information in STIX/TAXII</p> <ul style="list-style-type: none"> - The solution should provide virus outbreak prevention on abnormal increase of emails with specific email attachments - The solution should support the scanning of URLs in message attachment and perform action on such message. - The solution should provide capability of the appliance to perform recipient validation by querying an external SMTP server prior to accepting incoming mail for the recipient - The solution must offer real-time protection that will block new spam and viruses in real-time without waiting for new definitions to be downloaded to the appliance. - The solution should be able to provide internal email antivirus protection.
9	Quarantine Features	<ul style="list-style-type: none"> - Full quarantine access for Administrator or delegated Quarantine access. - Individual User/Password Access Control for spam Quarantine Area - End User Quarantine Support with LDAP/AD/IMAP/POP authentication support - The solution should provide separate Quarantine areas for different functionalities such as: <ul style="list-style-type: none"> a) Dedicated Spam Quarantine to quarantine spam/suspect- spam b) Virus Quarantine – to quarantine virus files c) Outbreak Quarantine – Dynamically quarantine zero day threats d) Policy Quarantine – to quarantine based on policy such as "quarantine outbound Resume" e) Flexibility to create additional Policy quarantines f) End user can read, release, whitelist, blacklist from self-quarantine folder.
10	LDAP Support	<ul style="list-style-type: none"> - The solution should support: <ul style="list-style-type: none"> a) LDAP routing b) Masquerading c) Recipient address verification d) SMTPAUTH using LDAP - LDAP should be query based and not synchronization based for better performance.

SL	Product Names/Items	Description of requirements
		<ul style="list-style-type: none"> - The solution should support chained LDAP queries that will run in succession. - The solution should support LDAP referrals i.e. When using LDAP referral’s, the original query gets referred to another LDAP server. - The solution should support LDAP caching on the appliance.
11	Email Encryption Features	<ul style="list-style-type: none"> - Proposed solution must support email encryption from day 1 without additional license - Solution should be able to do outbound email encryption through policy on the unit or user specified.
12	Content Detection and Analysis	<ul style="list-style-type: none"> - The proposed solution shall support mime and file-type detection technology - The proposed solution shall support: <ul style="list-style-type: none"> a) comprehensive data-loss prevention with custom content policy b) Healthcare, Finance, personally identifiable information c) PDF Scanning and image analysis d) Dynamic Adult Image Analysis Service to identify and report or block the transmission of adult content e) Intent analysis f) Image analysis
13	Domain Protection Service	<ul style="list-style-type: none"> - The Proposed solution should have OnDEMARC based Domain Protection service bundled from day 1 - The domain protection service should be capable of protecting against BEC - Should protect from Account takeover - Should be capable to automate BIMi and DMARC process
14	3rd Party Integration/API	<ul style="list-style-type: none"> - The proposed solution must provide integration with Active Directory for recipients address validation - The proposed solution must have option to integrate with 3rd party via API - The proposed solution is preferable to be integrated with SIEM solutions.
15	Reporting and Log Search	Solution must offer multi types of reports that can be generated on demand and emailed to the administrator and should have but not limited to:

SL	Product Names/Items	Description of requirements
		a) Real-time reporting capabilities b) Dashboard visibility into message logs c) System reporting d) Email Virus detection/stoppage reporting Spam Detection reports e) report scheduling capabilities f) ATP reporting g) Reports exportable in multiple formats
16	Administration and Management	<ul style="list-style-type: none"> - The proposed solution should offer Outlook Plug-in support for reporting missing spam, false positives, virus emails, encryption etc. - The proposed solution support both Internet Root DNS servers or local DNS servers - The proposed solution support multiple DNS servers according to destination domain(s), i.e. DNS A server for Domain A, and DNS B server for Domain B
17	Compatibility	The appliance must be compatible to host in virtualization platform like Nutanix AOS, Linux KVM
18	Installation & Commissioning	Must provide installation and commissioning support with all necessary tools.
19	Subscription, Warranty & Support Services	<ul style="list-style-type: none"> - 03 (Three) Years comprehensive (24x7) TAC support, with software updates and subscriptions. - The solution should support minimum 100,000 users for anti-spam, anti-virus, virus outbreak, data loss prevention and encryption, Anti-APT, Graymail, Image analysis, phishing, Domain protection etc. - All features license shall be enabled from day one with 3 years license. - There shall not be any limitation on the number of virtual appliances

5 Service Level Agreement (SLA):

Service Requests (SR) can be requested via email or the support portal. Considering the severity and time of reporting SR, **Mean Time to Respond (MTTR)** and **Mean Time to Solve (MTTS)** is given below:

Priority Level	Description	MTTR (hrs.)	MTTS (hrs.)
Priority Level 1: Emergency/ Urgent/Critical Business Impact	A problem that severely impacts the use of the software in a production environment (such as loss of production data or in which production systems are not functioning). The situation halts the operations, and no procedural workaround exists.	1	8
Priority Level 2: High/Major Business Impact	A problem where the software is functioning but the use in a production environment is severely reduced. The situation is causing a high impact on portions of the operations and no procedural workaround exists.	2	16
Priority Level 3: Medium/Moderate Business Impact	A problem that involves partial, non-critical loss of use of the software in a production environment or development environment. For production environments, there is a medium-to-low impact, but it continues to function, including by using a procedural workaround. For development environments, where the situation is causing the project to no longer continue or migrate into production.	4	32

Note: Hardware replacement for faulty components has to be provided within next business day after raising the case.

E. TESTING AND QUALITY ASSURANCE REQUIREMENTS

4.1 Inspections

- 4.1.1 No factory inspection from the Purchaser is necessary.
- 4.1.2 Inspections following delivery shall be arranged in the office of the Project Director or in a designated location as per the instruction of the office of the project director. The inspection activities will include checks whether the hardware and software supplied under this bid comply with the minimum requirements set forth in the technical requirements section of this request for proposals document. It will also check the physical condition of the items as well as ingenuity of their source and other obligations mentioned in this request for proposals document and the agreement signed between the purchaser and the selected supplier.

4.2 Pre-commissioning Tests

- 4.2.0 In addition to the Supplier’s standard check-out and set-up tests, the Supplier (with the assistance of the Purchaser) must perform the following tests on the System and its Subsystems before Installation will be deemed to have occurred and the Purchaser will issue the Installation Certificate(s) (pursuant to GCC Clause 26 and related SCC clauses).
- 4.2.1 Test of all individual software systems must be performed and desired performance indicators and technical specifications mentioned in this tender must be met by each and every software component / system included in this Request for Proposals.
- 4.2.2 Test of all individual hardware components must be performed and desired performance indicators and technical specifications mentioned in this tender must be met by each and every hardware component / system included in this Request for Proposals.

4.2.3 The Entire System:

Pre-commissioning Tests for the entire System must be performed and the entire platform must be operate as an integrated system and fulfill all performance requirements of the information system stated above in section B (Functional, Architectural and Performance Requirements).

4.3 Operational Acceptance Tests

- 4.3.0 Pursuant to GCC Clause 27 and related SCC clauses, the Purchaser (with the assistance of the Supplier) will perform the following tests on the System and its Subsystems following Installation to determine whether the System and the Subsystems meet all the requirements mandated for Operational Acceptance.
- 4.3.1 The Purchaser (with the assistance of the Supplier) shall perform Operational Acceptance Tests to ascertain whether the System, or a specified Subsystem, is able

to attain the functional and performance requirements specified in the Technical Requirements and Agreed and Finalized Project Plan, in accordance with the provisions of GCC Clause 27.2 (Operational Acceptance Test).

The Supplier shall use all reasonable endeavors to promptly remedy any defect and/or deficiencies and/or other reasons for the failure of the Operational Acceptance Test that the Project Manager has notified the Supplier of. Once such remedies have been made by the Supplier, the Supplier shall notify the Purchaser, and the Purchaser, with the full cooperation of the Supplier, shall use all reasonable endeavors to promptly carry out retesting of the System or Subsystem. Upon the successful conclusion of the Operational Acceptance Tests, the Supplier shall notify the Purchaser of its request for Operational Acceptance Certification, in accordance with GCC Clause 27.3.3. The Purchaser shall then issue to the Supplier the Operational Acceptance Certification in accordance with GCC Clause 27.3.3 (a), or shall notify the Supplier of further defects, deficiencies, or other reasons for the failure of the Operational Acceptance Test. The procedure set out in this GCC Clause 27.3.4 shall be repeated, as necessary, until an Operational Acceptance Certificate is issued.

The Supplier shall submit the system integration test report detailing the test results from the successful completion of the tests to the purchaser for review at least two (2) weeks before the commencement of the OAT. The Government reserves the right to hold back the OAT until the evidence of the successful completion of the tests is produced.

F. SERVICE SPECIFICATIONS – RECURRENT COST ITEMS

5.1 Warranty Defect Repair

5.1.1 The Supplier MUST provide the following services under the Contract or, as appropriate under separate contracts (as specified in the request for proposals documents).

5.1.1.1 Warranty Defect Repair Service: Three (3) years warranty should be provided for IT hardware, software and related services of BCC DR Cloud (Defects of the total information system (IS) will be addressed at on-site/off-site in accordance with the assigned priority level mentioned in subsection 3.1.2 Service Level Agreement (SLA) of Warranty Defect Repair including on-site defects remedy service, as applicable.

5.2 Technical Support

5.2.1 The Supplier MUST provide the following services under the Contract or, as appropriate under separate contracts (as specified in the request for proposals documents).

5.2.1.1 User support / hot line: Not Applicable

5.2.1.2 Technical Assistance: Not Applicable

5.2.1.3 Post-Warranty Maintenance Services: Not Applicable.

5.3 Requirements of the Supplier’s Technical Team

5.3.1 The Supplier MUST provide a technical team to cover the Purchaser’s anticipated Post-Operational Acceptance Technical Assistance Activities Requirements (e.g., modification of the Information System to comply with changing legislation and regulations) with the roles and skill levels that are specified below. The minimum expected quantities of inputs by the Supplier’s technical support team are specified in the relevant System Inventory Tables for Recurrent Cost Items.

Not Applicable.

Implementation Schedule

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A. IMPLEMENTATION SCHEDULE TABLE

The implementation part of assignment mentioned in this Request for Proposals must be completed within 32 (Thirty-Two) weeks from the date of effective of the contract. Detailed technical designs and relevant documentation must be provided including physical, logical and service oriented layout designs, etc. Roles and responsibilities of all stakeholders regarding the activities and services must be provided in detail with clear separation of duties.

Line Item No.	System	Subsystem / Item	Configuration Table No.	Site / Site Code	Delivery (weeks from Effective Date)	Installation (weeks from Effective Date)	Acceptance (weeks from Effective Date)	Liquidated Damages Milestone
0	DR Infrastructure	Preparation & Dismantle	N/A	Software Technology Park, Jashore	W3	-	W5	No
1		Design & Approval	N/A	Software Technology Park, Jashore	W4	-	W6	No
2		Steel structure building	N/A	Software Technology Park, Jashore	W5	W12	W16	No
3		Decoration & related Civil works	N/A	Software Technology Park, Jashore	W12	W18	W20	No
5		Electrical, Generator & CAC Works	N/A	Software Technology Park, Jashore	W13	W26	W27	No
6		Fire & Passive Security Works	N/A	Software Technology Park, Jashore	W14	W28	W30	No

Section VII – Purchaser’s Requirements

Line Item No.	System	Subsystem / Item	Configuration Table No.	Site / Site Code	Delivery (weeks from Effective Date)	Installation (weeks from Effective Date)	Acceptance (weeks from Effective Date)	Liquidated Damages Milestone
7	Migration from existing DR DC to temporary location & new build DR DC	Free Space/room with required Power & cooling system near to the existing DR site, with site preparation	N/A	Software Technology Park, Jashore	W2	-	W3	No
8		Temporary relocation facility readiness & required installation commissioning	N/A	Software Technology Park, Jashore	W3	W4	W6	No
9		Network readiness before relocation	N/A	Software Technology Park, Jashore	W5	-	W7	No
10		New storage deployment and data migration before relocation	N/A	Software Technology Park, Jashore	W3	W5	W8	No
11		DC DR uplink (NTTN) Connection readiness	N/A	Software Technology Park, Jashore	W6	W7	W9	No
12		Service migration from Existing DR DC to new	N/A	Software Technology Park, Jashore	W8	-	W10	No

Section VII – Purchaser’s Requirements

Line Item No.	System	Subsystem / Item	Configuration Table No.	Site / Site Code	Delivery (weeks from Effective Date)	Installation (weeks from Effective Date)	Acceptance (weeks from Effective Date)	Liquidated Damages Milestone
		temporary location						
13		Service migration from temporary location to new build DR	N/A	Software Technology Park, Jashore	W31	W31	W32	No
		Delivery and Installation of IT & IP equipment in DR	N/A	Software Technology Park, Jashore	W10	W32	W32	No
14	Installation & Commissioning of DC IP & IT Components	Installation of IT & IP Components for DC Cloud Expansion	N/A	Software Technology Park, Jashore	W10	W14	W16	No
		Expansion of cloud services and capacity with newly installed IT components	N/A	Software Technology Park, Jashore	W14	W16	W18	No
		Installation and commissioning of NGFW and Email Security Gateway appliance for Data Center & DR	N/A	Software Technology Park, Jashore	W14	W16	W18	No
15	Operational Acceptance of the System		N/A	Software Technology Park, Jashore	N/A	N/A	W32	Operational Acceptance

B. SITE TABLE(S)

[Specify: the detailed information regarding the site(s) at which the System is to be operated]

Site Code	Site	City / Town / Region	Primary Street Address	Drawing Reference No. (if any)
HQ	Headquarters			
R1	Region 1	Not Applicable		
R1.1	Region 1 Head Office			
R1.2	ABC Branch Office			
R1.3	DEF Branch Office			

C. TABLE OF HOLIDAYS AND OTHER NON-WORKING DAYS

[Specify: the days for each month for each year that are non-working days, due to Holidays or other business reasons (other than weekends).]

Month	2024	2025	2026	
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

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System Inventory Tables

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Not Applicable.....	350

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SYSTEM INVENTORY TABLE (SUPPLY AND INSTALLATION COST ITEMS)

Component No.	Component	Relevant Technical Specifications No.	Additional Site Information (e.g., building, floor, department, etc.)	Quantity
1	Containment and rack system	4.1.1	Software Technology Park, Jashore, Bangladesh	1 Lot
2	Steel Structure	4.1.2	Software Technology Park, Jashore, Bangladesh	1 Lot
3	Electric power distribute system	4.1.3	Software Technology Park, Jashore, Bangladesh	1 Lot
4	Firefighting system	4.1.4	Software Technology Park, Jashore, Bangladesh	1 Lot
5	Integrated cabling system	4.1.5	Software Technology Park, Jashore, Bangladesh	1 Lot
6	Uptime design certificate	4.1.6	Software Technology Park, Jashore, Bangladesh	1 Lot
7	Equipment’s requirement for DR Center site temporary service migration	4.1.7	Software Technology Park, Jashore, Bangladesh	1 Lot

Component No.	Component	Relevant Technical Specifications No.	Additional Site Information (e.g., building, floor, department, etc.)	Quantity
8	Expansion of Existing Private Cloud Platform Software (DC & DR)	4.1.8	Software Technology Park, Jashore, Bangladesh	1 Lot
9	Hardware Security Machine	4.1.9	Software Technology Park, Jashore, Bangladesh	3 Nos
10	Hybrid- Flash Production Storage Expansion for DC	4.1.10	Software Technology Park, Jashore, Bangladesh	4 Nos
11	All- Flash Production Storage Expansion for DC	4.1.11	Software Technology Park, Jashore, Bangladesh	2 Nos
12	Hybrid- Flash Production Storage Expansion for DR	4.1.12	Software Technology Park, Jashore, Bangladesh	2 Nos
13	All-Flash Production Storage Expansion for DR	4.1.13	Software Technology Park, Jashore, Bangladesh	4 Nos
14	DC Storage TOR Switch	4.1.14	Software Technology Park, Jashore, Bangladesh	2 Nos
15	DC & DR Border Firewall	4.1.15	Software Technology Park, Jashore, Bangladesh	DC 02 + DR 02 Nos

Component No.	Component	Relevant Technical Specifications No.	Additional Site Information (e.g., building, floor, department, etc.)	Quantity
16	DC Management Node Server	4.1.16	Software Technology Park, Jashore, Bangladesh	1 Nos
17	DC Non-GPU Computing Node Server	4.1.17	Software Technology Park, Jashore, Bangladesh	4 Nos
18	DC Object Storage Node Server	4.1.18	Software Technology Park, Jashore, Bangladesh	3 Nos
19	DR Management Node server	4.1.19	Software Technology Park, Jashore, Bangladesh	2 Nos
20	Data Center Core Switch	4.1.20	Software Technology Park, Jashore, Bangladesh	2 Nos
21	Next generation Firewall	4.1.21	Software Technology Park, Jashore, Bangladesh	2 Nos
22	Email Security Gateway Virtual Appliance	4.1.22	Software Technology Park, Jashore, Bangladesh	1 Lot
23	Warranty including Maintenance of IT/Non IT Hardware, Software and Related Services of BCC DR Cloud	-	Software Technology Park, Jashore, Bangladesh	Three (3) for Years from the date of Operational Acceptance

SYSTEM INVENTORY TABLE (RECURRENT COST ITEMS) [INSERT: IDENTIFYING NUMBER] –

NOT APPLICABLE

Line item number: [specify: <i>relevant line item number from the Implementation Schedule (e.g., y.1)</i>]Component No.	Component	Relevant Technical Specifications No.	Y1	Y2	Y3	..Yn
1.	Warranty Defect Repair		all items, all sites, included in the Supply and Install Price	all items, all sites, included in the Supply and Install Price	all items, all sites, included in the Supply and Install Price	
2.	Software/Firmware Licenses and Updates:		all items, all sites, included in the Supply and Install Price	all items, all sites, included in the Supply and Install Price	all items, all sites, included in the Supply and Install Price	
3.	Technical Services					
3.1	Sr. Systems Analyst		80 days	40 days	20 days	
3.2	Sr. Programmer		20 days	40 days	60 days	

Line item number: [specify: relevant line item number from the Implementation Schedule (e.g., y.1)]Component No.	Component	Relevant Technical Specifications No.	Y1	Y2	Y3	..Yn
3.3	Sr. Network Specialist, etc.		--	20 days	20 days	
4.	Telecommunications Services					

Note: -- indicates not applicable. “ indicates repetition of table entry above.

Background and Informational Materials

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Background and Informational Materials

A. BACKGROUND

0.1 The Purchaser

0.1.1 Bangladesh Computer Council (BCC) is a statutory body under the Ministry of Posts, Telecommunications and Information Technology, Government of Bangladesh (GOB). It was established by Act No IX of 1990 passed by the Parliament. The main activities are (not limited to) encouraging and providing support for ICT related activities, formulating national ICT strategy and policy, creating standards and specifications of ICT tools for government organizations according to their necessity, working for human resource development in ICT sector. It has also established the National Data Center for hosting all the government websites, e-mail services and web applications. It is the only TIER – 3 certified Government Data Center in Bangladesh. In the near future, it will act as the only Gateway to access internet services for all of the government organizations. BCC is continuing ICT infrastructure development of government through several development projects/programs to facilitate access to government services from root level. BCC is steadily growing and relies heavily on the IT Infrastructure to enable growth and operationalize efficiencies.

0.2 The Purchaser's Business Objectives for the Information System

0.2.1 Bangladesh Computer Council (BCC) is providing numerous IT/ITES services to different government organization of Bangladesh. One of the key services provided by BCC is Data Center facility service from its National Data Center (NDC). Initially NDC has started providing services like Colocation Service, Web and Application Hosting Service, Virtual Private Server (VPS) service, Email Service, Database Service, DNS Service from its Tier-III standard data center facility from 2010. With the advent of data center technology, NDC has implemented government cloud facility in 2019 under the World Bank assisted Leveraging ICT for Growth, Governance and Economy (LICT) project of BCC and subsequently enhanced to meet the growing demand. It has been observed that after introducing government cloud facility in BCC, government organization are migrating to the cloud services to host their applications to ensure high scalability and reliability along with economic benefits.

The government cloud of BCC is entirely a private cloud facility only for the use of government organizations. The current usage of the cloud facility developed in NDC DR reached to threshold in terms of both computing and storage resources. To cater more government organization in the cloud infrastructure it is required to enhance the DR cloud infrastructure capacity for infrastructure as a service (IaaS) requirement.

The usage of current Disaster Recovery (DR) platform system has reached more than threshold and unable to provide any new services as per requirements whereas new services requirements are growing very rapidly. So, to ensure the required service facility, it is an urgent necessity to expand the Disaster Recovery (DR) as soon as possible.

B. INFORMATIONAL MATERIALS

0.3 The Legal, Regulatory, and Normative Context for the Information System

0.3.1 Cyber Security Act 2023

0.3.2 ICT (Revised) Act 2013

0.3.3 Digital Security Rules 2020

0.3.2 Policies, Guidelines, and Standards

- ❖ Government of Bangladesh Information Security Manual 2016
- ❖ ICT Policy 2009 amended in 2015
- ❖ Information Security Policy Guideline 2014
- ❖ National Cyber Security Strategy 2021-2025
- ❖ Cyber Security Strategy 2014
- ❖ Personal Data Protection Act, 2025 (soon to be enacted)
- ❖ ISO/IEC 27001:2022
- ❖ ISO/IEC 27017:2015
- ❖ Cloud Control Matrix (CCM) v4 of CSA

0.4 Existing Information Systems / Information Technologies Relevant to the Information System

0.4.1 Not Applicable.

0.4.2 Not Applicable.

0.4 Available Training Facilities to Support the Implementation of the Information System

0.5.1 Not Applicable.

0.5 Site Drawings and Site Survey Information Relevant to the Information System

0.6.1 Not Applicable.

**PART 3 – CONDITIONS OF
CONTRACT AND CONTRACT
FORMS**

SECTION VIII - GENERAL CONDITIONS OF CONTRACT

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General Conditions of Contract

A. CONTRACT AND INTERPRETATION

1. Definitions

1.1 In this Contract, the following terms shall be interpreted as indicated below.

(a) contract elements

(i) **“Contract”** means the Contract Agreement entered into between the Purchaser and the Supplier, together with the Contract Documents referred to therein. The Contract Agreement and the Contract Documents shall constitute the Contract, and the term “the Contract” shall in all such documents be construed accordingly.

(ii) **“Contract Documents”** means the documents specified in Article 1.1 (Contract Documents) of the Contract Agreement (including any amendments to these Documents).

(iii) **“Contract Agreement”** means the agreement entered into between the Purchaser and the Supplier using the form of Contract Agreement contained in the Sample Contractual Forms Section of the request for proposals documents and any modifications to this form agreed to by the Purchaser and the Supplier. The date of the Contract Agreement shall be recorded in the signed form.

(iv) **“GCC”** means the General Conditions of Contract.

(v) **“SCC”** means the Special Conditions of Contract.

(vi) **“Technical Requirements”** means the Technical Requirements in Section VII of the request for proposals documents.

(vii) **“Implementation Schedule”** means the Implementation Schedule in Section VII of the request for proposals documents.

(viii) **“Contract Price”** means the price or prices defined in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement.

- (ix) **“Procurement Regulations”** refers to the edition **specified in the SCC** of the World Bank **“Procurement_Regulations for IPF Borrowers”**.
- (x) **“request for proposals document”** refers to the document issued by the Purchaser on the subject procurement process.
- (xi) **“Sexual Exploitation and Abuse” “(SEA)”** means the following:

Sexual Exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another.

Sexual Abuse is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions.

- (xii) **“Sexual Harassment” “(SH)”** is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Supplier’s Personnel with other Supplier’s or Purchaser’s personnel.

(b) entities

- (i) **“Purchaser”** means the entity purchasing the Information System, as **specified in the SCC**.
- (ii) **“Purchaser’s Personnel”** means all staff, labor and other employees of the Project Manager and of the Purchaser engaged in fulfilling the Purchaser’s obligations under the Contract; and any other personnel identified as Purchaser’s Personnel, by a notice from the Purchaser to the Supplier;
- (iii) **“Project Manager”** means the person **named as such in the SCC** or otherwise appointed by the Purchaser in the manner provided in GCC Clause 18.1 (Project Manager) to perform the duties delegated by the Purchaser.
- (iv) **“Supplier”** means the firm or Joint Venture whose proposal to **perform the Contract** has

been accepted by the Purchaser and is named as such in the Contract Agreement.

- (v) **“Supplier’s Representative”** means any person **nominated** by the Supplier and named as such in the Contract Agreement or otherwise approved by the Purchaser in the manner provided in GCC Clause 18.2 (Supplier’s Representative) to perform the duties delegated by the Supplier.
 - (vi) **“Supplier’s Personnel”** means all personnel whom the Supplier utilizes in the execution of the Contract, including the staff, labor and other employees of the Supplier and each Subcontractor; and any other personnel assisting the Supplier in the execution of the Contract;
 - (vii) **“Subcontractor”** means any firm to whom any of the obligations of the Supplier, including preparation of any design or supply of any Information Technologies or other Goods or Services, is subcontracted directly or indirectly by the Supplier.
 - (viii) **“Adjudicator”** means the person named in Appendix 2 of the Contract Agreement, **appointed** by agreement between the Purchaser and the Supplier to make a decision on or to settle any dispute between the Purchaser and the Supplier referred to him or her by the parties, pursuant to GCC Clause 43.1 (Adjudication).
 - (ix) **“The World Bank”** (also called “The Bank”) means the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (c) scope
- (i) **“Information System,”** also called “the System,” means all the Information Technologies, Materials, and other Goods to be supplied, installed, integrated, and made operational (exclusive of the Supplier’s Equipment), together with the Services to be carried out by the Supplier under the Contract.
 - (ii) **“Subsystem”** means any subset of the System identified as such in the Contract that may be supplied, installed, tested, and commissioned

individually before Commissioning of the entire System.

- (iii) “Information Technologies” means all information processing and communications-related hardware, Software, supplies, and consumable items that the Supplier is required to supply and install under the Contract.
- (iv) “Goods” means all equipment, machinery, furnishings, Materials, and other tangible items that the Supplier is required to supply or supply and install under the Contract, including, without limitation, the Information Technologies and Materials, but excluding the Supplier’s Equipment.
- (v) “Services” means all technical, logistical, management, and any other Services to be provided by the Supplier under the Contract to supply, install, customize, integrate, and make operational the System. Such Services may include, but are not restricted to, activity management and quality assurance, design, development, customization, documentation, transportation, insurance, inspection, expediting, site preparation, installation, integration, training, data migration, Pre-commissioning, Commissioning, maintenance, and technical support.
- (vi) “The Project Plan” means the document to be developed by the Supplier and approved by the Purchaser, pursuant to GCC Clause 19, based on the requirements of the Contract and the Preliminary Project Plan included in the Supplier’s proposal. The “Agreed Project Plan” is the version of the Project Plan approved by the Purchaser, in accordance with GCC Clause 19.2. Should the Project Plan conflict with the Contract in any way, the relevant provisions of the Contract, including any amendments, shall prevail.
- (vii) “Software” means that part of the System which are instructions that cause information processing Subsystems to perform in a specific manner or execute specific operations.

- (viii) “System Software” means Software that provides the operating and management instructions for the underlying hardware and other components, and is identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Systems Software. Such System Software includes, but is not restricted to, micro-code embedded in hardware (i.e., “firmware”), operating systems, communications, system and network management, and utility software.
- (ix) “General-Purpose Software” means Software that supports general-purpose office and software development activities and is identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be General-Purpose Software. Such General-Purpose Software may include, but is not restricted to, word processing, spreadsheet, generic database management, and application development software.
- (x) “Application Software” means Software formulated to perform specific business or technical functions and interface with the business or technical users of the System and is identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Application Software.
- (xi) “Standard Software” means Software identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Standard Software.
- (xii) “Custom Software” means Software identified as such in Appendix 4 of the Contract Agreement and such other Software as the parties may agree in writing to be Custom Software.
- (xiii) “Source Code” means the database structures, dictionaries, definitions, program source files, and any other symbolic representations necessary for the compilation, execution, and subsequent maintenance of the Software

(typically, but not exclusively, required for Custom Software).

- (xiv) “Materials” means all documentation in printed or printable form and all instructional and informational aides in any form (including audio, video, and text) and on any medium, provided to the Purchaser under the Contract.
- (xv) “Standard Materials” means all Materials not specified as Custom Materials.
- (xvi) “Custom Materials” means Materials developed by the Supplier at the Purchaser’s expense under the Contract and identified as such in Appendix 5 of the Contract Agreement and such other Materials as the parties may agree in writing to be Custom Materials. Custom Materials includes Materials created from Standard Materials.
- (xvii) “Intellectual Property Rights” means any and all copyright, moral rights, trademark, patent, and other intellectual and proprietary rights, title and interests worldwide, whether vested, contingent, or future, including without limitation all economic rights and all exclusive rights to reproduce, fix, adapt, modify, translate, create derivative works from, extract or re-utilize data from, manufacture, introduce into circulation, publish, distribute, sell, license, sublicense, transfer, rent, lease, transmit or provide access electronically, broadcast, display, enter into computer memory, or otherwise use any portion or copy, in whole or in part, in any form, directly or indirectly, or to authorize or assign others to do so.
- (xviii) “Supplier’s Equipment” means all equipment, tools, apparatus, or things of every kind required in or for installation, completion and maintenance of the System that are to be provided by the Supplier, but excluding the Information Technologies, or other items forming part of the System.

(d) activities

- (i) “Delivery” means the transfer of the Goods from the Supplier to the Purchaser in accordance with

the current edition Incoterms specified in the Contract.

- (ii) “Installation” means that the System or a Subsystem as specified in the Contract is ready for Commissioning as provided in GCC Clause 26 (Installation).
 - (iii) “Pre-commissioning” means the testing, checking, and any other required activity that may be specified in the Technical Requirements that are to be carried out by the Supplier in preparation for Commissioning of the System as provided in GCC Clause 26 (Installation).
 - (iv) “Commissioning” means operation of the System or any Subsystem by the Supplier following Installation, which operation is to be carried out by the Supplier as provided in GCC Clause 27.1 (Commissioning), for the purpose of carrying out Operational Acceptance Test(s).
 - (v) “Operational Acceptance Tests” means the tests specified in the Technical Requirements and Agreed Project Plan to be carried out to ascertain whether the System, or a specified Subsystem, is able to attain the functional and performance requirements specified in the Technical Requirements and Agreed Project Plan, in accordance with the provisions of GCC Clause 27.2 (Operational Acceptance Test).
 - (vi) “Operational Acceptance” means the acceptance by the Purchaser of the System (or any Subsystem(s) where the Contract provides for acceptance of the System in parts), in accordance with GCC Clause 27.3 (Operational Acceptance).
- (e) place and time
- (i) “Purchaser’s Country” is the **country named in the SCC.**
 - (ii) “Supplier’s Country” is the country in which the Supplier is legally organized, as named in the Contract Agreement.
 - (iii) **Unless otherwise specified in the SCC** “Project Site(s)” means the place(s) in the Site Table in the

Technical Requirements Section for the supply and installation of the System.

- (iv) “Eligible Country” means the countries and territories eligible for participation in procurements financed by the World Bank as defined in the Procurement Regulations.
- (v) “Day” means calendar day of the Gregorian Calendar.
- (vi) “Week” means seven (7) consecutive Days, beginning the day of the week as is customary in the Purchaser’s Country.
- (vii) “Month” means calendar month of the Gregorian Calendar.
- (viii) “Year” means twelve (12) consecutive Months.
- (ix) “Effective Date” means the date of fulfillment of all conditions specified in Article 3 (Effective Date for Determining Time for Achieving Operational Acceptance) of the Contract Agreement, for the purpose of determining the Delivery, Installation, and Operational Acceptance dates for the System or Subsystem(s).
- (x) “Contract Period” is the time period during which this Contract governs the relations and obligations of the Purchaser and Supplier in relation to the System, as **unless otherwise specified in the SCC**, the Contract shall continue in force until the Information System and all the Services have been provided, unless the Contract is terminated earlier in accordance with the terms set out in the Contract.
- (xi) “Defect Liability Period” (also referred to as the “Warranty Period”) means the period of validity of the warranties given by the Supplier commencing at date of the Operational Acceptance Certificate of the System or Subsystem(s), during which the Supplier is responsible for defects with respect to the System (or the relevant Subsystem[s]) as provided in GCC Clause 29 (Defect Liability).
- (xii) “The Coverage Period” means the Days of the Week and the hours of those Days during which

maintenance, operational, and/or technical support services (if any) must be available.

(xiii) The Post-Warranty Services Period” means the number of years **defined in the SCC** (if any), following the expiration of the Warranty Period during which the Supplier may be obligated to provide Software licenses, maintenance, and/or technical support services for the System, either under this Contract or under separate contract(s).

2. Contract Documents

2.1 Subject to Article 1.2 (Order of Precedence) of the Contract Agreement, all documents forming part of the Contract (and all parts of these documents) are intended to be correlative, complementary, and mutually explanatory. The Contract shall be read as a whole.

3. Interpretation

3.1 Governing Language

3.1.1 **Unless otherwise specified in the SCC**, all Contract Documents and related correspondence exchanged between Purchaser and Supplier shall be written in the language of the request for proposals document (English), and the Contract shall be construed and interpreted in accordance with that language.

3.1.2 If any of the Contract Documents or related correspondence are prepared in a language other than the governing language under GCC Clause 3.1.1 above, the translation of such documents into the governing language shall prevail in matters of interpretation. The originating party, with respect to such documents shall bear the costs and risks of such translation.

3.2 Singular and Plural

The singular shall include the plural and the plural the singular, except where the context otherwise requires.

3.3 Headings

The headings and marginal notes in the GCC are included for ease of reference and shall neither constitute a part of the Contract nor affect its interpretation.

3.4 Persons

Words importing persons or parties shall include firms, corporations, and government entities.

3.5 Incoterms

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 the Incoterms

Incoterms means international rules for interpreting trade terms published by the International Chamber of Commerce (latest edition), 38 Cours Albert 1^{er}, 75008 Paris, France.

3.6 Entire Agreement

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

3.7 Amendment

No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party to the Contract.

3.8 Independent Supplier

The Supplier shall be an independent contractor performing the Contract. The Contract does not create any agency, partnership, joint venture, or other joint relationship between the parties to the Contract.

Subject to the provisions of the Contract, the Supplier shall be solely responsible for the manner in which the Contract is performed. All employees, representatives, or Subcontractors engaged by the Supplier in connection with the performance of the Contract shall be under the complete control of the Supplier and shall not be deemed to be employees of the Purchaser, and nothing contained in the Contract or in any subcontract awarded by the Supplier shall be construed to create any contractual relationship between any such employees, representatives, or Subcontractors and the Purchaser.

3.9 Joint Venture

If the Supplier is a Joint Venture of two or more firms, all such firms shall be jointly and severally bound to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one of such firms to act as a leader with authority to bind the Joint Venture. The composition or

constitution of the Joint Venture shall not be altered without the prior consent of the Purchaser.

3.10 Nonwaiver

3.10.1 Subject to GCC Clause 3.10.2 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, nor shall any waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

3.10.2 Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, must be 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.

3.11 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.

3.12 Country of Origin

“Origin” means the place where the Information Technologies, Materials, and other Goods for the System were produced or from which the Services are supplied. Goods are produced when, through manufacturing, processing, Software development, or substantial and major assembly or integration of components, a commercially recognized product results that is substantially different in basic characteristics or in purpose or utility from its components. The Origin of Goods and Services is distinct from the nationality of the Supplier and may be different.

4. Notices

4.1 Unless otherwise stated in the Contract, all notices to be given under the Contract shall be in writing and shall be sent, pursuant to GCC Clause 4.3 below, by personal delivery, airmail post, special courier, facsimile, electronic mail, or other electronic means, with the following provisions.

4.1.1 Any notice sent by facsimile, electronic mail, or EDI shall be confirmed within two (2) days after dispatch

by notice sent by airmail post or special courier, except as otherwise specified in the Contract.

4.1.2 Any notice sent by airmail post or special courier shall be deemed (in the absence of evidence of earlier receipt) to have been delivered ten (10) days after dispatch. In proving the fact of dispatch, it shall be sufficient to show that the envelope containing such notice was properly addressed, stamped, and conveyed to the postal authorities or courier service for transmission by airmail or special courier.

4.1.3 Any notice delivered personally or sent by facsimile, electronic mail, or EDI shall be deemed to have been delivered on the date of its dispatch.

4.1.4 Either party may change its postal, facsimile, electronic mail, or EDI addresses for receipt of such notices by ten (10) days' notice to the other party in writing.

4.2 Notices shall be deemed to include any approvals, consents, instructions, orders, certificates, information and other communication to be given under the Contract.

4.3 Pursuant to GCC Clause 18, notices from/to the Purchaser are normally given by, or addressed to, the Project Manager, while notices from/to the Supplier are normally given by, or addressed to, the Supplier's Representative, or in its absence its deputy if any. If there is no appointed Project Manager or Supplier's Representative (or deputy), or if their related authority is limited by the SCC for GCC Clauses 18.1 or 18.2.2, or for any other reason, the Purchaser or Supplier may give and receive notices at their fallback addresses. The address of the Project Manager and the fallback address of the Purchaser are as **specified in the SCC** or as subsequently established/amended. The address of the Supplier's Representative and the fallback address of the Supplier are as specified in Appendix 1 of the Contract Agreement or as subsequently established/amended.

- 5. Governing Law**
- 5.1 The Contract shall be governed by and interpreted in accordance with the laws of the country **specified in the SCC**.
- 5.2 Throughout the execution of the Contract, the Supplier shall comply with the import of goods 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
 - (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 from that country or any payments to any country, person, or entity in that country.

- 6. Fraud and Corruption**
- 6.1 The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in the Appendix 1 to the GCC.
- 6.2 The Purchaser requires the Suppliers 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 procurement 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.

B. SUBJECT MATTER OF CONTRACT

- 7. Scope of the System**
- 7.1 Unless otherwise expressly **limited in the SCC** or Technical Requirements, the Supplier's obligations cover the provision of all Information Technologies, Materials and other Goods as well as the performance of all Services required for the design, development, and implementation (including procurement, quality assurance, assembly, associated site preparation, Delivery, Pre-commissioning, Installation, Testing, and Commissioning) of the System, in accordance with the plans, procedures, specifications, drawings, codes, and any other documents specified in the Contract and the Agreed Project Plan.
- 7.2 The Supplier shall, unless specifically excluded in the Contract, perform all such work and / or supply all such items

and Materials not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Operational Acceptance of the System as if such work and / or items and Materials were expressly mentioned in the Contract.

7.3 The Supplier's obligations (if any) to provide Goods and Services as implied by the Recurrent Cost tables of the Supplier's proposal, such as consumables, spare parts, and technical services (e.g., maintenance, technical assistance, and operational support), are as **specified in the SCC**, including the relevant terms, characteristics, and timings.

8. Time for Commencement and Operational Acceptance

8.1 The Supplier shall commence work on the System within the period **specified in the SCC**, and without prejudice to GCC Clause 28.2, the Supplier shall thereafter proceed with the System in accordance with the time schedule specified in the Implementation Schedule and any refinements made in the Agreed Project Plan.

8.2 The Supplier shall achieve Operational Acceptance of the System (or Subsystem(s) where a separate time for Operational Acceptance of such Subsystem(s) is specified in the Contract) in accordance with the time schedule specified in the Implementation Schedule and any refinements made in the Agreed Project Plan, or within such extended time to which the Supplier shall be entitled under GCC Clause 40 (Extension of Time for Achieving Operational Acceptance).

9. Supplier's Responsibilities

9.1 The Supplier shall conduct all activities with due care and diligence, in accordance with the Contract and with the skill and care expected of a competent provider of information technologies, information systems, support, maintenance, training, and other related services, or in accordance with best industry practices. In particular, the Supplier shall provide and employ only technical personnel who are skilled and experienced in their respective callings and supervisory staff who are competent to adequately supervise the work at hand. The Supplier shall ensure that its Subcontractors carry out the work on the Information System in accordance with the Contract, including complying with relevant environmental and social requirements and the obligations set out in GCC Clause 9.9.

The Supplier shall at all times take all reasonable precautions to maintain the health and safety of the Supplier's Personnel employed for the execution of the Contract at the Project Site/s in the Purchaser's country where the Contract is executed.

If **required in the SCC**, the Supplier shall submit to the Purchaser for its approval a health and safety manual which has been specifically prepared for the Contract.

The health and safety manual shall be in addition to any other similar document required under applicable health and safety regulations and laws.

The health and safety manual shall set out any applicable health and safety requirement under the Contract,

(a) which may include:

- (i) the procedures to establish and maintain a safe working environment;
- (ii) the procedures for prevention, preparedness and response activities to be implemented in the case of an emergency event (i.e. an unanticipated incident, arising from natural or man-made hazards);
- (iii) the measures to be taken to avoid or minimize the potential for community exposure to water-borne, water-based, water-related, and vector-borne diseases,
- (iv) the measures to be implemented to avoid or minimize the spread of communicable diseases; and

(b) any other requirements stated in the Purchaser's Requirements.

- 9.2 The Supplier confirms that it has entered into this Contract on the basis of a proper examination of the data relating to the System provided by the Purchaser and on the basis of information that the Supplier could have obtained from a visual inspection of the site (if access to the site was available) and of other data readily available to the Supplier relating to the System as at the date twenty-eight (28) days prior to proposal submission. The Supplier acknowledges that any failure to acquaint itself with all such data and information shall not relieve its responsibility for properly estimating the difficulty or cost of successfully performing the Contract.
- 9.3 The Supplier shall be responsible for timely provision of all resources, information, and decision making under its control that are necessary to reach a mutually Agreed Project Plan (pursuant to GCC Clause 19.2) within the time schedule specified in the Implementation Schedule. Failure to provide such resources, information, and decision-making may constitute grounds for termination pursuant to GCC Clause 41.2.
- 9.4 The Supplier shall acquire in its name all permits, approvals, and/or licenses from all local, state, or national government authorities or public service undertakings in the Purchaser's Country that are necessary for the performance of the Contract, including, without limitation, visas for the Supplier's Personnel and entry permits for all imported Supplier's Equipment. The Supplier shall acquire all other permits, approvals, and/or licenses that are not the responsibility of the Purchaser under GCC Clause 10.4 and that are necessary for the performance of the Contract.
- 9.5 The Supplier shall comply with all laws in force in the Purchaser's Country. The laws will include all national, provincial, municipal, or other laws that affect the performance of the Contract and are binding upon the Supplier. The Supplier shall indemnify and hold harmless the Purchaser from and against any and all liabilities, damages, claims, fines, penalties, and expenses of whatever nature arising or resulting from the violation of such laws by the Supplier or its personnel, including the Subcontractors and their personnel, but without prejudice to GCC Clause 10.1. The Supplier shall not indemnify the Purchaser to the extent that such liability, damage, claims, fines, penalties, and

expenses were caused or contributed to by a fault of the Purchaser.

- 9.6 Any Information Technologies or other Goods and Services that will be incorporated in or be required for the System and other supplies shall have their Origin, as defined in GCC Clause 3.12, in a country that shall be an Eligible Country, as defined in GCC Clause 1.1 (e) (iv).
- 9.7 Pursuant to paragraph 2.2 e. of the Appendix 1 to the General Conditions of Contract, the Supplier shall permit and shall cause its agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit, the Bank and/or persons appointed by the Bank to inspect the site and/or the accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have such accounts, records and other documents audited by auditors appointed by the Bank. The Supplier's and its Subcontractors' and subconsultants' attention is drawn to GCC Clause 6.1 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).
- 9.8 The Supplier shall conform to the sustainable procurement contractual provisions, if and as **specified in the SCC**.

9.9 **Code of Conduct**

The Supplier shall have a Code of Conduct for the Supplier's Personnel employed for the execution of the Contract at the Project Site/s.

The Supplier shall take all necessary measures to ensure that each such personnel is made aware of the Code of Conduct including specific behaviors that are prohibited, and understands the consequences of engaging in such prohibited behaviors.

These measures include providing instructions and documentation that can be understood by such personnel, and seeking to obtain that person's signature acknowledging receipt of such instructions and/or documentation, as appropriate.

The Supplier shall also ensure that the Code of Conduct is visibly displayed in the Project Site/s as well as, as applicable, in areas outside the Project Site/s accessible to the local

community and any project affected people. The posted Code of Conduct shall be provided in languages comprehensible to the Supplier's Personnel, Purchaser's Personnel and the local community.

The Supplier's Management Strategy and Implementation Plans, if applicable, shall include appropriate processes for the Supplier to verify compliance with these obligations.

9.10 The Supplier shall, in all dealings with its labor and the labor of its Subcontractors currently employed on or connected with the Contract, pay due regard to all recognized festivals, official holidays, religious or other customs, and all local laws and regulations pertaining to the employment of labor.

9.11 The Supplier, including its Subcontractors, shall comply with all applicable safety obligations. The Supplier shall at all times take all reasonable precautions to maintain the health and safety of the Supplier's Personnel employed for the execution of Contract at the Project Site/s.

9.12 Training of Supplier's Personnel

The Supplier shall provide appropriate training to relevant Supplier's Personnel on any applicable environmental and social aspect of the Contract, including appropriate sensitization on prohibition of SEA, health and safety.

As stated in the Purchaser's Requirements or as instructed by the Project Manager, the Supplier shall also allow appropriate opportunities for the relevant personnel to be trained on any applicable environmental and social aspects of the Contract by the Purchaser's Personnel and/or other personnel assigned by the Purchaser.

The Supplier shall provide training on SEA and SH, including its prevention, to any of its personnel who has a role to supervise other Supplier's Personnel.

9.13 Stakeholder engagements

The Supplier shall provide relevant contract-related information, as the Purchaser and/or Project Manager may reasonably request to conduct contract stakeholder engagement. "Stakeholder" refers to individuals or groups who:

- (a) are affected or likely to be affected by the Contract;
and
- (b) may have an interest in the Contract.

The Supplier may also directly participate in contract stakeholder engagements, as the Purchaser and/or Project Manager may reasonably request.

9.14 Forced Labor

The Supplier, including its Subcontractors, shall not employ or engage forced labour. Forced labour consists of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labour, such as indentured labour, bonded labour or similar labour-contracting arrangements.

No persons shall be employed or engaged who have been subject to trafficking. Trafficking in persons is defined as the recruitment, transportation, transfer, harbouring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation.

9.15 Child Labor

The Supplier, including its Subcontractors, shall not employ or engage a child under the age of 14 unless the national law specifies a higher age (the minimum age).

The Supplier, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

The Supplier, including its Subcontractors, shall only employ or engage children between the minimum age and the age of 18 after an appropriate risk assessment has been conducted by the Supplier with the Project Manager's consent. The Supplier shall be subject to regular monitoring by the Project Manager that includes monitoring of health, working conditions and hours of work.

Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work:

- (a) with exposure to physical, psychological or sexual abuse;
- (b) underground, underwater, working at heights or in confined spaces;
- (c) with dangerous machinery, equipment or tools, or involving handling or transport of heavy loads;
- (d) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to temperatures, noise or vibration damaging to health; or
- (e) under difficult conditions such as work for long hours, during the night or in confinement on the premises of the employer.

9.16 Non-Discrimination and Equal Opportunity

The Supplier shall not make decisions relating to the employment or treatment of personnel for the execution of the Contract on the basis of personal characteristics unrelated to inherent job requirements. The Supplier shall base the employment of personnel for the execution of the Contract on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to any aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment, access to training, job assignment, promotion, termination of employment or retirement, and disciplinary practices.

Special measures of protection or assistance to remedy past discrimination or selection for a particular job based on the inherent requirements of the job shall not be deemed discrimination. The Supplier shall provide protection and assistance as necessary to ensure non-discrimination and equal opportunity, including for specific groups such as women, people with disabilities, migrant workers and children (of working age in accordance with GCC Clause 9.15).

9.17 Personnel Grievance Mechanism

The Supplier shall have a grievance mechanism for personnel employed in the execution of the Contract to raise workplace concerns. The grievance mechanism shall be proportionate to the nature, scale, risks and impacts of the Contract. The grievance mechanism may utilize existing grievance mechanisms, provided that they are properly

designed and implemented, address concerns promptly, and are readily accessible to such personnel.

9.18 Security of the Project Site

If stated in the SCC, the Supplier shall be responsible for the security at the Project Site/s including providing and maintaining at its own expense all lighting, fencing, and watching when and where necessary for the proper execution and the protection of the locations, or for the safety of the owners and occupiers of adjacent property and for the safety of the public.

In making security arrangements, the Supplier shall be guided by applicable laws and any other requirements that may be stated in the Purchaser's Requirements.

The Supplier shall (i) conduct appropriate background checks on any personnel retained to provide security; (ii) train the security personnel adequately (or determine that they are properly trained) in the use of force (and where applicable, firearms), and appropriate conduct towards the Supplier's Personnel, Purchaser's Personnel and affected communities; and (iii) require the security personnel to act within the applicable Laws and any requirements set out in the Purchaser's Requirements.

The Supplier shall not permit any use of force by security personnel in providing security except when used for preventive and defensive purposes in proportion to the nature and extent of the threat.

9.19 Recruitment of Persons

The Supplier shall not recruit, or attempt to recruit, either on limited time or permanent basis or through any other contractual agreement, staff and labor from amongst the Purchaser's Personnel.

9.20 **Unless otherwise specified in the SCC** the Supplier shall have no other Supplier responsibilities.

10. Purchaser's Responsibilities

10.1 The Purchaser shall ensure the accuracy of all information and/or data to be supplied by the Purchaser to the Supplier, except when otherwise expressly stated in the Contract.

10.2 The Purchaser shall be responsible for timely provision of all resources, information, and decision making under its control that are necessary to reach an Agreed Project Plan (pursuant to GCC Clause 19.2) within the time schedule specified in the Implementation Schedule. Failure to

provide such resources, information, and decision making may constitute grounds for Termination pursuant to GCC Clause 41.3.1 (b).

- 10.3 The Purchaser shall be responsible for acquiring and providing legal and physical possession of the site and access to it, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract.
- 10.4 If requested by the Supplier, the Purchaser shall use its best endeavors to assist the Supplier in obtaining in a timely and expeditious manner all permits, approvals, and/or licenses necessary for the execution of the Contract from all local, state, or national government authorities or public service undertakings that such authorities or undertakings require the Supplier or Subcontractors or the Supplier's Personnel, as the case may be, to obtain.
- 10.5 In such cases where the responsibilities of specifying and acquiring or upgrading telecommunications and/or electric power services falls to the Supplier, as specified in the Technical Requirements, SCC, Agreed Project Plan, or other parts of the Contract, the Purchaser shall use its best endeavors to assist the Supplier in obtaining such services in a timely and expeditious manner.
- 10.6 The Purchaser shall be responsible for timely provision of all resources, access, and information necessary for the Installation and Operational Acceptance of the System (including, but not limited to, any required telecommunications or electric power services), as identified in the Agreed Project Plan, except where provision of such items is explicitly identified in the Contract as being the responsibility of the Supplier. Delay by the Purchaser may result in an appropriate extension of the Time for Operational Acceptance, at the Supplier's discretion.
- 10.7 Unless otherwise specified in the Contract or agreed upon by the Purchaser and the Supplier, the Purchaser shall provide sufficient, properly qualified operating and technical personnel, as required by the Supplier to properly carry out Delivery, Pre-commissioning, Installation, Commissioning, and Operational Acceptance, at or before the time specified in the Implementation Schedule and the Agreed Project Plan.
- 10.8 The Purchaser will designate appropriate staff for the training courses to be given by the Supplier and shall make

all appropriate logistical arrangements for such training as specified in the Technical Requirements, SCC, the Agreed Project Plan, or other parts of the Contract.

- 10.9 The Purchaser assumes primary responsibility for the Operational Acceptance Test(s) for the System, in accordance with GCC Clause 27.2, and shall be responsible for the continued operation of the System after Operational Acceptance. However, this shall not limit in any way the Supplier's responsibilities after the date of Operational Acceptance otherwise specified in the Contract.
- 10.10 The Purchaser is responsible for performing and safely storing timely and regular backups of its data and Software in accordance with accepted data management principles, except where such responsibility is clearly assigned to the Supplier elsewhere in the Contract.
- 10.11 All costs and expenses involved in the performance of the obligations under this GCC Clause 10 shall be the responsibility of the Purchaser, save those to be incurred by the Supplier with respect to the performance of the Operational Acceptance Test(s), in accordance with GCC Clause 27.2.
- 10.12 **Unless otherwise specified in the SCC** the Purchaser shall have no other Purchaser responsibilities.

C. PAYMENT

- 11. Contract Price**
 - 11.1 The Contract Price shall be as specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement.
 - 11.2 Unless an adjustment clause is **provided for in the SCC**, the Contract Price shall be a firm lump sum not subject to any alteration, except in the event of a Change in the System pursuant to GCC Clause 39 or to other clauses in the Contract;
 - 11.3 The Supplier shall be deemed to have satisfied itself as to the correctness and sufficiency of the Contract Price, which shall, except as otherwise provided for in the Contract, cover all its obligations under the Contract.

12. Terms of Payment

12.1 The Supplier's request for payment shall be made to the Purchaser in writing, accompanied by an invoice describing, as appropriate, the System or Subsystem(s), Delivered, Pre-commissioned, Installed, and Operationally Accepted, and by documents submitted pursuant to GCC Clause 22.5 and upon fulfillment of other obligations stipulated in the Contract.

The Contract Price shall be paid as **specified in the SCC**.

12.2 No payment made by the Purchaser herein shall be deemed to constitute acceptance by the Purchaser of the System or any Subsystem(s).

12.3 Payments shall be made promptly by the Purchaser, but in no case later than forty five (45) days after submission of a valid invoice by the Supplier. In the event that the Purchaser fails to make any payment by its respective due date or within the period set forth in the Contract, the Purchaser shall pay to the Supplier interest on the amount of such delayed payment at the rate(s) **specified in the SCC** for the period of delay until payment has been made in full, whether before or after judgment or arbitration award.

12.4 Payments shall be made in the currency(ies) specified in the Contract Agreement, pursuant to GCC Clause 11. For Goods and Services supplied locally, payments shall be made **as specified in the SCC**.

12.5 **Unless otherwise specified in the SCC**, payment of the foreign currency portion of the Contract Price for Goods supplied from outside the Purchaser's Country shall be made to the Supplier through an irrevocable letter of credit opened by an authorized bank in the Supplier's Country and will be payable on presentation of the appropriate documents. It is agreed that the letter of credit will be subject to Article 10 of the latest revision of *Uniform Customs and Practice for Documentary Credits*, published by the International Chamber of Commerce, Paris.

12.6 **As specified in the SCC**, if the Supplier fails to perform its cyber security obligations under the Contract, an assessed amount, as determined by the Project Manager, may be withheld until the obligation has been performed.

13. Securities

13.1 Issuance of Securities

The Supplier shall provide the securities specified below in favor of the Purchaser at the times and in the amount, manner, and form specified below.

13.2 Advance Payment Security

13.2.1 The Supplier shall provide within twenty-eight (28) days of the notification of Contract award an Advance Payment Security in the amount and currency of the Advance Payment specified in SCC for GCC Clause 12.1 above and valid until the System is Operationally Accepted.

13.2.2 The security shall be in the form provided in the request for proposal document or in another form acceptable to the Purchaser. The amount of the security shall be reduced in proportion to the value of the System executed by and paid to the Supplier from time to time and shall automatically become null and void when the full amount of the advance payment has been recovered by the Purchaser. **Unless otherwise specified in the SCC**, the reduction in value and expiration of the Advance Payment Security are calculated as follows:

$P*a/(100-a)$, where “P” is the sum of all payments effected so far to the Supplier (excluding the Advance Payment), and “a” is the Advance Payment expressed as a percentage of the Contract Price pursuant to the SCC for GCC Clause 12.1.

The security shall be returned to the Supplier immediately after its expiration.

13.3 Performance Security

13.3.1 The Supplier shall, within twenty-eight (28) days of the notification of Contract award, provide a security for the due performance of the Contract in the amount and currency **specified in the SCC**.

13.3.2 The security shall be a bank guarantee in the form provided in the Sample Contractual Forms Section of the request for proposal document, or it shall be in another form acceptable to the Purchaser.

13.3.3 The security shall automatically become null and void once all the obligations of the Supplier under the Contract have been fulfilled, including, but not limited to, any obligations during the Warranty Period and any

extensions to the period. The security shall be returned to the Supplier no later than twenty-eight (28) days after its expiration.

13.3.4 Upon Operational Acceptance of the entire System, the security shall be reduced to the amount **specified in the SCC**, on the date of the Operational Acceptance, so that the reduced security would only cover the remaining warranty obligations of the Supplier.

14. Taxes and Duties 14.1

For Goods or Services supplied from 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. Any duties, such as importation or customs duties, and taxes and other levies, payable in the Purchaser's country for the supply of Goods and Services from outside the Purchaser's country are the responsibility of the Purchaser unless these duties or taxes have been made part of the Contract Price in Article 2 of the Contract Agreement and the Price Schedule it refers to, in which case the duties and taxes will be the Supplier's responsibility.

14.2 For Goods or Services supplied locally, the Supplier shall be entirely responsible for all taxes, duties, license fees, etc., incurred until delivery of the contracted Goods or Services to the Purchaser. The only exception are taxes or duties, such as value-added or sales tax or stamp duty as apply to, or are clearly identifiable, on the invoices and provided they apply in the Purchaser's country, and only if these taxes, levies and/or duties are also excluded from the Contract Price in Article 2 of the Contract Agreement and the Price Schedule it refers to.

14.3 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.

14.4 For the purpose of the Contract, it is agreed that the Contract Price specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement is based on the taxes, duties, levies, and charges prevailing at the date twenty-eight (28) days prior to the date of proposal submission in the Purchaser's Country (also called "Tax" in this GCC Clause 14.4). If any Tax rates are increased or decreased, a new Tax is introduced, an existing Tax is

abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of the Contract, which was or will be assessed on the Supplier, its Subcontractors, or their employees in connection with performance of the Contract, an equitable adjustment to the Contract Price shall be made to fully take into account any such change by addition to or reduction from the Contract Price, as the case may be.

D. INTELLECTUAL PROPERTY

15. Copyright

- 15.1 The Intellectual Property Rights in all Standard Software and Standard Materials shall remain vested in the owner of such rights.
- 15.2 The Purchaser agrees to restrict use, copying, or duplication of the Standard Software and Standard Materials in accordance with GCC Clause 16, except that additional copies of Standard Materials may be made by the Purchaser for use within the scope of the project of which the System is a part, in the event that the Supplier does not deliver copies within thirty (30) days from receipt of a request for such Standard Materials.
- 15.3 The Purchaser's contractual rights to use the Standard Software or elements of the Standard Software may not be assigned, licensed, or otherwise transferred voluntarily except in accordance with the relevant license agreement or **unless otherwise specified in the SCC** to a legally constituted successor organization (e.g., a reorganization of a public entity formally authorized by the government or through a merger or acquisition of a private entity).
- 15.4 **Unless otherwise specified in the SCC**, the Intellectual Property Rights in all Custom Software and Custom Materials specified in Appendices 4 and 5 of the Contract Agreement (if any) shall, at the date of this Contract or on creation of the rights (if later than the date of this Contract), vest in the Purchaser. The Supplier shall do and execute or arrange for the doing and executing of each necessary act, document, and thing (as legally sufficient) that the Purchaser may consider necessary or desirable to perfect the right, title, and interest of the Purchaser in and to those rights. In respect of such Custom Software and Custom Materials, the Supplier shall ensure that the holder of a moral right in such an item does not assert it, and the Supplier shall, if requested to do so by the Purchaser and

where permitted by applicable law, ensure that the holder of such a moral right waives it.

15.5 **Unless otherwise specified in the SCC**, escrow arrangements shall NOT be required.

16. Software License Agreements

16.1 Except to the extent that the Intellectual Property Rights in the Software vest in the Purchaser, the Supplier hereby grants to the Purchaser license to access and use the Software, including all inventions, designs, and marks embodied in the Software.

Such license to access and use the Software shall:

- (a) be:
 - (i) nonexclusive;
 - (ii) fully paid up and irrevocable (except that it shall terminate if the Contract terminates under GCC Clauses 41.1 or 41.3);
 - (iii) **unless otherwise specified in the SCC** valid throughout the territory of the Purchaser's Country;
 - (iv) **unless otherwise specified in the SCC** subject to NO additional restrictions.
- (b) permit the Software to be:
 - (i) used or copied for use on or with the computer(s) for which it was acquired (if specified in the Technical Requirements and/or the Supplier's proposal), plus a backup computer(s) of the same or similar capacity, if the primary is(are) inoperative, and during a reasonable transitional period when use is being transferred between primary and backup;
 - (ii) used or copied for use on or transferred to a replacement computer(s), (and use on the original and replacement computer(s) may be simultaneous during a reasonable transitional period) provided that, if the Technical Requirements and/or the Supplier's proposal specifies a class of computer to which the license is restricted, the replacement computer(s) is(are) within that class;
 - (iii) if the nature of the System is such as to permit such access, accessed from other computers connected to the primary and/or backup computer(s) by

means of a local or wide-area network or similar arrangement, and used on or copied for use on those other computers to the extent necessary to that access;

- (iv) reproduced for safekeeping or backup purposes;
- (v) customized, adapted, or combined with other computer software for use by the Purchaser, provided that derivative software incorporating any substantial part of the delivered, restricted Software shall be subject to same restrictions as are set forth in this Contract;
- (vi) **unless otherwise specified in the SCC**, disclosed to, and reproduced for use by, support service suppliers and their subcontractors, to the extent reasonably necessary to the performance of their support service contracts, subject to the same restrictions as are set forth in this Contract; and
- (vii) **unless otherwise specified in the SCC** disclosed to, and reproduced for use by, NO other parties.

16.2 The Supplier has the right to audit the Standard Software to verify compliance with the above license agreements. **Unless otherwise specified in the SCC**, the Purchaser will make available to the Supplier, within seven (7) days of a written request, accurate and up-to-date records of the number and location of copies, the number of authorized users, or any other relevant data required to demonstrate use of the Standard Software as per the license agreement. If and only if, expressly agreed in writing between the Purchaser and the Supplier, Purchaser will allow, under a pre-specified agreed procedure, the execution of embedded software functions under Supplier's control, and unencumbered transmission of resulting information on software usage.

17. Confidential Information

- 17.1 **Unless otherwise specified in the SCC**, the "Receiving Party" (either the Purchaser or the Supplier) shall keep confidential and shall not, without the written consent of the other party to this Contract ("the Disclosing Party"), divulge to any third party any documents, data, or other information of a confidential nature ("Confidential Information") connected with this Contract, and furnished directly or indirectly by the Disclosing Party prior to or during performance, or following termination, of this Contract.
- 17.2 For the purposes of GCC Clause 17.1, the Supplier is also deemed to be the Receiving Party of Confidential Information generated by the Supplier itself in the course of the performance of its obligations under the Contract and relating to the businesses, finances, suppliers, employees, or other contacts of the Purchaser or the Purchaser's use of the System.
- 17.3 Notwithstanding GCC Clauses 17.1 and 17.2:
- (a) the Supplier may furnish to its Subcontractor Confidential Information of the Purchaser to the extent reasonably required for the Subcontractor to perform its work under the Contract; and
 - (b) the Purchaser may furnish Confidential Information of the Supplier: (i) to its support service suppliers and their subcontractors to the extent reasonably required for them to perform their work under their support service contracts; and (ii) to its affiliates and subsidiaries,
- in which event the Receiving Party shall ensure that the person to whom it furnishes Confidential Information of the Disclosing Party is aware of and abides by the Receiving Party's obligations under this GCC Clause 17 as if that person were party to the Contract in place of the Receiving Party.
- 17.4 The Purchaser shall not, without the Supplier's prior written consent, use any Confidential Information received from the Supplier for any purpose other than the operation, maintenance and further development of the System. Similarly, the Supplier shall not, without the Purchaser's prior written consent, use any Confidential Information received from the Purchaser for any purpose other than those that are required for the performance of the Contract.

- 17.5 The obligation of a party under GCC Clauses 17.1 through 17.4 above, however, shall not apply to that information which:
- (a) now or hereafter enters the public domain through no fault of the Receiving Party;
 - (b) can be proven to have been possessed by the Receiving Party at the time of disclosure and that was not previously obtained, directly or indirectly, from the Disclosing Party;
 - (c) otherwise lawfully becomes available to the Receiving Party from a third party that has no obligation of confidentiality;
 - (d) is being provided to the Bank.
- 17.6 The above provisions of this GCC Clause 17 shall not in any way modify any undertaking of confidentiality given by either of the parties to this Contract prior to the date of the Contract in respect of the System or any part thereof.
- 17.7 **Unless otherwise specified in the SCC**, the provisions of this GCC Clause 17 shall survive the termination, for whatever reason, of the Contract for three (3) years.

E. SUPPLY, INSTALLATION, TESTING, COMMISSIONING, AND ACCEPTANCE OF THE SYSTEM

18. Representatives 18.1 Project Manager

If the Project Manager is not named in the Contract, then within fourteen (14) days of the Effective Date, the Purchaser shall appoint and notify the Supplier in writing of the name of the Project Manager. The Purchaser may from time to time appoint some other person as the Project Manager in place of the person previously so appointed and shall give a notice of the name of such other person to the Supplier without delay. No such appointment shall be made at such a time or in such a manner as to impede the progress of work on the System. Such appointment shall take effect only upon receipt of such notice by the Supplier. **Unless otherwise specified in the SCC** (if any), the Project Manager shall have the authority to represent the Purchaser on all day-to-day matters relating to the System or arising from the Contract, and shall normally be the person giving or receiving notices on behalf of the Purchaser pursuant to GCC Clause 4.

18.2 Supplier's Representative

18.2.1 If the Supplier's Representative is not named in the Contract, then within fourteen (14) days of the Effective Date, the Supplier shall appoint the Supplier's Representative and shall request the Purchaser in writing to approve the person so appointed. The request must be accompanied by a detailed curriculum vitae for the nominee, as well as a description of any other System or non-System responsibilities the nominee would retain while performing the duties of the Supplier's Representative. If the Purchaser does not object to the appointment within fourteen (14) days, the Supplier's Representative shall be deemed to have been approved. If the Purchaser objects to the appointment within fourteen (14) days giving the reason therefor, then the Supplier shall appoint a replacement within fourteen (14) days of such objection in accordance with this GCC Clause 18.2.1.

18.2.2 **Unless otherwise specified in the SCC** (if any), the Supplier's Representative shall have the authority to represent the Supplier on all day-to-day matters relating to the System or arising from the Contract, and shall normally be the person giving or receiving notices on behalf of the Supplier pursuant to GCC Clause 4.

18.2.3 The Supplier shall not revoke the appointment of the Supplier's Representative without the Purchaser's prior written consent, which shall not be unreasonably withheld. If the Purchaser consents to such an action, the Supplier shall appoint another person of equal or superior qualifications as the Supplier's Representative, pursuant to the procedure set out in GCC Clause 18.2.1.

18.2.4 The Supplier's Representative and staff are obliged to work closely with the Purchaser's Project Manager and staff, act within their own authority, and abide by directives issued by the Purchaser that are consistent with the terms of the Contract. The Supplier's Representative is responsible for managing the activities of the Supplier's Personnel.

18.2.5 The Supplier's Representative may, subject to the approval of the Purchaser (which shall not be unreasonably withheld), at any time delegate to any person any of the powers, functions, and authorities vested in him or her. Any such delegation may be

revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Supplier's Representative and shall specify the powers, functions, and authorities thereby delegated or revoked. No such delegation or revocation shall take effect unless and until the notice of it has been delivered.

18.2.6 Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with GCC Clause 18.2.5 shall be deemed to be an act or exercise by the Supplier's Representative.

18.3 Removal of Supplier's Personnel

18.3.1 The Project Manager may require the Supplier to remove (or cause to be removed) the Supplier's Representative or any other person employed by the Supplier in the execution of the Contract, who:

- (a) persists in any misconduct or lack of care;
- (b) carries out duties incompetently or negligently;
- (c) fails to comply with any provision of the Contract;
- (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment;
- (e) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Contract;
- (f) has been recruited from the Purchaser's Personnel;
- (g) engages in any other behaviour which breaches the Code of Conduct, as applicable;

If appropriate, the Supplier shall then promptly appoint (or cause to be appointed) a suitable replacement with equivalent skills and experience.

Notwithstanding any requirement from the Project Manager to remove or cause to remove any person, the Supplier shall take immediate action as appropriate in response to any violation of (a) through (g) above. Such immediate action shall include removing (or causing to be removed) from work on the System, any person Employed by the Supplier in the execution of the Contract who engages in (a), (b), (c), (d), (e) or (g) above or has been recruited as stated in (f) above.

18.3.2 If any representative or person employed by the Supplier is removed in accordance with GCC Clause 18.3.1, the Supplier shall, where required, promptly appoint a suitable replacement with equivalent skills and experience.

19. Project Plan

19.1 In close cooperation with the Purchaser and based on the Preliminary Project Plan included in the Supplier's proposal, the Supplier shall develop a Project Plan encompassing the activities specified in the Contract. The contents of the Project Plan shall be as **specified in the SCC** and/or Technical Requirements.

19.2 **Unless otherwise specified in the SCC**, within *thirty (30)* days from the Effective Date of the Contract, the Supplier shall present a Project Plan to the Purchaser. Such submission to the Purchaser shall include any applicable environmental and social management plan to manage environmental and social risks and impacts. The Purchaser shall, within *fourteen (14)* days of receipt of the Project Plan, notify the Supplier of any respects in which it considers that the Project Plan does not adequately ensure that the proposed program of work, proposed methods, and/or proposed Information Technologies will satisfy the Technical Requirements and/or the SCC (in this Clause 19.2 called "non-conformities" below). The Supplier shall, within *five (5)* days of receipt of such notification, correct the Project Plan and resubmit to the Purchaser. The Purchaser shall, within *five (5)* days of resubmission of the Project Plan, notify the Supplier of any remaining non-conformities. This procedure shall be repeated as necessary until the Project Plan is free from non-conformities. When the Project Plan is free from non-conformities, the Purchaser shall provide confirmation in writing to the Supplier. This approved Project Plan ("the Agreed Project Plan") shall be contractually binding on the Purchaser and the Supplier.

19.3 If required, the impact on the Implementation Schedule of modifications agreed during finalization of the Agreed Project Plan shall be incorporated in the Contract by amendment, in accordance with GCC Clauses 39 and 40.

19.4 The Supplier shall undertake to supply, install, test, and commission the System in accordance with the Agreed Project Plan and the Contract.

19.5 **Unless otherwise specified in the SCC**, the Supplier shall submit to the Purchaser Monthly Progress Reports summarizing:

- (i) results accomplished during the prior period;
- (ii) cumulative deviations to date from schedule of progress milestones as specified in the Agreed Project Plan;
- (iii) corrective actions to be taken to return to planned schedule of progress; proposed revisions to planned schedule;
- (iv) other issues and outstanding problems; proposed actions to be taken;
- (v) resources that the Supplier expects to be provided by the Purchaser and/or actions to be taken by the Purchaser in the next reporting period;
- (vi) status of compliance to environmental and social requirements, as applicable;
- (vii) other issues or potential problems the Supplier foresees that could impact on project progress and/or effectiveness.

19.6 The Supplier shall submit to the Purchaser other (periodic) reports as specified in the SCC.

19.7 **Immediate Reporting requirement**

The Supplier shall inform the Project Manager immediately of any allegation, incident or accident in Project Site/s, which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Purchaser's Personnel or Supplier's Personnel. This includes, but is not limited to, any incident or accident causing fatality or serious injury; significant adverse effects or damage to private property; any cyber security incidents as **specified in the SCC**; or any allegation of SEA and/or SH. In case of SEA and/or SH, while maintaining confidentiality as appropriate, the type of allegation (sexual exploitation, sexual abuse or sexual harassment), gender and age of the person who experienced the alleged incident should be included in the information.

The Supplier, upon becoming aware of the allegation, incident or accident, shall also immediately inform the Purchaser of any such incident or accident on the

Subcontractors' or suppliers' premises relating to the Contract which has or is likely to have a significant adverse effect on the environment, the affected communities, the public, Purchaser's Personnel or Supplier's Personnel. The notification shall provide sufficient detail regarding such incidents or accidents.

The Supplier shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Purchaser.

The Purchaser shall require its Subcontractors to immediately notify it of any incidents or accidents referred to in this Sub- Clause.

20. Subcontracting

- 20.1 Appendix 3 (List of Approved Subcontractors) to the Contract Agreement specifies critical items of supply or services and a list of Subcontractors for each item that are considered acceptable by the Purchaser. If no Subcontractors are listed for an item, the Supplier shall prepare a list of Subcontractors it considers qualified and wishes to be added to the list for such items. The Supplier may from time to time propose additions to or deletions from any such list. The Supplier shall submit any such list or any modification to the list to the Purchaser for its approval in sufficient time so as not to impede the progress of work on the System. Submission by the Supplier, for addition of any Subcontractor not named in the Contract, shall also include the Subcontractor's declaration in accordance with Appendix 2 to the GCC- Sexual exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration. Approval by the Purchaser of a Subcontractor(s) shall not relieve the Supplier from any of its obligations, duties, or responsibilities under the Contract.
- 20.2 The Supplier may, at its discretion, select and employ Subcontractors for such critical items from those Subcontractors listed pursuant to GCC Clause 20.1. If the Supplier wishes to employ a Subcontractor not so listed, or subcontract an item not so listed, it must seek the Purchaser's prior approval under GCC Clause 20.3.
- 20.3 For items for which pre-approved Subcontractor lists have not been specified in Appendix 3 to the Contract Agreement, the Supplier may employ such Subcontractors as it may select, provided: (i) the Supplier notifies the Purchaser in writing at least twenty-eight (28) days prior to

the proposed mobilization date for such Subcontractor, including by providing the Subcontractor's declaration in accordance with Appendix 2 to the GCC- Sexual exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration; and (ii) by the end of this period either the Purchaser has granted its approval in writing or fails to respond. The Supplier shall not engage any Subcontractor to which the Purchaser has objected in writing prior to the end of the notice period. The absence of a written objection by the Purchaser during the above specified period shall constitute formal acceptance of the proposed Subcontractor. Except to the extent that it permits the deemed approval of the Purchaser of Subcontractors not listed in the Contract Agreement, nothing in this Clause, however, shall limit the rights and obligations of either the Purchaser or Supplier as they are specified in GCC Clauses 20.1 and 20.2, or in Appendix 3 of the Contract Agreement.

20.4 The Supplier shall ensure that its Subcontractors comply with the relevant ES requirements and the obligations set out in GCC Clause 9.9.

21. Design and Engineering

21.1 Technical Specifications and Drawings

21.1.1 The Supplier shall execute the basic and detailed design and the implementation activities necessary for successful installation of the System in compliance with the provisions of the Contract or, where not so specified, in accordance with good industry practice.

The Supplier shall be responsible for any discrepancies, errors or omissions in the specifications, drawings, and other technical documents that it has prepared, whether such specifications, drawings, and other documents have been approved by the Project Manager or not, provided that such discrepancies, errors, or omissions are not because of inaccurate information furnished in writing to the Supplier by or on behalf of the Purchaser.

21.1.2 The Supplier shall be entitled to disclaim responsibility for any design, data, drawing, specification, or other document, or any modification of such design, drawings, specification, or other documents provided or designated by or on behalf of the Purchaser, by giving a notice of such disclaimer to the Project Manager.

21.2 Codes and Standards

Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date twenty-eight (28) days prior to date of proposal submission shall apply. During Contract execution, any changes in such codes and standards shall be applied after approval by the Purchaser and shall be treated in accordance with GCC Clause 39.3.

21.3 Approval/Review of Controlling Technical Documents by the Project Manager

21.3.1 **Unless otherwise specified in the SCC**, there will NO Controlling Technical Documents required. However, **if the SCC specifies** Controlling Technical Documents, the Supplier shall prepare and furnish such documents for the Project Manager's approval or review.

Any part of the System covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval of these documents.

GCC Clauses 21.3.2 through 21.3.7 shall apply to those documents requiring the Project Manager's approval, but not to those furnished to the Project Manager for its review only.

21.3.2 Within fourteen (14) days after receipt by the Project Manager of any document requiring the Project Manager's approval in accordance with GCC Clause 21.3.1, the Project Manager shall either return one copy of the document to the Supplier with its approval endorsed on the document or shall notify the Supplier in writing of its disapproval of the document and the reasons for disapproval and the modifications that the Project Manager proposes. If the Project Manager fails to take such action within the fourteen (14) days, then the document shall be deemed to have been approved by the Project Manager.

21.3.3 The Project Manager shall not disapprove any document except on the grounds that the document does not comply with some specified provision of the Contract or that it is contrary to good industry practice.

21.3.4 If the Project Manager disapproves the document, the Supplier shall modify the document and resubmit it for

the Project Manager's approval in accordance with GCC Clause 21.3.2. If the Project Manager approves the document subject to modification(s), the Supplier shall make the required modification(s), and the document shall then be deemed to have been approved, subject to GCC Clause 21.3.5. The procedure set out in GCC Clauses 21.3.2 through 21.3.4 shall be repeated, as appropriate, until the Project Manager approves such documents.

21.3.5 If any dispute occurs between the Purchaser and the Supplier in connection with or arising out of the disapproval by the Project Manager of any document and/or any modification(s) to a document that cannot be settled between the parties within a reasonable period, then, in case the Contract Agreement includes and names an Adjudicator, such dispute may be referred to the Adjudicator for determination in accordance with GCC Clause 43.1 (Adjudication). If such dispute is referred to an Adjudicator, the Project Manager shall give instructions as to whether and if so, how, performance of the Contract is to proceed. The Supplier shall proceed with the Contract in accordance with the Project Manager's instructions, provided that if the Adjudicator upholds the Supplier's view on the dispute and if the Purchaser has not given notice under GCC Clause 43.1.2, then the Supplier shall be reimbursed by the Purchaser for any additional costs incurred by reason of such instructions and shall be relieved of such responsibility or liability in connection with the dispute and the execution of the instructions as the Adjudicator shall decide, and the Time for Achieving Operational Acceptance shall be extended accordingly.

21.3.6 The Project Manager's approval, with or without modification of the document furnished by the Supplier, shall not relieve the Supplier of any responsibility or liability imposed upon it by any provisions of the Contract except to the extent that any subsequent failure results from modifications required by the Project Manager or inaccurate information furnished in writing to the Supplier by or on behalf of the Purchaser.

21.3.7 The Supplier shall not depart from any approved document unless the Supplier has first submitted to the Project Manager an amended document and obtained

the Project Manager's approval of the document, pursuant to the provisions of this GCC Clause 21.3. If the Project Manager requests any change in any already approved document and/or in any document based on such an approved document, the provisions of GCC Clause 39 (Changes to the System) shall apply to such request.

22. Procurement, Delivery, and Transport

22.1 Subject to related Purchaser's responsibilities pursuant to GCC Clauses 10 and 14, the Supplier shall manufacture or procure and transport all the Information Technologies, Materials, and other Goods in an expeditious and orderly manner to the Project Site.

22.2 Delivery of the Information Technologies, Materials, and other Goods shall be made by the Supplier in accordance with the Technical Requirements.

22.3 Early or partial deliveries require the explicit written consent of the Purchaser, which consent shall not be unreasonably withheld.

22.4 Transportation

22.4.1 The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during shipment. The packing, marking, and documentation within and outside the packages shall comply strictly with the Purchaser's instructions to the Supplier.

22.4.2 The Supplier will bear responsibility for and cost of transport to the Project Sites in accordance with the terms and conditions used in the specification of prices in the Price Schedules, including the terms and conditions of the associated Incoterms.

22.4.3 **Unless otherwise specified in the SCC**, the Supplier shall be free to use transportation through carriers registered in any eligible country and to obtain insurance from any eligible source country.

22.5 **Unless otherwise specified in the SCC**, the Supplier will provide the Purchaser with shipping and other documents, as specified below:

22.5.1 For Goods supplied from outside the Purchaser's Country:

Upon shipment, the Supplier shall notify the Purchaser and the insurance company contracted by the Supplier

to provide cargo insurance by cable, facsimile, electronic mail, or EDI with the full details of the shipment. The Supplier shall promptly send the following documents to the Purchaser by mail or courier, as appropriate, with a copy to the cargo insurance company:

- (a) two copies of the Supplier's invoice showing the description of the Goods, quantity, unit price, and total amount;
- (b) usual transportation documents;
- (c) insurance certificate;
- (d) certificate(s) of origin; and
- (e) estimated time and point of arrival in the Purchaser's Country and at the site.

22.5.2 For Goods supplied locally (i.e., from within the Purchaser's country):

Upon shipment, the Supplier shall notify the Purchaser by cable, facsimile, electronic mail, or EDI with the full details of the shipment. The Supplier shall promptly send the following documents to the Purchaser by mail or courier, as appropriate:

- (a) two copies of the Supplier's invoice showing the Goods' description, quantity, unit price, and total amount;
- (b) delivery note, railway receipt, or truck receipt;
- (c) certificate of insurance;
- (d) certificate(s) of origin; and
- (e) estimated time of arrival at the site.

22.6 Customs Clearance

- (a) The Purchaser will bear responsibility for, and cost of, customs clearance into the Purchaser's country in accordance the particular Incoterm(s) used for Goods supplied from outside the Purchaser's country in the Price Schedules referred to by Article 2 of the Contract Agreement.
- (b) At the request of the Purchaser, the Supplier will make available a representative or agent during the process of customs clearance in the Purchaser's country for goods supplied from outside the Purchaser's country. In the event of delays in

customs clearance that are not the fault of the Supplier:

- (i) the Supplier shall be entitled to an extension in the Time for Achieving Operational Acceptance, pursuant to GCC Clause 40;
- (ii) the Contract Price shall be adjusted to compensate the Supplier for any additional storage charges that the Supplier may incur as a result of the delay.

23. Product Upgrades

23.1 At any point during performance of the Contract, should technological advances be introduced by the Supplier for Information Technologies originally offered by the Supplier in its proposal and still to be delivered, the Supplier shall be obligated to offer to the Purchaser the latest versions of the available Information Technologies having equal or better performance or functionality at the same or lesser unit prices, pursuant to GCC Clause 39 (Changes to the System).

23.2 At any point during performance of the Contract, for Information Technologies still to be delivered, the Supplier will also pass on to the Purchaser any cost reductions and additional and/or improved support and facilities that it offers to other clients of the Supplier in the Purchaser's Country, pursuant to GCC Clause 39 (Changes to the System).

23.3 During performance of the Contract, the Supplier shall offer to the Purchaser all new versions, releases, and updates of Standard Software, as well as related documentation and technical support services, within thirty (30) days of their availability from the Supplier to other clients of the Supplier in the Purchaser's Country, and no later than twelve (12) months after they are released in the country of origin. In no case will the prices for these Software exceed those quoted by the Supplier in the Recurrent Costs tables in its proposal.

23.4 **Unless otherwise specified in the SCC**, during the Warranty Period, the Supplier will provide at no additional cost to the Purchaser all new versions, releases, and updates for all Standard Software that are used in the System, within thirty (30) days of their availability from the Supplier to other clients of the Supplier in the Purchaser's country, and

no later than twelve (12) months after they are released in the country of origin of the Software.

- 23.5 The Purchaser shall introduce all new versions, releases or updates of the Software within eighteen (18) months of receipt of a production-ready copy of the new version, release, or update, provided that the new version, release, or update does not adversely affect System operation or performance or require extensive reworking of the System. In cases where the new version, release, or update adversely affects System operation or performance, or requires extensive reworking of the System, the Supplier shall continue to support and maintain the version or release previously in operation for as long as necessary to allow introduction of the new version, release, or update. In no case shall the Supplier stop supporting or maintaining a version or release of the Software less than twenty four (24) months after the Purchaser receives a production-ready copy of a subsequent version, release, or update. The Purchaser shall use all reasonable endeavors to implement any new version, release, or update as soon as practicable, subject to the twenty-four-month-long stop date.

24. Implementation, Installation, and Other Services

- 24.1 The Supplier shall provide all Services specified in the Contract and Agreed Project Plan in accordance with the highest standards of professional competence and integrity.

- 24.2 Prices charged by the Supplier for Services, if not included in the Contract, shall be agreed upon in advance by the parties (including, but not restricted to, any prices submitted by the Supplier in the Recurrent Cost Schedules of its proposal) and shall not exceed the prevailing rates charged by the Supplier to other purchasers in the Purchaser's Country for similar services.

25. Inspections and Tests

- 25.1 The Purchaser or its representative shall have the right to inspect and/or test any components of the System, as specified in the Technical Requirements, to confirm their good working order and/or conformity to the Contract at the point of delivery and/or at the Project Site.

- 25.2 The Purchaser or its representative shall be entitled to attend any such inspections and/or tests of the components, provided that the Purchaser shall bear all costs and expenses incurred in connection with such attendance, including but not limited to all inspection agent fees, travel, and related expenses.

- 25.3 Should the inspected or tested components fail to conform to the Contract, the Purchaser may reject the component(s), and the Supplier shall either replace the rejected component(s), or make alterations as necessary so that it meets the Contract requirements free of cost to the Purchaser.
- 25.4 The Project Manager may require the Supplier to carry out any inspection and/or test not specified in the Contract, provided that the Supplier's reasonable costs and expenses incurred in the carrying out of such inspection and/or test shall be added to the Contract Price. Further, if such inspection and/or test impedes the progress of work on the System and/or the Supplier's performance of its other obligations under the Contract, due allowance will be made in respect of the Time for Achieving Operational Acceptance and the other obligations so affected.
- 25.5 If any dispute shall arise between the parties in connection with or caused by an inspection and/or with regard to any component to be incorporated in the System that cannot be settled amicably between the parties within a reasonable period of time, either party may invoke the process pursuant to GCC Clause 43 (Settlement of Disputes), starting with referral of the matter to the Adjudicator in case an Adjudicator is included and named in the Contract Agreement.

26. Installation of the System

- 26.1 As soon as the System, or any Subsystem, has, in the opinion of the Supplier, been delivered, Pre-commissioned, and made ready for Commissioning and Operational Acceptance Testing in accordance with the Technical Requirements, the SCC and the Agreed Project Plan, the Supplier shall so notify the Purchaser in writing.
- 26.2 The Project Manager shall, within fourteen (14) days after receipt of the Supplier's notice under GCC Clause 26.1, either issue an Installation Certificate in the form specified in the Sample Contractual Forms Section in the request for proposals document, stating that the System, or major component or Subsystem (if Acceptance by major component or Subsystem is specified pursuant to the SCC for GCC Clause 27.2.1), has achieved Installation by the date of the Supplier's notice under GCC Clause 26.1, or notify the Supplier in writing of any defects and/or deficiencies, including, but not limited to, defects or deficiencies in the interoperability or integration of the various components and/or Subsystems making up the

System. The Supplier shall use all reasonable endeavors to promptly remedy any defect and/or deficiencies that the Project Manager has notified the Supplier of. The Supplier shall then promptly carry out retesting of the System or Subsystem and, when in the Supplier's opinion the System or Subsystem is ready for Commissioning and Operational Acceptance Testing, notify the Purchaser in writing, in accordance with GCC Clause 26.1. The procedure set out in this GCC Clause 26.2 shall be repeated, as necessary, until an Installation Certificate is issued.

26.3 If the Project Manager fails to issue the Installation Certificate and fails to inform the Supplier of any defects and/or deficiencies within fourteen (14) days after receipt of the Supplier's notice under GCC Clause 26.1, or if the Purchaser puts the System or a Subsystem into production operation, then the System (or Subsystem) shall be deemed to have achieved successful Installation as of the date of the Supplier's notice or repeated notice, or when the Purchaser put the System into production operation, as the case may be.

27. Commissioning and Operational Acceptance

27.1 Commissioning

27.1.1 Commissioning of the System (or Subsystem if specified pursuant to the SCC for GCC Clause 27.2.1) shall be commenced by the Supplier:

- (a) immediately after the Installation Certificate is issued by the Project Manager, pursuant to GCC Clause 26.2; or
- (b) as otherwise specified in the Technical Requirement or the Agreed Project Plan; or
- (c) immediately after Installation is deemed to have occurred, under GCC Clause 26.3.

27.1.2 The Purchaser shall supply the operating and technical personnel and all materials and information reasonably required to enable the Supplier to carry out its obligations with respect to Commissioning.

Production use of the System or Subsystem(s) shall not commence prior to the start of formal Operational Acceptance Testing.

27.2 Operational Acceptance Tests

27.2.1 The Operational Acceptance Tests (and repeats of such tests) shall be the primary responsibility of the

Purchaser (in accordance with GCC Clause 10.9), but shall be conducted with the full cooperation of the Supplier during Commissioning of the System (or major components or Subsystem[s]), to ascertain whether the System (or major component or Subsystem[s]) conforms to the Technical Requirements and meets the standard of performance quoted in the Supplier's proposal, including, but not restricted to, the functional and technical performance requirements. **Unless otherwise specified in the SCC**, the Operational Acceptance Tests during Commissioning will be conducted as specified in the Technical Requirements and/or the Agreed Project Plan.

At the Purchaser's discretion, Operational Acceptance Tests may also be performed on replacement Goods, upgrades and new version releases, and Goods that are added or field-modified after Operational Acceptance of the System.

27.2.2 If for reasons attributable to the Purchaser, the Operational Acceptance Test of the System (or Subsystem[s] or major components, pursuant to the SCC for GCC Clause 27.2.1) cannot be successfully completed within ninety (90) days from the date of Installation or any other period agreed upon in writing by the Purchaser and the Supplier, the Supplier shall be deemed to have fulfilled its obligations with respect to the technical and functional aspects of the Technical Specifications, SCC and/or the Agreed Project Plan, and GCC Clause 28.2 and 28.3 shall not apply.

27.3 Operational Acceptance

27.3.1 Subject to GCC Clause 27.4 (Partial Acceptance) below, Operational Acceptance shall occur in respect of the System, when

- (a) the Operational Acceptance Tests, as specified in the Technical Requirements, and/or SCC and/or the Agreed Project Plan have been successfully completed; or
- (b) the Operational Acceptance Tests have not been successfully completed or have not been carried out for reasons that are attributable to the Purchaser within the period from the date of Installation or any other agreed-upon period as specified in GCC Clause 27.2.2 above; or

- (c) the Purchaser has put the System into production or use for sixty (60) consecutive days. If the System is put into production or use in this manner, the Supplier shall notify the Purchaser and document such use.

27.3.2 At any time after any of the events set out in GCC Clause 27.3.1 have occurred, the Supplier may give a notice to the Project Manager requesting the issue of an Operational Acceptance Certificate.

27.3.3 After consultation with the Purchaser, and within fourteen (14) days after receipt of the Supplier's notice, the Project Manager shall:

- (a) issue an Operational Acceptance Certificate; or
- (b) notify the Supplier in writing of any defect or deficiencies or other reason for the failure of the Operational Acceptance Tests; or
- (c) issue the Operational Acceptance Certificate, if the situation covered by GCC Clause 27.3.1 (b) arises.

27.3.4 The Supplier shall use all reasonable endeavors to promptly remedy any defect and/or deficiencies and/or other reasons for the failure of the Operational Acceptance Test that the Project Manager has notified the Supplier of. Once such remedies have been made by the Supplier, the Supplier shall notify the Purchaser, and the Purchaser, with the full cooperation of the Supplier, shall use all reasonable endeavors to promptly carry out retesting of the System or Subsystem. Upon the successful conclusion of the Operational Acceptance Tests, the Supplier shall notify the Purchaser of its request for Operational Acceptance Certification, in accordance with GCC Clause 27.3.3. The Purchaser shall then issue to the Supplier the Operational Acceptance Certification in accordance with GCC Clause 27.3.3 (a), or shall notify the Supplier of further defects, deficiencies, or other reasons for the failure of the Operational Acceptance Test. The procedure set out in this GCC Clause 27.3.4 shall be repeated, as necessary, until an Operational Acceptance Certificate is issued.

27.3.5 If the System or Subsystem fails to pass the Operational Acceptance Test(s) in accordance with GCC Clause 27.2, then either:

(a) the Purchaser may consider terminating the Contract, pursuant to GCC Clause 41.2.2;

or

(b) if the failure to achieve Operational Acceptance within the specified time period is a result of the failure of the Purchaser to fulfill its obligations under the Contract, then the Supplier shall be deemed to have fulfilled its obligations with respect to the relevant technical and functional aspects of the Contract, and GCC Clauses 30.3 and 30.4 shall not apply.

27.3.6 If within fourteen (14) days after receipt of the Supplier's notice the Project Manager fails to issue the Operational Acceptance Certificate or fails to inform the Supplier in writing of the justifiable reasons why the Project Manager has not issued the Operational Acceptance Certificate, the System or Subsystem shall be deemed to have been accepted as of the date of the Supplier's said notice.

27.4 Partial Acceptance

27.4.1 If so specified in the SCC for GCC Clause 27.2.1, Installation and Commissioning shall be carried out individually for each identified major component or Subsystem(s) of the System. In this event, the provisions in the Contract relating to Installation and Commissioning, including the Operational Acceptance Test, shall apply to each such major component or Subsystem individually, and Operational Acceptance Certificate(s) shall be issued accordingly for each such major component or Subsystem of the System, subject to the limitations contained in GCC Clause 27.4.2.

27.4.2 The issuance of Operational Acceptance Certificates for individual major components or Subsystems pursuant to GCC Clause 27.4.1 shall not relieve the Supplier of its obligation to obtain an Operational Acceptance Certificate for the System as an integrated whole (if so specified in the SCC for GCC Clauses 12.1 and 27.2.1) once all major components and Subsystems have been supplied, installed, tested, and commissioned.

27.4.3 In the case of minor components for the System that by their nature do not require Commissioning or an Operational Acceptance Test (e.g., minor fittings, furnishings or site works, etc.), the Project Manager

shall issue an Operational Acceptance Certificate within fourteen (14) days after the fittings and/or furnishings have been delivered and/or installed or the site works have been completed. The Supplier shall, however, use all reasonable endeavors to promptly remedy any defects or deficiencies in such minor components detected by the Purchaser or Supplier.

F. GUARANTEES AND LIABILITIES

28. Operational Acceptance Time Guarantee

- 28.1 The Supplier guarantees that it shall complete the supply, Installation, Commissioning, and achieve Operational Acceptance of the System (or Subsystems, pursuant to the SCC for GCC Clause 27.2.1) within the time periods specified in the Implementation Schedule and/or the Agreed Project Plan pursuant to GCC Clause 8.2, or within such extended time to which the Supplier shall be entitled under GCC Clause 40 (Extension of Time for Achieving Operational Acceptance).
- 28.2 **Unless otherwise specified in the SCC**, if the Supplier fails to supply, install, commission, and achieve Operational Acceptance of the System (or Subsystems pursuant to the SCC for GCC Clause 27.2.1) within the time for achieving Operational Acceptance specified in the Implementation Schedule or the Agreed Project Plan, or any extension of the time for achieving Operational Acceptance previously granted under GCC Clause 40 (Extension of Time for Achieving Operational Acceptance), the Supplier shall pay to the Purchaser liquidated damages at the rate of one half of one percent per week as a percentage of the Contract Price (exclusive of Recurrent Costs if any), or the relevant part of the Contract Price if a Subsystem has not achieved Operational Acceptance. The aggregate amount of such liquidated damages shall in no event exceed the amount of ten (10) percent of the Contract Price (exclusive of Recurrent Costs if any). Once the Maximum is reached, the Purchaser may consider termination of the Contract, pursuant to GCC Clause 41.2.2.
- 28.3 **Unless otherwise specified in the SCC**, liquidated damages payable under GCC Clause 28.2 shall apply only to the failure to achieve Operational Acceptance of the System (and Subsystems) as specified in the Implementation Schedule and/or Agreed Project Plan. This Clause 28.3 shall not limit, however, any other rights or

remedies the Purchaser may have under the Contract for other delays.

28.4 If liquidated damages are claimed by the Purchaser for the System (or Subsystem), the Supplier shall have no further liability whatsoever to the Purchaser in respect to the Operational Acceptance time guarantee for the System (or Subsystem). However, the payment of liquidated damages shall not in any way relieve the Supplier from any of its obligations to complete the System or from any other of its obligations and liabilities under the Contract.

29. Defect Liability

29.1 The Supplier warrants that the System, including all Information Technologies, Materials, and other Goods supplied and Services provided, shall be free from defects in the design, engineering, Materials, and workmanship that prevent the System and/or any of its components from fulfilling the Technical Requirements or that limit in a material fashion the performance, reliability, or extensibility of the System and/or Subsystems. **Unless otherwise specified in the SCC**, there will be NO exceptions and/or limitations to this warranty with respect to Software (or categories of Software). Commercial warranty provisions of products supplied under the Contract shall apply to the extent that they do not conflict with the provisions of this Contract.

29.2 The Supplier also warrants that the Information Technologies, Materials, and other Goods supplied under the Contract are new, unused, and incorporate all recent improvements in design that materially affect the System's or Subsystem's ability to fulfill the Technical Requirements.

29.3 **Unless otherwise specified in the SCC**, the Supplier warrants that: (i) all Goods components to be incorporated into the System form part of the Supplier's and/or Subcontractor's current product lines, and (ii) they have been previously released to the market.

29.4 **Unless otherwise specified in the SCC**, the Warranty Period shall commence from the date of Operational Acceptance of the System (or of any major component or Subsystem for which separate Operational Acceptance is provided for in the Contract) and shall extend for thirty-six (36) months.

29.5 If during the Warranty Period any defect as described in GCC Clause 29.1 should be found in the design,

engineering, Materials, and workmanship of the Information Technologies and other Goods supplied or of the Services provided by the Supplier, the Supplier shall promptly, in consultation and agreement with the Purchaser regarding appropriate remedying of the defects, and at its sole cost, repair, replace, or otherwise make good (as the Supplier shall, at its discretion, determine) such defect as well as any damage to the System caused by such defect. Any defective Information Technologies or other Goods that have been replaced by the Supplier shall remain the property of the Supplier.

29.6 The Supplier shall not be responsible for the repair, replacement, or making good of any defect, or of any damage to the System arising out of or resulting from any of the following causes:

- (a) improper operation or maintenance of the System by the Purchaser;
- (b) normal wear and tear;
- (c) use of the System with items not supplied by the Supplier, unless otherwise identified in the Technical Requirements, or approved by the Supplier; or
- (d) modifications made to the System by the Purchaser, or a third party, not approved by the Supplier.

29.7 The Supplier's obligations under this GCC Clause 29 shall not apply to:

- (a) any materials that are normally consumed in operation or have a normal life shorter than the Warranty Period; or
- (b) any designs, specifications, or other data designed, supplied, or specified by or on behalf of the Purchaser or any matters for which the Supplier has disclaimed responsibility, in accordance with GCC Clause 21.1.2.

29.8 The Purchaser shall give the Supplier a notice promptly following the discovery of such defect, stating the nature of any such defect together with all available evidence. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect any such defect. The Purchaser shall afford the Supplier all necessary access to the System and the site to enable the Supplier to perform its obligations under this GCC Clause 29.

29.9 The Supplier may, with the consent of the Purchaser, remove from the site any Information Technologies and other Goods that are defective, if the nature of the defect, and/or any damage to the System caused by the defect, is such that repairs cannot be expeditiously carried out at the site. If the repair, replacement, or making good is of such a character that it may affect the efficiency of the System, the Purchaser may give the Supplier notice requiring that tests of the defective part be made by the Supplier immediately upon completion of such remedial work, whereupon the Supplier shall carry out such tests.

If such part fails the tests, the Supplier shall carry out further repair, replacement, or making good (as the case may be) until that part of the System passes such tests. The tests shall be agreed upon by the Purchaser and the Supplier.

29.10 **Unless otherwise specified in the SCC**, the response times and repair/replacement times for Warranty Defect Repair are specified in the Technical Requirements. Nevertheless, if the Supplier fails to commence the work necessary to remedy such defect or any damage to the System caused by such defect within two weeks the Purchaser may, following notice to the Supplier, proceed to do such work or contract a third party (or parties) to do such work, and the reasonable costs incurred by the Purchaser in connection with such work shall be paid to the Purchaser by the Supplier or may be deducted by the Purchaser from any monies due the Supplier or claimed under the Performance Security.

29.11 If the System or Subsystem cannot be used by reason of such defect and/or making good of such defect, the Warranty Period for the System shall be extended by a period equal to the period during which the System or Subsystem could not be used by the Purchaser because of such defect and/or making good of such defect.

29.12 Items substituted for defective parts of the System during the Warranty Period shall be covered by the Defect Liability Warranty for the remainder of the Warranty Period applicable for the part replaced or three (3) months, whichever is greater. For reasons of information security, the Purchaser may choose to retain physical possession of any replaced defective information storage devices.

29.13 At the request of the Purchaser and without prejudice to any other rights and remedies that the Purchaser may have

against the Supplier under the Contract, the Supplier will offer all possible assistance to the Purchaser to seek warranty services or remedial action from any subcontracted third-party producers or licensor of Goods included in the System, including without limitation assignment or transfer in favor of the Purchaser of the benefit of any warranties given by such producers or licensors to the Supplier.

30. Functional Guarantees

30.1 The Supplier guarantees that, once the Operational Acceptance Certificate(s) has been issued, the System represents a complete, integrated solution to the Purchaser's requirements set forth in the Technical Requirements and it conforms to all other aspects of the Contract. The Supplier acknowledges that GCC Clause 27 regarding Commissioning and Operational Acceptance governs how technical conformance of the System to the Contract requirements will be determined.

30.2 If, for reasons attributable to the Supplier, the System does not conform to the Technical Requirements or does not conform to all other aspects of the Contract, the Supplier shall at its cost and expense make such changes, modifications, and/or additions to the System as may be necessary to conform to the Technical Requirements and meet all functional and performance standards. The Supplier shall notify the Purchaser upon completion of the necessary changes, modifications, and/or additions and shall request the Purchaser to repeat the Operational Acceptance Tests until the System achieves Operational Acceptance.

30.3 If the System (or Subsystem[s]) fails to achieve Operational Acceptance, the Purchaser may consider termination of the Contract, pursuant to GCC Clause 41.2.2, and forfeiture of the Supplier's Performance Security in accordance with GCC Clause 13.3 in compensation for the extra costs and delays likely to result from this failure.

31. Intellectual Property Rights Warranty

31.1 The Supplier hereby represents and warrants that:

- (a) the System as supplied, installed, tested, and accepted;
- (b) use of the System in accordance with the Contract; and

- (c) copying of the Software and Materials provided to the Purchaser in accordance with the Contract

do not and will not infringe any Intellectual Property Rights held by any third party and that it has all necessary rights or at its sole expense shall have secured in writing all transfers of rights and other consents necessary to make the assignments, licenses, and other transfers of Intellectual Property Rights and the warranties set forth in the Contract, and for the Purchaser to own or exercise all Intellectual Property Rights as provided in the Contract. Without limitation, the Supplier shall secure all necessary written agreements, consents, and transfers of rights from its employees and other persons or entities whose services are used for development of the System.

32. Intellectual Property Rights Indemnity

32.1 The Supplier shall indemnify and hold harmless the Purchaser and its employees and officers from and against any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability), that the Purchaser or its employees or officers may suffer as a result of any infringement or alleged infringement of any Intellectual Property Rights by reason of:

- (a) installation of the System by the Supplier or the use of the System, including the Materials, in the country where the site is located;
- (b) copying of the Software and Materials provided the Supplier in accordance with the Agreement; and
- (c) sale of the products produced by the System in any country, except to the extent that such losses, liabilities, and costs arise as a result of the Purchaser's breach of GCC Clause 32.2.

32.2 Such indemnity shall not cover any use of the System, including the Materials, other than for the purpose indicated by or to be reasonably inferred from the Contract, any infringement resulting from the use of the System, or any products of the System produced thereby in association or combination with any other goods or services not supplied by the Supplier, where the infringement arises because of such association or combination and not because of use of the System in its own right.

32.3 Such indemnities shall also not apply if any claim of infringement:

- (a) is asserted by a parent, subsidiary, or affiliate of the Purchaser's organization;
- (b) is a direct result of a design mandated by the Purchaser's Technical Requirements and the possibility of such infringement was duly noted in the Supplier's Proposal; or
- (c) results from the alteration of the System, including the Materials, by the Purchaser or any persons other than the Supplier or a person authorized by the Supplier.

32.4 If any proceedings are brought or any claim is made against the Purchaser arising out of the matters referred to in GCC Clause 32.1, the Purchaser shall promptly give the Supplier notice of such proceedings or claims, 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.

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. Unless the Supplier has so failed to notify the Purchaser within the twenty-eight (28) days, the Purchaser shall make no admission that may be prejudicial to the defense of any such proceedings or claim. 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.

32.5 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from and against any and all losses, liabilities, and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Supplier or its employees, officers, or Subcontractors may suffer as a result of any infringement or alleged infringement of any Intellectual Property Rights arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided to the Supplier in connection with this Contract by the Purchaser or any persons (other than the Supplier) contracted by the

Purchaser, except to the extent that such losses, liabilities, and costs arise as a result of the Supplier's breach of GCC Clause 32.8.

32.6 Such indemnity shall not cover

- (a) any use of the design, data, drawing, specification, or other documents or materials, other than for the purpose indicated by or to be reasonably inferred from the Contract;
- (b) any infringement resulting from the use of the design, data, drawing, specification, or other documents or materials, or any products produced thereby, in association or combination with any other Goods or Services not provided by the Purchaser or any other person contracted by the Purchaser, where the infringement arises because of such association or combination and not because of the use of the design, data, drawing, specification, or other documents or materials in its own right.

32.7 Such indemnities shall also not apply:

- (a) if any claim of infringement is asserted by a parent, subsidiary, or affiliate of the Supplier's organization;
- (b) to the extent that any claim of infringement is caused by the alteration, by the Supplier, or any persons contracted by the Supplier, of the design, data, drawing, specification, or other documents or materials provided to the Supplier by the Purchaser or any persons contracted by the Purchaser.

32.8 If any proceedings are brought or any claim is made against the Supplier arising out of the matters referred to in GCC Clause 32.5, the Supplier shall promptly give the Purchaser notice of such proceedings or claims, and the Purchaser may at its own expense and in the Supplier's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Purchaser fails to notify the Supplier within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Supplier shall be free to conduct the same on its own behalf. Unless the Purchaser has so failed to notify the Supplier within the twenty-eight (28) days, the Supplier shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Supplier shall, at the Purchaser's request, afford all available assistance to the Purchaser in

conducting such proceedings or claim and shall be reimbursed by the Purchaser for all reasonable expenses incurred in so doing.

33. Limitation of Liability

33.1 Provided the following does not exclude or limit any liabilities of either party in ways not permitted by applicable law:

- (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 any obligation of the Supplier to indemnify the Purchaser with respect to intellectual property rights infringement.

G. RISK DISTRIBUTION

34. Transfer of Ownership

34.1 With the exception of Software and Materials, the ownership of the Information Technologies and other Goods shall be transferred to the Purchaser at the time of Delivery or otherwise under terms that may be agreed upon and specified in the Contract Agreement.

34.2 Ownership and the terms of usage of the Software and Materials supplied under the Contract shall be governed by GCC Clause 15 (Copyright) Clause 16 (Software License Agreements), and any elaboration in the Technical Requirements.

34.3 Ownership of the Supplier's Equipment used by the Supplier and its Subcontractors in connection with the Contract shall remain with the Supplier or its Subcontractors.

35. Care of the System

35.1 The Purchaser shall become responsible for the care and custody of the System or Subsystems upon their Delivery. The Purchaser shall make good at its own cost any loss or damage that may occur to the System or Subsystems from

any cause from the date of Delivery until the date of Operational Acceptance of the System or Subsystems, pursuant to GCC Clause 27 (Commissioning and Operational Acceptance), excepting such loss or damage arising from acts or omissions of the Supplier, its employees, or subcontractors.

35.2 If any loss or damage occurs to the System or any part of the System by reason of:

- (a) (insofar as they relate to the country where the Project Site is located) nuclear reaction, nuclear radiation, radioactive contamination, a pressure wave caused by aircraft or other aerial objects, or any other occurrences that an experienced Supplier could not reasonably foresee, or if reasonably foreseeable could not reasonably make provision for or insure against, insofar as such risks are not normally insurable on the insurance market and are mentioned in the general exclusions of the policy of insurance taken out under GCC Clause 37;
- (b) any use not in accordance with the Contract, by the Purchaser or any third party;
- (c) any use of or reliance upon any design, data, or specification provided or designated by or on behalf of the Purchaser, or any such matter for which the Supplier has disclaimed responsibility in accordance with GCC Clause 21.1.2,

the Purchaser shall pay to the Supplier all sums payable in respect of the System or Subsystems that have achieved Operational Acceptance, notwithstanding that the same be lost, destroyed, or damaged. If the Purchaser requests the Supplier in writing to make good any loss or damage to the System thereby occasioned, the Supplier shall make good the same at the cost of the Purchaser in accordance with GCC Clause 39. If the Purchaser does not request the Supplier in writing to make good any loss or damage to the System thereby occasioned, the Purchaser shall either request a change in accordance with GCC Clause 39, excluding the performance of that part of the System thereby lost, destroyed, or damaged, or, where the loss or damage affects a substantial part of the System, the Purchaser shall terminate the Contract pursuant to GCC Clause 41.1.

35.3 The Purchaser shall be liable for any loss of or damage to any Supplier's Equipment which the Purchaser has

authorized to locate within the Purchaser's premises for use in fulfillment of Supplier's obligations under the Contract, except where such loss or damage arises from acts or omissions of the Supplier, its employees, or subcontractors.

**36. Loss of or
Damage to
Property;
Accident or
Injury to
Workers;
Indemnification**

36.1 The Supplier and each and every Subcontractor shall abide by the job safety, insurance, customs, and immigration measures prevalent and laws in force in the Purchaser's Country.

36.2 Subject to GCC Clause 36.3, the Supplier shall indemnify and hold harmless the Purchaser and its employees and officers from and against any and all losses, liabilities and costs (including losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Purchaser or its employees or officers may suffer as a result of the death or injury of any person or loss of or damage to any property (other than the System, whether accepted or not) arising in connection with the supply, installation, testing, and Commissioning of the System and by reason of the negligence of the Supplier or its Subcontractors, or their employees, officers or agents, except any injury, death, or property damage caused by the negligence of the Purchaser, its contractors, employees, officers, or agents.

36.3 If any proceedings are brought or any claim is made against the Purchaser that might subject the Supplier to liability under GCC Clause 36.2, the Purchaser shall promptly give the Supplier notice of such proceedings or claims, 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. 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. Unless the Supplier has so failed to notify the Purchaser within the twenty-eight (28) day period, the Purchaser shall make no admission that may be prejudicial to the defense of any such proceedings or claim. 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.

36.4 The Purchaser shall indemnify and hold harmless the Supplier and its employees, officers, and Subcontractors from any and all losses, liabilities, and costs (including

losses, liabilities, and costs incurred in defending a claim alleging such a liability) that the Supplier or its employees, officers, or Subcontractors may suffer as a result of the death or personal injury of any person or loss of or damage to property of the Purchaser, other than the System not yet achieving Operational Acceptance, that is caused by fire, explosion, or any other perils, in excess of the amount recoverable from insurances procured under GCC Clause 37 (Insurances), provided that such fire, explosion, or other perils were not caused by any act or failure of the Supplier.

36.5 If any proceedings are brought or any claim is made against the Supplier that might subject the Purchaser to liability under GCC Clause 36.4, the Supplier shall promptly give the Purchaser notice of such proceedings or claims, and the Purchaser may at its own expense and in the Supplier's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim. If the Purchaser fails to notify the Supplier within twenty-eight (28) days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Supplier shall be free to conduct the same on its own behalf. Unless the Purchaser has so failed to notify the Supplier within the twenty-eight (28) days, the Supplier shall make no admission that may be prejudicial to the defense of any such proceedings or claim. The Supplier shall, at the Purchaser's request, afford all available assistance to the Purchaser in conducting such proceedings or claim and shall be reimbursed by the Purchaser for all reasonable expenses incurred in so doing.

36.6 The party entitled to the benefit of an indemnity under this GCC Clause 36 shall take all reasonable measures to mitigate any loss or damage that has occurred. If the party fails to take such measures, the other party's liabilities shall be correspondingly reduced.

37. Insurances

37.1 The Supplier shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurance set forth below. The identity of the insurers and the form of the policies shall be subject to the approval of the Purchaser, who should not unreasonably withhold such approval.

(a) Cargo Insurance During Transport

as applicable, 110 percent of the price of the Information Technologies and other Goods in a freely convertible currency, covering the Goods from physical loss or damage during shipment through receipt at the Project Site.

(b) Installation “All Risks” Insurance

as applicable, 110 percent of the price of the Information Technologies and other Goods covering the Goods at the site from all risks of physical loss or damage (excluding only perils commonly excluded under “all risks” insurance policies of this type by reputable insurers) occurring prior to Operational Acceptance of the System.

(c) Third-Party Liability Insurance

On terms as **specified in the SCC**, covering bodily injury or death suffered by third parties (including the Purchaser’s personnel) and loss of or damage to property (including the Purchaser’s property and any Subsystems that have been accepted by the Purchaser) occurring in connection with the supply and installation of the Information System.

(d) Automobile Liability Insurance

In accordance with the statutory requirements prevailing in the Purchaser’s Country, covering use of all vehicles used by the Supplier or its Subcontractors (whether or not owned by them) in connection with the execution of the Contract.

(e) Other Insurance (if any), as **specified in the SCC**.

37.2 The Purchaser shall be named as co-insured under all insurance policies taken out by the Supplier pursuant to GCC Clause 37.1, except for the Third-Party Liability, and the Supplier’s Subcontractors shall be named as co-insured under all insurance policies taken out by the Supplier pursuant to GCC Clause 37.1 except for Cargo Insurance During Transport. All insurer’s rights of subrogation against such co-insured for losses or claims arising out of the performance of the Contract shall be waived under such policies.

37.3 The Supplier shall deliver to the Purchaser certificates of insurance (or copies of the insurance policies) as evidence that the required policies are in full force and effect.

- 37.4 The Supplier shall ensure that, where applicable, its Subcontractor(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for work executed by them under the Contract, unless such Subcontractors are covered by the policies taken out by the Supplier.
- 37.5 If the Supplier fails to take out and/or maintain in effect the insurance referred to in GCC Clause 37.1, the Purchaser may take out and maintain in effect any such insurance and may from time to time deduct from any amount due the Supplier under the Contract any premium that the Purchaser shall have paid to the insurer or may otherwise recover such amount as a debt due from the Supplier.
- 37.6 Unless otherwise provided in the Contract, the Supplier shall prepare and conduct all and any claims made under the policies affected by it pursuant to this GCC Clause 37, and all monies payable by any insurers shall be paid to the Supplier. The Purchaser shall give to the Supplier all such reasonable assistance as may be required by the Supplier in connection with any claim under the relevant insurance policies. With respect to insurance claims in which the Purchaser's interest is involved, the Supplier shall not give any release or make any compromise with the insurer without the prior written consent of the Purchaser. With respect to insurance claims in which the Supplier's interest is involved, the Purchaser shall not give any release or make any compromise with the insurer without the prior written consent of the Supplier.

38. Force Majeure

- 38.1 "Force Majeure" shall mean any event beyond the reasonable control of the Purchaser or of the Supplier, as the case may be, and which is unavoidable notwithstanding the reasonable care of the party affected and shall include, without limitation, the following:
- (a) war, hostilities, or warlike operations (whether a state of war be declared or not), invasion, act of foreign enemy, and civil war;
 - (b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion, and terrorist acts;
 - (c) confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de jure or de facto authority or

- ruler, or any other act or failure to act of any local state or national government authority;
- (d) strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, quarantine, and plague;
 - (e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear and pressure waves, or other natural or physical disaster;
 - (f) failure, by the Supplier, to obtain the necessary export permit(s) from the governments of the Country(s) of Origin of the Information Technologies or other Goods, or Supplier's Equipment provided that the Supplier has made all reasonable efforts to obtain the required export permit(s), including the exercise of due diligence in determining the eligibility of the System and all of its components for receipt of the necessary export permits.
- 38.2 If either party is prevented, hindered, or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances of the event of Force Majeure within fourteen (14) days after the occurrence of such event.
- 38.3 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered, or delayed. The Time for Achieving Operational Acceptance shall be extended in accordance with GCC Clause 40 (Extension of Time for Achieving Operational Acceptance).
- 38.4 The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect of the event of Force Majeure upon its or their performance of the Contract and to fulfill its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GCC Clause 38.6.

- 38.5 No delay or nonperformance by either party to this Contract caused by the occurrence of any event of Force Majeure shall:
- (a) constitute a default or breach of the Contract;
 - (b) (subject to GCC Clauses 35.2, 38.3, and 38.4) give rise to any claim for damages or additional cost or expense occasioned by the delay or nonperformance, if, and to the extent that, such delay or nonperformance is caused by the occurrence of an event of Force Majeure.
- 38.6 If the performance of the Contract is substantially prevented, hindered, or delayed for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the time period covered by the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which, either party may terminate the Contract by giving a notice to the other.
- 38.7 In the event of termination pursuant to GCC Clause 38.6, the rights and obligations of the Purchaser and the Supplier shall be as specified in GCC Clauses 41.1.2 and 41.1.3.
- 38.8 Notwithstanding GCC Clause 38.5, Force Majeure shall not apply to any obligation of the Purchaser to make payments to the Supplier under this Contract.

H. CHANGE IN CONTRACT ELEMENTS

39. Changes to the System

- 39.1 Introducing a Change
- 39.1.1 Subject to GCC Clauses 39.2.5 and 39.2.7, the Purchaser shall have the right to propose, and subsequently require, the Project Manager to order the Supplier from time to time during the performance of the Contract to make any change, modification, addition, or deletion to, in, or from the System (interchangeably called “Change”), provided that such Change falls within the general scope of the System, does not constitute unrelated work, and is technically practicable, taking into account both the state of advancement of the System and the technical compatibility of the Change envisaged with the nature of the System as originally specified in the Contract.

A Change may involve, but is not restricted to, the substitution of updated Information Technologies and

related Services in accordance with GCC Clause 23 (Product Upgrades).

39.1.2 The Supplier may from time to time during its performance of the Contract propose to the Purchaser (with a copy to the Project Manager) any Change that the Supplier considers necessary or desirable to improve the quality or efficiency of the System. The Purchaser may at its discretion approve or reject any Change proposed by the Supplier.

39.1.3 Notwithstanding GCC Clauses 39.1.1 and 39.1.2, no change made necessary because of any default of the Supplier in the performance of its obligations under the Contract shall be deemed to be a Change, and such change shall not result in any adjustment of the Contract Price or the Time for Achieving Operational Acceptance.

39.1.4 The procedure on how to proceed with and execute Changes is specified in GCC Clauses 39.2 and 39.3, and further details and sample forms are provided in the Sample Contractual Forms Section in the request for proposals document.

39.1.5 Moreover, the Purchaser and Supplier will agree, during development of the Project Plan, to a date prior to the scheduled date for Operational Acceptance, after which the Technical Requirements for the System shall be “frozen.” Any Change initiated after this time will be dealt with after Operational Acceptance.

39.2 Changes Originating from Purchaser

39.2.1 If the Purchaser proposes a Change pursuant to GCC Clauses 39.1.1, it shall send to the Supplier a “Request for Change Proposal,” requiring the Supplier to prepare and furnish to the Project Manager as soon as reasonably practicable a “Change Proposal,” which shall include the following:

- (a) brief description of the Change;
- (b) impact on the Time for Achieving Operational Acceptance;
- (c) detailed estimated cost of the Change;
- (d) effect on Functional Guarantees (if any);
- (e) effect on any other provisions of the Contract; and

(f) any additional documents as **specified in the SCC**.

39.2.2 Prior to preparing and submitting the “Change Proposal,” the Supplier shall submit to the Project Manager a “Change Estimate Proposal,” which shall be an estimate of the cost of preparing the Change Proposal, plus a first approximation of the suggested approach and cost for implementing the changes. Upon receipt of the Supplier’s Change Estimate Proposal, the Purchaser shall do one of the following:

- (a) accept the Supplier’s estimate with instructions to the Supplier to proceed with the preparation of the Change Proposal;
- (b) advise the Supplier of any part of its Change Estimate Proposal that is unacceptable and request the Supplier to review its estimate;
- (c) advise the Supplier that the Purchaser does not intend to proceed with the Change.

39.2.3 Upon receipt of the Purchaser’s instruction to proceed under GCC Clause 39.2.2 (a), the Supplier shall, with proper expedition, proceed with the preparation of the Change Proposal, in accordance with GCC Clause 39.2.1. The Supplier, at its discretion, may specify a validity period for the Change Proposal, after which if the Purchaser and Supplier has not reached agreement in accordance with GCC Clause 39.2.6, then GCC Clause 39.2.7 shall apply.

39.2.4 The pricing of any Change shall, as far as practicable, be calculated in accordance with the rates and prices included in the Contract. If the nature of the Change is such that the Contract rates and prices are inequitable, the parties to the Contract shall agree on other specific rates to be used for valuing the Change.

39.2.5 If before or during the preparation of the Change Proposal it becomes apparent that the aggregate impact of compliance with the Request for Change Proposal and with all other Change Orders that have already become binding upon the Supplier under this GCC Clause 39 would be to increase or decrease the Contract Price as originally set forth in Article 2 (Contract Price) of the Contract Agreement by more than fifteen (15) percent, the Supplier may give a written notice of objection to this Request for Change Proposal prior to furnishing the Change Proposal. If

the Purchaser accepts the Supplier's objection, the Purchaser shall withdraw the proposed Change and shall notify the Supplier in writing of its acceptance.

The Supplier's failure to so object to a Request for Change Proposal shall neither affect its right to object to any subsequent requested Changes or Change Orders, nor affect its right to take into account, when making such subsequent objection, the percentage increase or decrease in the Contract Price that any Change not objected to by the Supplier represents.

39.2.6 Upon receipt of the Change Proposal, the Purchaser and the Supplier shall mutually agree upon all matters contained in the Change Proposal. Within fourteen (14) days after such agreement, the Purchaser shall, if it intends to proceed with the Change, issue the Supplier a Change Order. If the Purchaser is unable to reach a decision within fourteen (14) days, it shall notify the Supplier with details of when the Supplier can expect a decision. If the Purchaser decides not to proceed with the Change for whatever reason, it shall, within the said period of fourteen (14) days, notify the Supplier accordingly. Under such circumstances, the Supplier shall be entitled to reimbursement of all costs reasonably incurred by it in the preparation of the Change Proposal, provided that these do not exceed the amount given by the Supplier in its Change Estimate Proposal submitted in accordance with GCC Clause 39.2.2.

39.2.7 If the Purchaser and the Supplier cannot reach agreement on the price for the Change, an equitable adjustment to the Time for Achieving Operational Acceptance, or any other matters identified in the Change Proposal, the Change will not be implemented. However, this provision does not limit the rights of either party under GCC Clause 6 (Settlement of Disputes).

39.3 Changes Originating from Supplier

If the Supplier proposes a Change pursuant to GCC Clause 39.1.2, the Supplier shall submit to the Project Manager a written "Application for Change Proposal," giving reasons for the proposed Change and including the information specified in GCC Clause 39.2.1. Upon receipt of the Application for Change Proposal, the parties shall follow the procedures outlined in GCC Clauses 39.2.6 and

39.2.7. However, should the Purchaser choose not to proceed or the Purchaser and the Supplier cannot come to agreement on the change during any validity period that the Supplier may specify in its Application for Change Proposal, the Supplier shall not be entitled to recover the costs of preparing the Application for Change Proposal, unless subject to an agreement between the Purchaser and the Supplier to the contrary.

39.4 Value engineering. The Supplier may prepare, at its own cost, a value engineering proposal at any time during the performance of the Contract. The value engineering proposal shall, at a minimum, include the following;

- (a) the proposed change(s), and a description of the difference to the existing Contract requirements;
- (b) a full cost/benefit analysis of the proposed change(s) including a description and estimate of costs (including life cycle costs) the Purchaser may incur in implementing the value engineering proposal; and
- (c) a description of any effect(s) of the change on performance/functionality.

The Purchaser may accept the value engineering proposal if the proposal demonstrates benefits that:

- (a) accelerates the delivery period; or
- (b) reduces the Contract Price or the life cycle costs to the Purchaser; or
- (c) improves the quality, efficiency, safety or sustainability of the systems; or
- (d) yields any other benefits to the Purchaser,

without compromising the necessary functions of the systems.

If the value engineering proposal is approved by the Purchaser and results in:

- (a) a reduction of the Contract Price; the amount to be paid to the Supplier shall be the percentage specified in the SCC of the reduction in the Contract Price; or
- (b) an increase in the Contract Price; but results in a reduction in life cycle costs due to any benefit described in (a) to (d) above,

the amount to be paid to the Supplier shall be the full increase in the Contract Price.

40. Extension of Time for Achieving Operational Acceptance

40.1 The time(s) for achieving Operational Acceptance specified in the Schedule of Implementation shall be extended if the Supplier is delayed or impeded in the performance of any of its obligations under the Contract by reason of any of the following:

- (a) any Change in the System as provided in GCC Clause 39 (Change in the Information System);
- (b) any occurrence of Force Majeure as provided in GCC Clause 38 (Force Majeure);
- (c) default of the Purchaser; or
- (d) any other matter specifically mentioned in the Contract;

by such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Supplier.

40.2 Except where otherwise specifically provided in the Contract, the Supplier shall submit to the Project Manager a notice of a claim for an extension of the time for achieving Operational Acceptance, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. As soon as reasonably practicable after receipt of such notice and supporting particulars of the claim, the Purchaser and the Supplier shall agree upon the period of such extension. In the event that the Supplier does not accept the Purchaser's estimate of a fair and reasonable time extension, the Supplier shall be entitled to refer the matter to the provisions for the Settlement of Disputes pursuant to GCC Clause 43.

40.3 The Supplier shall at all times use its reasonable efforts to minimize any delay in the performance of its obligations under the Contract.

41. Termination

41.1 Termination for Purchaser's Convenience

41.1.1 The Purchaser may at any time terminate the Contract for any reason by giving the Supplier a notice of termination that refers to this GCC Clause 41.1.

41.1.2 Upon receipt of the notice of termination under GCC Clause 41.1.1, the Supplier shall either as soon as reasonably practical or upon the date specified in the notice of termination

- (a) cease all further work, except for such work as the Purchaser may specify in the notice of termination for the sole purpose of protecting that part of the System already executed, or any work required to leave the site in a clean and safe condition;
- (b) terminate all subcontracts, except those to be assigned to the Purchaser pursuant to GCC Clause 41.1.2 (d) (ii) below;
- (c) remove all Supplier's Equipment from the site, repatriate the Supplier's Personnel from the site, remove from the site any wreckage, rubbish, and debris of any kind;
- (d) in addition, the Supplier, subject to the payment specified in GCC Clause 41.1.3, shall
 - (i) deliver to the Purchaser the parts of the System executed by the Supplier up to the date of termination;
 - (ii) to the extent legally possible, assign to the Purchaser all right, title, and benefit of the Supplier to the System, or Subsystem, as at the date of termination, and, as may be required by the Purchaser, in any subcontracts concluded between the Supplier and its Subcontractors;
 - (iii) deliver to the Purchaser all nonproprietary drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as of the date of termination in connection with the System.

41.1.3 In the event of termination of the Contract under GCC Clause 41.1.1, the Purchaser shall pay to the Supplier the following amounts:

- (a) the Contract Price, properly attributable to the parts of the System executed by the Supplier as of the date of termination;
- (b) the costs reasonably incurred by the Supplier in the removal of the Supplier's Equipment from the site and in the repatriation of the Supplier's Personnel;
- (c) any amount to be paid by the Supplier to its Subcontractors in connection with the

termination of any subcontracts, including any cancellation charges;

- (d) costs incurred by the Supplier in protecting the System and leaving the site in a clean and safe condition pursuant to GCC Clause 41.1.2 (a); and
- (e) the cost of satisfying all other obligations, commitments, and claims that the Supplier may in good faith have undertaken with third parties in connection with the Contract and that are not covered by GCC Clauses 41.1.3 (a) through (d) above.

41.2 Termination for Supplier's Default

41.2.1 The Purchaser, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith in the following circumstances by giving a notice of termination and its reasons therefore to the Supplier, referring to this GCC Clause 41.2:

- (a) if the Supplier becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Supplier is a corporation, a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Supplier takes or suffers any other analogous action in consequence of debt;
- (b) if the Supplier assigns or transfers the Contract or any right or interest therein in violation of the provision of GCC Clause 42 (Assignment); or
- (c) if the Supplier, in the judgment of the Purchaser has engaged in Fraud and Corruption, as defined in paragraph 2.2 a. of the Appendix 1 to the GCC, in competing for or in executing the Contract, including but not limited to willful misrepresentation of facts concerning ownership of Intellectual Property Rights in, or proper authorization and/or licenses from the owner to offer, the hardware, software, or materials provided under this Contract.

41.2.2 If the Supplier:

- (a) has abandoned or repudiated the Contract;

- (b) has without valid reason failed to commence work on the System promptly;
- (c) persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause;
- (d) refuses or is unable to provide sufficient Materials, Services, or labor to execute and complete the System in the manner specified in the Agreed Project Plan furnished under GCC Clause 19 at rates of progress that give reasonable assurance to the Purchaser that the Supplier can attain Operational Acceptance of the System by the Time for Achieving Operational Acceptance as extended;

then the Purchaser may, without prejudice to any other rights it may possess under the Contract, give a notice to the Supplier stating the nature of the default and requiring the Supplier to remedy the same. If the Supplier fails to remedy or to take steps to remedy the same within thirty (30) days of its receipt of such notice, then the Purchaser may terminate the Contract forthwith by giving a notice of termination to the Supplier that refers to this GCC Clause 41.2.

41.2.3 Upon receipt of the notice of termination under GCC Clauses 41.2.1 or 41.2.2, the Supplier shall, either immediately or upon such date as is specified in the notice of termination:

- (a) cease all further work, except for such work as the Purchaser may specify in the notice of termination for the sole purpose of protecting that part of the System already executed or any work required to leave the site in a clean and safe condition;
- (b) terminate all subcontracts, except those to be assigned to the Purchaser pursuant to GCC Clause 41.2.3 (d) below;
- (c) deliver to the Purchaser the parts of the System executed by the Supplier up to the date of termination;
- (d) to the extent legally possible, assign to the Purchaser all right, title and benefit of the Supplier to the System or Subsystems as at the

date of termination, and, as may be required by the Purchaser, in any subcontracts concluded between the Supplier and its Subcontractors;

- (e) deliver to the Purchaser all drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as at the date of termination in connection with the System.

41.2.4 The Purchaser may enter upon the site, expel the Supplier, and complete the System itself or by employing any third party. Upon completion of the System or at such earlier date as the Purchaser thinks appropriate, the Purchaser shall give notice to the Supplier that such Supplier's Equipment will be returned to the Supplier at or near the site and shall return such Supplier's Equipment to the Supplier in accordance with such notice. The Supplier shall thereafter without delay and at its cost remove or arrange removal of the same from the site.

41.2.5 Subject to GCC Clause 41.2.6, the Supplier shall be entitled to be paid the Contract Price attributable to the portion of the System executed as at the date of termination and the costs, if any, incurred in protecting the System and in leaving the site in a clean and safe condition pursuant to GCC Clause 41.2.3 (a). Any sums due the Purchaser from the Supplier accruing prior to the date of termination shall be deducted from the amount to be paid to the Supplier under this Contract.

41.2.6 If the Purchaser completes the System, the cost of completing the System by the Purchaser shall be determined. If the sum that the Supplier is entitled to be paid, pursuant to GCC Clause 41.2.5, plus the reasonable costs incurred by the Purchaser in completing the System, exceeds the Contract Price, the Supplier shall be liable for such excess. If such excess is greater than the sums due the Supplier under GCC Clause 41.2.5, the Supplier shall pay the balance to the Purchaser, and if such excess is less than the sums due the Supplier under GCC Clause 41.2.5, the Purchaser shall pay the balance to the Supplier. The Purchaser and the Supplier shall agree, in writing, on the computation described above and the manner in which any sums shall be paid.

41.3 Termination by Supplier

41.3.1 If:

- (a) the Purchaser has failed to pay the Supplier any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause **pursuant to the SCC**, or commits a substantial breach of the Contract, the Supplier may give a notice to the Purchaser that requires payment of such sum, with interest on this sum as stipulated in GCC Clause 12.3, requires approval of such invoice or supporting documents, or specifies the breach and requires the Purchaser to remedy the same, as the case may be. If the Purchaser fails to pay such sum together with such interest, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, fails to remedy the breach or take steps to remedy the breach within fourteen (14) days after receipt of the Supplier's notice; or
- (b) the Supplier is unable to carry out any of its obligations under the Contract for any reason attributable to the Purchaser, including but not limited to the Purchaser's failure to provide possession of or access to the site or other areas or failure to obtain any governmental permit necessary for the execution and/or completion of the System;

then the Supplier may give a notice to the Purchaser of such events, and if the Purchaser has failed to pay the outstanding sum, to approve the invoice or supporting documents, to give its reasons for withholding such approval, or to remedy the breach within twenty-eight (28) days of such notice, or if the Supplier is still unable to carry out any of its obligations under the Contract for any reason attributable to the Purchaser within twenty-eight (28) days of the said notice, the Supplier may by a further notice to the Purchaser referring to this GCC Clause 41.3.1, forthwith terminate the Contract.

41.3.2 The Supplier may terminate the Contract immediately by giving a notice to the Purchaser to that effect, referring to this GCC Clause 41.3.2, if the Purchaser becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or,

being a corporation, if a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Purchaser takes or suffers any other analogous action in consequence of debt.

41.3.3 If the Contract is terminated under GCC Clauses 41.3.1 or 41.3.2, then the Supplier shall immediately:

- (a) cease all further work, except for such work as may be necessary for the purpose of protecting that part of the System already executed, or any work required to leave the site in a clean and safe condition;
- (b) terminate all subcontracts, except those to be assigned to the Purchaser pursuant to Clause 41.3.3 (d) (ii);
- (c) remove all Supplier's Equipment from the site and repatriate the Supplier's Personnel from the site.
- (d) In addition, the Supplier, subject to the payment specified in GCC Clause 41.3.4, shall:
 - (i) deliver to the Purchaser the parts of the System executed by the Supplier up to the date of termination;
 - (ii) to the extent legally possible, assign to the Purchaser all right, title, and benefit of the Supplier to the System, or Subsystems, as of the date of termination, and, as may be required by the Purchaser, in any subcontracts concluded between the Supplier and its Subcontractors;
 - (iii) to the extent legally possible, deliver to the Purchaser all drawings, specifications, and other documents prepared by the Supplier or its Subcontractors as of the date of termination in connection with the System.

41.3.4 If the Contract is terminated under GCC Clauses 41.3.1 or 41.3.2, the Purchaser shall pay to the Supplier all payments specified in GCC Clause 41.1.3 and reasonable compensation for all loss, except for

loss of profit, or damage sustained by the Supplier arising out of, in connection with, or in consequence of such termination.

41.3.5 Termination by the Supplier pursuant to this GCC Clause 41.3 is without prejudice to any other rights or remedies of the Supplier that may be exercised in lieu of or in addition to rights conferred by GCC Clause 41.3.

41.4 In this GCC Clause 41, the expression “portion of the System executed” shall include all work executed, Services provided, and all Information Technologies, or other Goods acquired (or subject to a legally binding obligation to purchase) by the Supplier and used or intended to be used for the purpose of the System, up to and including the date of termination.

41.5 In this GCC Clause 41, in calculating any monies due from the Purchaser to the Supplier, account shall be taken of any sum previously paid by the Purchaser to the Supplier under the Contract, including any advance payment paid **pursuant to the SCC.**

42. Assignment

42.1 Neither the Purchaser nor the Supplier shall, without the express prior written consent of the other, assign to any third party the Contract or any part thereof, or any right, benefit, obligation, or interest therein or thereunder, except that the Supplier shall be entitled to assign either absolutely or by way of charge any monies due and payable to it or that may become due and payable to it under the Contract.

I. SETTLEMENT OF DISPUTES

43. Settlement of Disputes

43.1 Adjudication

43.1.1 If any dispute of any kind whatsoever shall arise between the Purchaser and the Supplier in connection with or arising out of the Contract, including without prejudice to the generality of the foregoing, any question regarding its existence, validity, or termination, or the operation of the System (whether during the progress of implementation or after its achieving Operational Acceptance and whether before or after the termination, abandonment, or breach of the Contract), the parties shall seek to resolve any such dispute by mutual consultation. If

the parties fail to resolve such a dispute by mutual consultation within fourteen (14) days after one party has notified the other in writing of the dispute, then, if the Contract Agreement in Appendix 2 includes and names an Adjudicator, the dispute shall, within another fourteen (14) days, be referred in writing by either party to the Adjudicator, with a copy to the other party. If there is no Adjudicator specified in the Contract Agreement, the mutual consultation period stated above shall last twenty-eight (28) days (instead of fourteen), upon expiry of which either party may move to the notification of arbitration pursuant to GCC Clause 43.2.1.

43.1.2 The Adjudicator shall give his or her decision in writing to both parties within twenty-eight (28) days of the dispute being referred to the Adjudicator. If the Adjudicator has done so, and no notice of intention to commence arbitration has been given by either the Purchaser or the Supplier within fifty-six (56) days of such reference, the decision shall become final and binding upon the Purchaser and the Supplier. Any decision that has become final and binding shall be implemented by the parties forthwith.

43.1.3 The Adjudicator shall be paid an hourly fee at the rate specified in the Contract Agreement plus reasonable expenditures incurred in the execution of duties as Adjudicator, and these costs shall be divided equally between the Purchaser and the Supplier.

43.1.4 Should the Adjudicator resign or die, or should the Purchaser and the Supplier agree that the Adjudicator is not fulfilling his or her functions in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Purchaser and the Supplier. Failing agreement between the two within twenty-eight (28) days, the new Adjudicator shall be appointed at the request of either party by the Appointing Authority **specified in the SCC**, or, if no Appointing Authority is **specified in SCC**, the Contract shall, from this point onward and until the parties may otherwise agree on an Adjudicator or an Appointing Authority, be implemented as if there is no Adjudicator.

43.2 Arbitration

43.2.1 If

- (a) the Purchaser or the Supplier is dissatisfied with the Adjudicator's decision and acts before this decision has become final and binding pursuant to GCC Clause 43.1.2, or
- (b) the Adjudicator fails to give a decision within the allotted time from referral of the dispute pursuant to GCC Clause 43.1.2, and the Purchaser or the Supplier acts within the following fourteen (14) days, or
- (c) in the absence of an Adjudicator from the Contract Agreement, the mutual consultation pursuant to GCC Clause 43.1.1 expires without resolution of the dispute and the Purchaser or the Supplier acts within the following fourteen (14) days,

then either the Purchaser or the Supplier may act to give notice to the other party, with a copy for information to the Adjudicator in case an Adjudicator had been involved, of its intention to commence arbitration, as provided below, as to the matter in dispute, and no arbitration in respect of this matter may be commenced unless such notice is given.

43.2.2 Any dispute in respect of which a notice of intention to commence arbitration has been given, in accordance with GCC Clause 43.2.1, shall be finally settled by arbitration. Arbitration may be commenced prior to or after Installation of the Information System.

43.2.3 Arbitration proceedings shall be conducted in accordance with the rules of procedure **specified in the SCC**.

43.3 Notwithstanding any reference to the Adjudicator or arbitration in this clause,

- (a) the parties shall continue to perform their respective obligations under the Contract unless they otherwise agree;
- (b) the Purchaser shall pay the Supplier any monies due the Supplier.

J. CYBER SECURITY

44. Cyber Security

- 44.1 **Pursuant to the SCC**, the Supplier, including its Subcontractors/ suppliers/ manufacturers shall take all technical and organizational measures necessary to protect the information technology systems and data used in connection with the Contract. Without limiting the foregoing, the Supplier, including its Subcontractors/ suppliers/ manufacturers, shall use all reasonable efforts to establish, maintain, implement and comply with, reasonable information technology, information security, cyber security and data protection controls, policies and procedures, including oversight, access controls, encryption, technological and physical safeguards and business continuity/disaster recovery and security plans that are designed to protect against and prevent breach, destruction, loss, unauthorized distribution, use, access, disablement, misappropriation or modification, or other compromise or misuse of or relating to any information technology system or data used in connection with the Contract.

APPENDIX 1

Fraud and Corruption

(Text in this Appendix shall not be modified)

1. Purpose

1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, 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;
 - ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
 - 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;
 - 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;
 - v. "obstructive practice" is:
 - (a) 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
 - (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.

- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, 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. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank 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 process, selection and/or execution 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. Pursuant to the Bank's Anti-Corruption Guidelines, and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents, personnel, permit the Bank to inspect³ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

¹ For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has 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.

³ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

APPENDIX 2

Sexual Exploitation and Abuse (SEA) and/or Sexual Harassment (SH) Performance Declaration for Subcontractors

[The following table shall be filled in by each subcontractor proposed by the Supplier, that was not named in the Contract]

Subcontractor's Name: [insert full name]

Date: [insert day, month, year]

Contract reference [insert contract reference]

Page [insert page number] of [insert total number] pages

SEA and/or SH Declaration
We: <input type="checkbox"/> (a) have not been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. <input type="checkbox"/> (b) are subject to disqualification by the Bank for non-compliance with SEA/ SH obligations. <input type="checkbox"/> (c) had been subject to disqualification by the Bank for non-compliance with SEA/ SH obligations, and were removed from the disqualification list. An arbitral award on the disqualification case has been made in our favor.
<i>[If (c) above is applicable, attach evidence of an arbitral award reversing the findings on the issues underlying the disqualification.]</i>
Period of disqualification: From: _____ To: _____

Name of the Subcontractor _____

Name of the person duly authorized to sign on behalf of the Subcontractor _____

Title of the person signing on behalf of the Subcontractor _____

Signature of the person named above _____

Date signed _____ day of _____, _____

Countersignature of authorized representative of the Supplier:

Signature: _____

Date signed _____ day of _____, _____

SECTION IX - SPECIAL CONDITIONS OF CONTRACT

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Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement or amend the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions of the SCC shall prevail over those in the General Conditions of Contract. For the purposes of clarity, any referenced GCC clause numbers are indicated in the left column of the SCC.

A. CONTRACT AND INTERPRETATION

Definitions (GCC Clause 1)

GCC 1.1 (a) (ix)	The applicable edition of the Procurement Regulation is dated: July 2016, Revised September 2023.
GCC 1.1 (b) (i)	The Purchaser is Bangladesh Computer Council (BCC) represented by Project Director, Enhancing Digital Government and Economy (EDGE) Project
GCC 1.1 (b) (ii)	The Project Manager is: Project Director Enhancing Digital Government and Economy (EDGE) Project Youth Tower (Level-5), 822/2, Rokeya Sarani, Dhaka-1216, Bangladesh Telephone: +88 02 55007193 E-mail: piu.edge@bcc.gov.bd
GCC 1.1 (e) (i)	The Purchaser's Country is: Bangladesh.
GCC 1.1 (e) (x)	There are no Special Conditions associated with GCC 1.1 (e) (x).
GCC 1.1 (e) (xiii)	The Post-Warranty Services Period is Not Applicable .

Notices (GCC Clause 4)

GCC 4.3	Address of the Project Manager: Project Director Enhancing Digital Government and Economy (EDGE) Project Youth Tower (Level-5), 822/2, Rokeya Sarani, Dhaka-1216, Bangladesh Telephone: +88 02 55007193 E-mail: piu.edge@bcc.gov.bd
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	Fallback address of the Purchaser: as above.
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B. SUBJECT MATTER OF CONTRACT

Scope of the System (GCC Clause 7)

GCC 7.3	The Supplier's obligations under the Contract will include the following recurrent cost items, as identified in the Recurrent Cost tables in the Supplier's Proposal: None.
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Time for Commencement and Operational Acceptance (GCC Clause 8)

GCC 8.1	The Supplier shall commence work on the System within: ten (10) days from the Effective Date of the Contract.
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Supplier's Responsibilities (GCC Clause 9)

GCC 9.1	health and safety manual is not required.
GCC 9.8	The following sustainable procurement contractual provisions, apply: none.
GCC 9.18	The Supplier not required to make security arrangements for the Project Site/s.

C. PAYMENT

Contract Price (GCC Clause 11)

GCC 11.2	Adjustments to the Contract Price shall be as follows: not applicable.
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Terms of Payment (GCC Clause 12)

GCC 12.1	Subject to the provisions of GCC Clause 12 (Terms of Payment), the Purchaser shall pay the Contract Price to the Supplier according to the categories and in the manner specified below. Only the categories Advance Payment and Complete System Integration relate to the entire Contract Price. In other payment categories, the term "total Contract Price" means the total cost of goods or services under the specific payment category. Within each such category, the Contract Implementation Schedule may trigger pro-rata payments for the portion
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	<p>of the total Contract Price for the category corresponding to the goods or services actually Delivered, Installed, or Operationally Accepted, at unit prices and in the currencies specified in the Price Schedules of the Contract Agreement.</p> <p>Payment Schedule will be applicable for.</p> <p>(a) Advance Payment</p> <p>Ten percent (10%) of the entire Contract Price, exclusive of all Recurrent Costs, shall be paid against receipt of a claim accompanied by the Advance Payment Security specified in GCC Clause 13.2.</p> <p>(b) For goods supplied from outside Bangladesh:</p> <p>On Delivery: 40% (forty percent) of the pro rata Contract Price for goods supplied from outside Bangladesh shall be paid after shipment through irrevocable confirmed letter of credit (LC), upon submission of documents specified in GCC Clause 22.5.1 and associated SCC.</p> <p>(c) For goods supplied from Bangladesh:</p> <p>On Delivery: 40% (forty percent) of the pro rata Contract Price for goods supplied from Bangladesh shall be paid after delivery, upon submission of documents specified in GCC Clause 22.5.2 and associated SCC.</p> <p>(d) If advance payment is not taken by the supplier, the amount will be paid with Operational Acceptance.</p> <p>(e) Complete System Installation & Commissioning</p> <p>Fifty percent (50%) of the entire Contract Price, exclusive of all Recurrent Costs, as final payment upon receipt of invoice claim supported by the “Operational Acceptance Certificate” issued by the Purchaser following successful completion of Operational Acceptance Tests.</p>
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GCC 12.3	<p>The Purchaser shall pay to the Supplier interest on the delayed payments at a rate of:</p> <p>On foreign currency: Secured Overnight Financing Rate (SOFR) + 1%</p> <p>On local currency: Dhaka Inter Bank Offered Rate (DIBOR).</p> <p>The payment delay period after which the Purchaser shall pay interest to the supplier shall be 45 days after submission of an invoice or request for payment by the supplier, and after the Purchaser has accepted it.</p>
GCC 12.4	<p>The Supplier will invoice the Purchaser in the currency used in the Contract Agreement and the Price Schedules it refers to, for Goods and Services supplied locally, the payment shall be in <i>Bangladesh Taka</i>.</p>
GCC 12.6	<p>There are no Special Conditions of Contract applicable to GCC Clause 12.6.</p>

Securities (GCC Clause 13)

GCC 13.3.1	<p>The Performance Security shall be denominated in the major currency of the Contract or in a freely convertible currency acceptable to the Purchaser for an amount equal to Ten (10) percent of the Contract Price.</p>
GCC 13.3.4	<p>During the Warranty Period (i.e., after Operational Acceptance of the System), the Performance Security shall be reduced to five (5) percent of the Contract Price, excluding any Recurrent Costs.</p>

D. INTELLECTUAL PROPERTY

Copyright (GCC Clause 15)

GCC 15.3	<p>The Standard Software license shall be valid throughout the territory of Bangladesh.</p> <p>The supplied software licenses shall be registered through Regional Headquarters, under which Bangladesh falls, of the global software vendors for ensuring convenient upgrade facility and renewal (as and when necessary).</p>
GCC 15.4	<p>There are no Special Conditions of Contract applicable to GCC Clause 15.4</p>
GCC 15.5	<p>There are no Special Conditions of Contract applicable to GCC Clause 15.5</p>

Software License Agreements (GCC Clause 16)

GCC 16.1 (a) (iv)	There are no Special Conditions of Contract applicable to GCC Clause 16.1 (a) (iv)
GCC 16.1 (b) (vi)	There are no Special Conditions of Contract applicable to GCC Clause 16.1 (b) (vi)
GCC 16.1 (b) (vii)	In addition to the persons specified in GCC Clause 16.1 (b) (vi), the Software may be disclosed to, and reproduced for use by the Purchaser’s authorized staff subject to the same restrictions as are set forth in this Contract.
GCC 16.2	There are no Special Conditions of Contract applicable to GCC Clause 16.2

Confidential Information (GCC Clause 17)

GCC 17.1	There are no Special Conditions of Contract applicable to GCC Clause 17.1
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E. SUPPLY, INSTALLATION, TESTING, COMMISSIONING, AND ACCEPTANCE OF THE SYSTEM

Representatives (GCC Clause 18)

GCC 18.1	<p>The Purchaser’s Project Manager shall have the following additional powers and / or limitations to his or her authority to represent the Purchaser in matters relating to the Contract</p> <p>No additional powers or limitations.</p>
GCC 18.2.2	<p>The Supplier’s Representative shall have the following additional powers and / or limitations to his or her authority to represent the Supplier in matters relating to the Contract</p> <p>No additional powers or limitations.</p>

Project Plan (GCC Clause 19)

GCC 19.1	Chapters in the Project Plan shall address the following subject:
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	<p>(a) Project Organization and Management Plan, including quality assurance, configuration management, problem escalation and resolution, etc.</p> <p>(b) Systems Development Methodology Plan</p> <p>(c) Delivery and Installation Plan</p> <p>(d) Service Customization and Optimization Plan</p> <p>(e) Training Plan</p> <p>(f) Documentation Plan</p> <p>(g) Verification, Validation and Testing Plan</p> <p>(h) Technical Support Plan, including Warranty Services</p> <p>(i) Task, Time, and Resource Schedules;</p> <p>Further details regarding the required contents of each of the above chapters are contained in the Technical Requirements, Section VII..</p>
GCC 19.6	<p>The Supplier shall submit to the Purchaser:</p> <p>(i) monthly inspection and quality assurance reports</p> <p>(ii) monthly training participants test results</p> <p>(iii) monthly log of service calls and problem resolutions</p>
GCC 19.7	<p>There are no Special Conditions of Contract applicable to GCC Clause 19.7.</p>

Design and Engineering (GCC Clause 21)

GCC 21.3.1	<p>The Supplier shall prepare and furnish to the Project Manager the following documents for which the Supplier must obtain the Project Manager’s approval before proceeding with work on the System or any Subsystem covered by the documents.</p> <p>(a) detailed site surveys;</p> <p>(b) final Subsystem configurations.</p>
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Product Upgrades (GCC Clause 23)

GCC 23.4	<p>There are no Special Conditions of Contract applicable to GCC Clause 23.4.</p>
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Inspections and Tests (GCC Clause 25)

GCC 25	There are no Special Conditions of Contract applicable to GCC Clause 25.
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Commissioning and Operational Acceptance (GCC Clause 27)

GCC 27.2.1	There are no Special Conditions of Contract applicable to GCC Clause 27.2.1.
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F. GUARANTEES AND LIABILITIES**Operational Acceptance Time Guarantee (GCC Clause 28)**

GCC 28.2	There are no Special Conditions of Contract applicable to GCC Clause 28.2.
GCC 28.3	There are no Special Conditions of Contract applicable to GCC Clause 28.3.

Defect Liability (GCC Clause 29)

GCC 29.1	There are no Special Conditions of Contract applicable to GCC Clause 29.1.
GCC 29.4	The Warranty Period of Thirty-Six (36) months shall begin from the date of Operational Acceptance of the System or Subsystem. The supplier must provide three (3) years comprehensive manufacturer's warranty for all items for supplied under this proposal.
GCC 29.10	There are no Special Conditions of Contract applicable to GCC Clause 29.10

Functional Guarantees (GCC Clause 30)

GCC 30	There are no Special Conditions of Contract applicable to GCC Clause 30.
GCC 32	There are no Special Conditions of Contract applicable to GCC Clause 32.

G. RISK DISTRIBUTION

Insurances (GCC Clause 37)

GCC 37.1 (c)	The Supplier shall obtain Third-Party Liability Insurance in the amount of USD 50,000 or equivalent amount with deductible limits of no more than USD 50,000 or equivalent amount . The insured Parties shall be the Supplier and the Purchaser. The Insurance shall cover the period from beginning date, relative to the Effective Date of the Contract until expiration date, relative to the Effective Date of the Contract or its completion.
GCC 37.1 (e)	<p>The Supplier shall obtain Worker’s Compensation Insurance in accordance with the statutory requirements of Bangladesh. The Insurance shall cover the period from the beginning date, relative to the Effective Date of the Contract until expiration date, relative to the Effective Date of the Contract or its completion.</p> <p>The Supplier shall obtain Purchaser’s Liability Insurance in accordance with the statutory requirements of Bangladesh. The Insurance shall cover the period from beginning date, relative to the Effective Date of the Contract expiration date, relative to the Effective Date of Contract or its completion.</p>

H. CHANGE IN CONTRACT ELEMENTS

Changes to the System (GCC Clause 39)

GCC 39.2.1	No Additional Requirement.
GCC 39.4	<p>Value Engineering</p> <p>The Purchaser will not consider a Value Engineering Proposal.</p>

I. SETTLEMENT OF DISPUTES

Settlement of Disputes (GCC Clause 43)

GCC 43.1.4	<p>The Appointing Authority for the Adjudicator is:</p> <p>(a) <u>if the Supplier is foreign (including a Joint Venture when at least one partner is outside the Purchaser’s Country):</u></p>
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	<p><i>International Chamber of Commerce.</i></p> <p>(b) <u>if the Supplier is a national of the Purchaser’s country</u></p> <p><i>President of the Institution of Engineers, Bangladesh (IEB).</i></p>
GCC 43.2.3	<p>If the Supplier is from outside the Purchaser’s Country (<u>including a Joint Venture when at least one partner is outside the Purchaser’s Country</u>) arbitration proceedings shall be conducted in accordance with the rules of arbitration of <i>UNCITRAL</i>. These rules, in the version in force at the time of the request for arbitration, will be deemed to form part of this Contract.</p> <p>If the Supplier is a national of the Purchaser’s Country, any dispute between the Purchaser and a Supplier arising in connection with the present Contract shall be referred to arbitration in accordance with the laws of the Purchaser’s country.</p>
<p>J. CYBER SECURITY</p> <hr/> <p>Cyber Security (GCC Clause 44)</p>	
GCC 44.1	Cyber Security does not apply

SECTION X - CONTRACT FORMS

Notes to the Purchaser on preparing the Contract Forms

Performance Security: Pursuant to GCC Clause 13.3, the successful Proposer is required to provide the Performance Security within twenty-eight (28) days of notification of Contract award.

Advance Payment Security: Pursuant to Clause 13.2, the successful Proposer is required to provide a bank guarantee securing the Advance Payment, if the SCC related to GCC Clause 12.1 provides for an Advance Payment.

Installation and Operational Acceptance Certificates: Recommended formats for these certificates are included in this SPD. Unless the Purchaser has good reason to require procedures that differ from those recommended, or to require different wording in the certificates, the procedures and forms shall be included unchanged. If the Purchaser wishes to amend the recommended procedures and/or certificates, it may propose alternatives for the approval of the World Bank before release of the request for proposals document to potential Proposers.

Change Order Procedures and Forms: Similar to the Installation and Operational Acceptance Certificates, the Change Estimate Proposal, Estimate Acceptance, Change Proposal, Change Order, and related Forms should be included in the request for proposals document unaltered. If the Purchaser wishes to amend the recommended procedures and/or certificates, it may propose alternatives for the approval of the World Bank before release of the request for proposals document.

Notes to Proposers on working with the Sample Contractual Forms

The following forms are to be completed and submitted by the successful Proposer following receipt of the Letter of Acceptance from the Purchaser: (i) Contract Agreement, with all Appendices; (ii) Performance Security; and (iii) Advance Payment Security.

- **Contract Agreement:** In addition to specifying the parties and the Contract Price, the Contract Agreement is where the: (i) Supplier Representative; (ii) if applicable, agreed Adjudicator and his/her compensation; and (iii) the List of Approved Subcontractors are specified. In addition, modifications to the successful Proposer's Proposal Price Schedules are attached to the Agreement. These contain corrections and adjustments to the Supplier's Proposal prices to correct errors, adjust the Contract Price to reflect – if applicable - any extensions to Proposal validity beyond the last day of original Proposal validity plus 56 days, etc.
- **Performance Security:** Pursuant to GCC Clause 13.3, the successful Proposer is required to provide the Performance Security in the form contained in this section of this request for proposals document and in the amount specified in accordance with the SCC.
- **Advance Payment Security:** Pursuant to GCC Clause 13.2, the successful Proposer is required to provide a bank guarantee for the full amount of the Advance Payment - if an Advance Payment is specified in the SCC for GCC Clause 12.1 - in the form contained in this section of this request for proposals document or another form acceptable to the Purchaser. If a Proposer wishes to propose a different Advance Payment Security form, it should submit a copy to the Purchaser promptly for review and confirmation of acceptability before the proposal submission deadline.

The Purchaser and Supplier will use the following additional forms during Contract implementation to formalize or certify important Contract events: (i) the Installation and Operational Acceptance Certificates; and (ii) the various Change Order forms. These and the procedures for their use during performance of the Contract are included in the request for proposals document for the information of Proposers.

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NOTIFICATION OF INTENTION TO AWARD

[This Notification of Intention to Award shall be sent to each Proposer that submitted a Proposal, unless the Proposer has previously received notice of exclusion from the process Proposer.]

[Send this Notification to the Proposer's Authorized Representative named in the Proposer Information Form]

For the attention of Proposer's Authorized Representative

Name: *[insert Authorized Representative's name]*

Address: *[insert Authorized Representative's Address]*

Telephone/Fax numbers: *[insert Authorized Representative's telephone/fax numbers]*

Email Address: *[insert Authorized Representative's email address]*

[IMPORTANT: insert the date that this Notification is transmitted to all participating Proposers. The Notification must be sent to all Proposers simultaneously. This means on the same date and as close to the same time as possible.]

DATE OF TRANSMISSION: This Notification is sent by: *[specify email / fax]* on *[specify date]* (local time)

Notification of Intention to Award

Purchaser: *[insert the name of the Purchaser]*

Project: *[insert name of project]*

Contract title: *[insert the name of the contract]*

Country: *[insert country where RFP is issued]*

Loan No. /Credit No. / Grant No.: *[insert reference number for loan/credit/grant]*

RFP No: *[insert RFP reference number from Procurement Plan]*

This Notification of Intention to Award (Notification) notifies you of our decision to award the above contract. The transmission of this Notification begins the Standstill Period. During the Standstill Period you may:

- a) request a debriefing in relation to the evaluation of your Proposal, and/or
- b) submit a Procurement-related Complaint in relation to the decision to award the contract.

1. The successful Proposer

Name:	[insert name of successful Proposer]
Address:	[insert address of the successful Proposer]
Contract price:	[insert contract price of the successful Proposer]
Total combined score:	[insert the total combined score of the successful Proposer]

2. Other Proposers [INSTRUCTIONS: insert names of all Proposers that submitted a Proposal, Proposal prices as read out and evaluated, technical scores and combined scores.]

Name of Proposer	Technical Score (If applicable)	Proposal price	Evaluated Proposal Cost	Combined Score
[insert name]	[insert Technical score]	[insert Proposal price]	[insert evaluated cost]	[insert combined score]
[insert name]	[insert Technical score]	[insert Proposal price]	[insert evaluated cost]	[insert combined score]
[insert name]	[insert Technical score]	[insert Proposal price]	[insert evaluated cost]	[insert combined score]

3. Reason/s why your Proposal was unsuccessful [Delete if the combined score already reveals the reason]

[INSTRUCTIONS; State the reason/s why this Proposer's Proposal was unsuccessful. Do NOT include: (a) a point by point comparison with another Proposer's Proposal or (b) information that is marked confidential by the Proposer in its Proposal.]

4. How to request a debriefing

DEADLINE: The deadline to request a debriefing expires at midnight on [insert date] (local time).

You may request a debriefing in relation to the results of the evaluation of your Proposal. If you decide to request a debriefing your written request must be made within three (3) Business Days of receipt of this Notification of Intention to Award.

Provide the contract name, reference number, name of the Proposer, contact details; and address the request for debriefing as follows:

Attention: *[insert full name of person, if applicable]*

Title/position: *[insert title/position]*

Agency: *[insert name of Purchaser]*

Email address: *[insert email address]*

Fax number: *[insert fax number or state “not applicable”]*

If your request for a debriefing is received within the 3 Business Days deadline, we will provide the debriefing within five (5) Business Days of receipt of your request. If we are unable to provide the debriefing within this period, the Standstill Period shall be extended by five (5) Business Days after the date that the debriefing is provided. If this happens, we will notify you and confirm the date that the extended Standstill Period will end.

The debriefing may be in writing, by phone, video conference call or in person. We shall promptly advise you in writing how the debriefing will take place and confirm the date and time.

If the deadline to request a debriefing has expired, you may still request a debriefing. In this case, we will provide the debriefing as soon as practicable, and normally no later than fifteen (15) Business Days from the date of publication of the Contract Award Notice.

5. How to make a complaint

DEADLINE: The deadline for submitting a Procurement-related Complaint challenging the decision to award the contract expires on midnight, *[insert date]* (local time).

Provide the contract name, reference number, name of the Proposer, contact details; and address the Procurement-related Complaint as follows:

Attention: *[insert full name of person, if applicable]*

Title/position: *[insert title/position]*

Agency: *[insert name of Purchaser]*

Email address: *[insert email address]*

Fax number: *[insert fax number or state “not applicable”]*

At this point in the procurement process, you may submit a Procurement-related Complaint challenging the decision to award the contract. You do not need to have requested, or received, a debriefing before making this complaint. Your complaint must be submitted within the Standstill Period and received by us before the Standstill Period ends.

For more information see the “[Procurement Regulations for IPF Borrowers \(Procurement Regulations\)](#) (Annex III).” You should read these provisions before preparing and submitting your complaint. In addition, the World Bank’s Guidance “[How to make a Procurement-related Complaint](#)” provides a useful explanation of the process, as well as a sample letter of complaint.

In summary, there are four essential requirements:

1. You must be an ‘interested party’. In this case, that means a Proposer who submitted a Proposal in this procurement, and is the recipient of a Notification of Intention to Award.
2. The complaint can only challenge the decision to award the contract.
3. You must submit the complaint within the deadline stated above.
4. You must include, in your complaint, all of the information required by the Procurement Regulations (as described in Annex III).

6. Standstill Period

DEADLINE: The Standstill Period is due to end at midnight on *[insert date]* (local time).

The Standstill Period lasts ten (10) Business Days after the date of transmission of this Notification of Intention to Award.

The Standstill Period may be extended. This may happen where we are unable to provide a debriefing within the five (5) Business Day deadline. If this happens we will notify you of the extension.

If you have any questions regarding this Notification please do not hesitate to contact us.

On behalf of the Purchaser:

Signature: _____

Title/position: *[insert title/position]*

Agency: *[insert name of Purchaser]*

Email address: *[insert email address]*

Telephone number: *[insert telephone number]*

BENEFICIAL OWNERSHIP DISCLOSURE FORM

INSTRUCTIONS TO PROPOSERS: DELETE THIS BOX ONCE YOU HAVE COMPLETED THE FORM

This Beneficial Ownership Disclosure Form (“Form”) is to be completed by the successful Proposer. In case of joint venture, the Proposer must submit a separate Form for each member. The beneficial ownership information to be submitted in this Form shall be current as of the date of its submission.

For the purposes of this Form, a Beneficial Owner of a Proposer is any natural person who ultimately owns or controls the Proposer by meeting one or more of the following conditions:

- *directly or indirectly holding 25% or more of the shares*
- *directly or indirectly holding 25% or more of the voting rights*
- *directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Proposer*

RFP No.: [insert **number of RFP process**]

Request for Proposals No.: [insert **identification**]

To: [insert **complete name of Purchaser**]

In response to your request in the Letter of Acceptance dated [insert **date of letter of Acceptance**] to furnish additional information on beneficial ownership: [select one option as applicable and delete the options that are not applicable]

(i) we hereby provide the following beneficial ownership information.

Details of beneficial ownership

Identity of Beneficial Owner	Directly or indirectly holding 25% or more of the shares (Yes / No)	Directly or indirectly holding 25 % or more of the Voting Rights (Yes / No)	Directly or indirectly having the right to appoint a majority of the board of the directors or an equivalent governing body of the Proposer (Yes / No)

<i>[include full name (last, middle, first), nationality, country of residence]</i>			
---	--	--	--

OR

(ii) *We declare that there is no Beneficial Owner meeting one or more of the following conditions:*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Proposer

OR

(iii) *We declare that we are unable to identify any Beneficial Owner meeting one or more of the following conditions. [If this option is selected, the Proposer shall provide explanation on why it is unable to identify any Beneficial Owner]*

- directly or indirectly holding 25% or more of the shares
- directly or indirectly holding 25% or more of the voting rights
- directly or indirectly having the right to appoint a majority of the board of directors or equivalent governing body of the Proposer”

Name of the Proposer: **[insert complete name of the Proposer]*

Name of the person duly authorized to sign the Proposal on behalf of the Proposer: ***[insert complete name of person duly authorized to sign the Proposal]*

Title of the person signing the Proposal: *[insert complete title of the person signing the Proposal]*

Signature of the person named above: _____

Date signed *[insert ordinal number]* day of *[insert month]*, *[insert year]*

* In the case of the Proposal submitted by a Joint Venture specify the name of the Joint Venture as Proposer. In the event that the Proposer is a joint venture, each reference to “Proposer” in the Beneficial Ownership Disclosure Form (including this Introduction thereto) shall be read to refer to the joint venture member.

** Person signing the Proposal shall have the power of attorney given by the Proposer. The power of attorney shall be attached with the Proposal Schedules.

LETTER OF ACCEPTANCE

Purchaser: *[insert the name of the Purchaser]*

Project: *[insert name of project]*

Contract title: *[insert the name of the contract]*

Country: *[insert country where RFP is issued]*

Loan No. /Credit No. / Grant No.: *[insert reference number for loan/credit/grant]*

RFP No: *[insert RFP reference number from Procurement Plan]*

Date: *[insert Date]*

To: *[insert Name of Proposer]*

This is to notify you that your Proposal dated *[insert Date]* for execution of the *[insert brief description of the Information System]* for the Contract Price in the aggregate of *[insert amount in figures]* (*[insert amount in words]*), as corrected and modified in accordance with the Instructions to Proposers is hereby accepted by our Agency.

You are requested to furnish (i) the Performance Security within 28 days in accordance with the Conditions of Contract, using for that purpose one of the Performance Security Forms and (ii) the additional information on beneficial ownership in accordance with ITP 47.1 within eight (8) Business days using the Beneficial Ownership Disclosure Form, included in Section X, - Contract Forms, of the request for proposals document.

Authorized Signature: _____

Name and Title of Signatory: *[insert Name and Title]*

Name of Agency: *[insert Purchaser Name]*

Attachment: Contract Agreement

1. CONTRACT AGREEMENT

THIS CONTRACT AGREEMENT is made

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

BETWEEN

- (1) [*insert: Name of Purchaser*], a [*insert: description of type of legal entity, for example, an agency of the Ministry of . . .*] of the Government of [*insert: country of Purchaser*], or corporation incorporated under the laws of [*insert: country of Purchaser*] and having its principal place of business at [*insert: address of Purchaser*] (hereinafter called “the Purchaser”), 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”).

WHEREAS the Purchaser desires to engage the Supplier to supply, install, achieve Operational Acceptance of, and support the following Information System [*insert: brief description of the Information System*] (“the System”), and the Supplier has agreed to such engagement upon and subject to the terms and conditions appearing below in this Contract Agreement.

NOW IT IS HEREBY AGREED as follows:

- | | |
|--------------------|---|
| Article 1. | 1.1 Contract Documents (Reference GCC Clause 1.1 (a) (ii)) |
| Contract Documents | The following documents shall constitute the Contract between the Purchaser and the Supplier, and each shall be read and construed as an integral part of the Contract: <ol style="list-style-type: none">(a) This Contract Agreement and the Appendices attached to the Contract Agreement(b) Special Conditions of Contract(c) General Conditions of Contract(d) Technical Requirements (including Implementation Schedule)(e) The Supplier’s proposal and original Price Schedules(f) Code of Conduct for Supplier’s Personnel(g) [<i>Add here: any other documents</i>] |
| | 1.2 Order of Precedence (Reference GCC Clause 2) |

In the event of any ambiguity or conflict between the Contract Documents listed above, the order of precedence shall be the order in which the Contract Documents are listed in Article 1.1 (Contract Documents) above, provided that Appendix 7 shall prevail over all provisions of the Contract Agreement and the other Appendices attached to the Contract Agreement and all the other Contract Documents listed in Article 1.1 above.

1.3 Definitions (Reference GCC Clause 1)

Capitalized words and phrases used in this Contract Agreement shall have the same meanings as are ascribed to them in the General Conditions of Contract.

Article 2.

Contract Price and
Terms of Payment

2.1 Contract Price (Reference GCC Clause 1.1(a)(viii) and GCC Clause 11)

The Purchaser hereby agrees to pay to the Supplier the Contract Price in consideration of the performance by the Supplier of its obligations under the Contract. The Contract Price shall be the aggregate of: *[insert: amount of foreign currency A in words], [insert: amount in figures], plus [insert: amount of foreign currency B in words], [insert: amount in figures], plus [insert: amount of foreign currency C in words], [insert: amount in figures], [insert: amount of local currency in words], [insert: amount in figures],* as specified in the Grand Summary Price Schedule.

The Contract Price shall be understood to reflect the terms and conditions used in the specification of prices in the detailed price schedules, including the terms and conditions of the associated Incoterms, and the taxes, duties and related levies if and as identified.

Article 3.

Effective Date for
Determining Time
for Operational
Acceptance

3.1 Effective Date (Reference GCC Clause 1.1 (e) (ix))

The time allowed for supply, installation, and achieving Operational Acceptance of the System shall be determined from the date when all of the following conditions have been fulfilled:

- (a) This Contract Agreement has been duly executed for and on behalf of the Purchaser and the Supplier;
- (b) The Supplier has submitted to the Purchaser the performance security and the advance payment security, in accordance with GCC Clause 13.2 and GCC Clause 13.3;
- (c) The Purchaser has paid the Supplier the advance payment, in accordance with GCC Clause 12;

Each party shall use its best efforts to fulfill the above conditions for which it is responsible as soon as practicable.

3.2 If the conditions listed under 3.1 are not fulfilled within two (2) months from the date of this Contract Agreement because of reasons not attributable to the Supplier, the parties shall discuss and agree on an equitable adjustment to the Contract Price and the Time for Achieving Operational Acceptance and/or other relevant conditions of the Contract.

Article 4.

4.1 The Appendixes listed below shall be deemed to form an integral part of this Contract Agreement.

Appendixes

4.2 Reference in the Contract to any Appendix shall mean the Appendixes listed below and attached to this Contract Agreement, and the Contract shall be read and construed accordingly.

APPENDIXES

- Appendix 1. Supplier's Representative
- Appendix 2. Adjudicator [*if there is no Adjudicator, state "not applicable"*]
- Appendix 3. List of Approved Subcontractors
- Appendix 4. Categories of Software
- Appendix 5. Custom Materials
- Appendix 6. Revised Price Schedules (if any)
- Appendix 7. Minutes of Contract Finalization Discussions and Agreed-to Contract Amendments

IN WITNESS WHEREOF the Purchaser and the Supplier have caused this Agreement to be duly executed by their duly authorized representatives the day and year first above written.

For and on behalf of the Purchaser

Signed:

in the capacity of [*insert: title or other appropriate designation*]

in the presence of

For and on behalf of the Supplier

Signed:

in the capacity of [*insert: title or other appropriate designation*]

in the presence of

CONTRACT AGREEMENT

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

BETWEEN

[insert: name of Purchaser], “the Purchaser”

and

[insert: name of Supplier], “the Supplier”

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Appendix 1. Supplier's Representative

In accordance with GCC Clause 1.1 (b) (iv), the Supplier's Representative is:

Name: *[insert: name and provide title and address further below, or state "to be nominated within fourteen (14) days of the Effective Date"]*

Title: *[if appropriate, insert: title]*

In accordance with GCC Clause 4.3, the Supplier's addresses for notices under the Contract are:

Address of the Supplier's Representative: *[as appropriate, insert: personal delivery, postal, cable, facsimile, electronic mail, and/or EDI addresses.]*

Fallback address of the Supplier: *[as appropriate, insert: personal delivery, postal, cable, facsimile, electronic mail, and/or EDI addresses.]*

Appendix 2. Adjudicator

In accordance with GCC Clause 1.1 (b) (vi), the agreed-upon Adjudicator is:

Name: *[insert: name]*

Title: *[insert: title]*

Address: *[insert: postal address]*

Telephone: *[insert: telephone]*

In accordance with GCC Clause 43.1.3, the agreed-upon fees and reimbursable expenses are:

Hourly Fees: *[insert: hourly fees]*

Reimbursable Expenses: *[list: reimbursables]*

Pursuant to GCC Clause 43.1.4, if at the time of Contract signing, agreement has not been reached between the Purchaser and the Supplier, an Adjudicator will be appointed by the Appointing Authority named in the SCC.

Appendix 3. List of Approved Subcontractors

The Purchaser has approved use of the following Subcontractors nominated by the Supplier for carrying out the item or component of the System indicated. Where more than one Subcontractor is listed, the Supplier is free to choose between them, but it must notify the Purchaser of its choice sufficiently in advance of the time when the subcontracted work needs to commence to give the Purchaser reasonable time for review. In accordance with GCC Clause 20.1, the Supplier is free to submit proposals for Subcontractors for additional items from time to time. No subcontracts shall be placed with any such Subcontractors for additional items until the Subcontractors have been approved in writing by the Purchaser and their names have been added to this list of Approved Subcontractors, subject to GCC Clause 20.3.

[specify: item, approved Subcontractors, and their place of registration that the Supplier proposed in the corresponding attachment to its proposal and that the Purchaser approves that the Supplier engage during the performance of the Contract. Add additional pages as necessary.]

Item	Approved Subcontractors	Place of Registration

Appendix 4. Categories of Software

The following table assigns each item of Software supplied and installed under the Contract to one of the three categories: (i) System Software, (ii) General-Purpose Software, or (iii) Application Software; and to one of the two categories: (i) Standard Software or (ii) Custom Software and to one of the two categories: (i) Proprietary or (ii) Open Source.

Title	(select one per title)			(select one per title)		(select one per title)	
	System	General-Purpose	Application	Standard	Custom	Proprietary	Open Source
[insert Title]							
[insert Title]							
[insert Title]							
[insert Title]							
[insert Title]							
[insert Title]							
[insert Title]							

Appendix 5. Custom Materials

The follow table specifies the Custom Materials the Supplier will provide under the Contract.

Custom Materials
<i>[insert Title and description]</i>
<i>[insert Title and description]</i>
<i>[insert Title and description]</i>
<i>[insert Title and description]</i>
<i>[insert Title and description]</i>

Unofficial Copy

Appendix 6. Revised Price Schedules

The attached Revised Price Schedules (if any) shall form part of this Contract Agreement and, where differences exist, shall supersede the Price Schedules contained in the Supplier's Proposal. These Revised Price Schedules reflect any corrections or adjustments to the Supplier's proposal price, pursuant to the ITP Clauses 30.3 and 38.2.

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Appendix 7. Minutes of Contract Finalization Discussions and Agreed-to Contract Amendments

The attached Contract amendments (if any) shall form part of this Contract Agreement and, where differences exist, shall supersede the relevant clauses in the GCC, SCC, Technical Requirements, or other parts of this Contract as defined in GCC Clause 1.1 (a) (ii).

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2. PERFORMANCE AND ADVANCE PAYMENT SECURITY FORMS

2.1 Performance Security Form (Bank Guarantee) (Bank Guarantee)

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

[Guarantor letterhead or SWIFT identifier code]

*[insert: **Bank's Name, and Address of Issuing Branch or Office**]*

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

Date: *[insert: **date**]*

PERFORMANCE GUARANTEE No.: *[insert: **Performance Guarantee Number**]*

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

We have been informed that on *[insert: **date of award**]* you awarded Contract No. *[insert: **Contract number**]* for *[insert: **title and/or brief description of the Contract**]* (hereinafter called "the Contract") to *[insert: **complete name of Supplier which in the case of a joint venture shall be in the name of the joint venture**]* (hereinafter called "the Applicant"). 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 you any sum(s) not exceeding *[insert: **amount(s)¹ in figures and words**]* such sum being payable in the types and proportions of currencies which the Contract Price is payable upon receipt by us of 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 or reasons for their demand or the sum specified therein.

On the date of your issuing, to the Supplier, the Operational Acceptance Certificate for the System, the value of this guarantee will be reduced to any sum(s) not exceeding *[insert: **amount(s)¹ in figures and words**]*. This remaining guarantee shall expire no later than *[insert: **number and select: of months/of years** (of the Warranty Period that needs to be covered by the remaining*

¹ The bank shall insert the amount(s) specified and denominated in the SCC for GCC Clauses 13.3.1 and 13.3.4 respectively, either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Purchaser.

guarantee)] from the date of the Operational Acceptance Certificate for the System,¹ and any demand for payment under it 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 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.]

¹ *In this sample form, the formulation of this paragraph reflects the usual SCC provisions for GCC Clause 13.3. However, if the SCC for GCC Clauses 13.3.1 and 13.3.4 varies from the usual provisions, the paragraph, and possibly the previous paragraph, need to be adjusted to precisely reflect the provisions specified in the SCC.*

2.2 Advance Payment Security Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

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

Date: *[insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[insert: Advance Payment Guarantee Number]*

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

We have been informed that on *[insert: date of award]* you awarded Contract No. *[insert: Contract number]* for *[insert: title and/or brief description of the Contract]* (hereinafter called "the Contract") to *[insert: complete name of Supplier, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum of *[insert: amount in numbers and words, for each currency of the advance payment]* is to be made to the Supplier 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; 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 has been

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.*

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]*, *[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 product.]

3. INSTALLATION AND ACCEPTANCE CERTIFICATES

3. Installation and Acceptance Certificates

3.1 Installation Certificate

Date: *[insert: date]*

Loan/Credit Number: *[insert: loan or credit number from RFP]*

RFP: *[insert: title and number of RFP]*

Contract: *[insert: name and number of Contract]*

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

Dear Sir or Madam:

Pursuant to GCC Clause 26 (Installation of the System) of the Contract entered into between yourselves and the *[insert: name of Purchaser]* (hereinafter the “Purchaser”) dated *[insert: date of Contract]*, relating to the *[insert: brief description of the Information System]*, we hereby notify you that the System (or a Subsystem or major component thereof) was deemed to have been correctly installed on the date specified below.

1. Description of the System (or relevant Subsystem or major component: *[insert: description]*)
2. Date of Installation: *[insert: date]*

Notwithstanding the above, you are required to complete the outstanding items listed in the attachment to this certificate as soon as practicable. This letter shall not relieve you of your obligation to achieve Operational Acceptance of the System in accordance with the Contract nor of your obligations during the Warranty Period.

For and on behalf of the Purchaser

Signed:

Date:

in the capacity of: *[state: “Project Manager” or specify a higher level authority in the Purchaser’s organization]*

3.2 Operational Acceptance Certificate

Date: [insert: date]

Loan/Credit Number: [insert: loan or credit number from RFP]

RFP: [insert: title and number of RFP]

Contract: [insert: name of System or Subsystem and number of Contract]

To: [insert: name and address of Supplier]

Dear Sir or Madam:

Pursuant to GCC Clause 27 (Commissioning and Operational Acceptance) of the Contract entered into between yourselves and the [insert: name of Purchaser] (hereinafter the “Purchaser”) dated [insert: date of Contract], relating to the [insert: brief description of the Information System], we hereby notify you the System (or the Subsystem or major component identified below) successfully completed the Operational Acceptance Tests specified in the Contract. In accordance with the terms of the Contract, the Purchaser hereby takes over the System (or the Subsystem or major component identified below), together with the responsibility for care and custody and the risk of loss thereof on the date mentioned below.

1. Description of the System (or Subsystem or major component): [insert: description]
2. Date of Operational Acceptance: [insert: date]

This letter shall not relieve you of your remaining performance obligations under the Contract nor of your obligations during the Warranty Period.

For and on behalf of the Purchaser

Signed: _____

Date: [insert: date]

in the capacity of: [state: “Project Manager” or specify a higher level authority in the Purchaser’s organization]

4. CHANGE ORDER PROCEDURES AND FORMS

Date: *[insert: date]*

Loan/Credit Number: *[insert: loan or credit number from RFP]*

RFP: *[insert: title and number of RFP]*

Contract: *[insert: name or System or Subsystem and number of Contract]*

General

This section provides samples of procedures and forms for carrying out changes to the System during the performance of the Contract in accordance with GCC Clause 39 (Changes to the System) of the Contract.

Change Order Log

The Supplier shall keep an up-to-date Change Order Log to show the current status of Requests for Change and Change Orders authorized or pending. Changes shall be entered regularly in the Change Order Log to ensure that the log is kept up-to-date. The Supplier shall attach a copy of the current Change Order Log in the monthly progress report to be submitted to the Purchaser.

References to Changes

- (1) Request for Change Proposals (including Application for Change Proposals) shall be serially numbered CR-nnn.
- (2) Change Estimate Proposals shall be numbered CN-nnn.
- (3) Estimate Acceptances shall be numbered CA-nnn.
- (4) Change Proposals shall be numbered CP-nnn.
- (5) Change Orders shall be numbered CO-nnn.

On all forms, the numbering shall be determined by the original CR-nnn.

Annexes

- 4.1 Request for Change Proposal Form
- 4.2 Change Estimate Proposal Form
- 4.3 Estimate Acceptance Form
- 4.4 Change Proposal Form
- 4.5 Change Order Form
- 4.6 Application for Change Proposal Form

4.1 Request for Change Proposal Form

(Purchaser's Letterhead)

Date: *[insert: date]*

Loan/Credit Number: *[insert: loan or credit number from RFP]*

RFP: *[insert: title and number of RFP]*

Contract: *[insert: name of System or Subsystem or number of Contract]*

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

Attention: *[insert: name and title]*

Dear Sir or Madam:

With reference to the above-referenced Contract, you are requested to prepare and submit a Change Proposal for the Change noted below in accordance with the following instructions within *[insert: number]* days of the date of this letter.

1. Title of Change: *[insert: title]*
2. Request for Change No./Rev.: *[insert: number]*
3. Originator of Change: *[select Purchaser / Supplier (by Application for Change Proposal), and add: name of originator]*
4. Brief Description of Change: *[insert: description]*
5. System (or Subsystem or major component affected by requested Change): *[insert: description]*
6. Technical documents and/or drawings for the request of Change:

Document or Drawing No.	Description
-------------------------	-------------
7. Detailed conditions or special requirements of the requested Change: *[insert: description]*
8. Procedures to be followed:
 - (a) Your Change Proposal will have to show what effect the requested Change will have on the Contract Price.
 - (b) Your Change Proposal shall explain the time it will take to complete the requested Change and the impact, if any, it will have on the date when Operational Acceptance of the entire System agreed in the Contract.

- (c) If you believe implementation of the requested Change will have a negative impact on the quality, operability, or integrity of the System, please provide a detailed explanation, including other approaches that might achieve the same impact as the requested Change.
 - (d) You should also indicate what impact the Change will have on the number and mix of staff needed by the Supplier to perform the Contract.
 - (e) You shall not proceed with the execution of work related to the requested Change until we have accepted and confirmed the impact it will have on the Contract Price and the Implementation Schedule in writing.
9. As next step, please respond using the Change Estimate Proposal form, indicating how much it will cost you to prepare a concrete Change Proposal that will describe the proposed approach for implementing the Change, all its elements, and will also address the points in paragraph 8 above pursuant to GCC Clause 39.2.1. Your Change Estimate Proposal should contain a first approximation of the proposed approach, and implications for schedule and cost, of the Change.

For and on behalf of the Purchaser

Signed:

Date:

in the capacity of: [state: ***“Project Manager” or specify a higher level authority in the Purchaser’s organization***]

4.2 Change Estimate Proposal Form

(Supplier's Letterhead)

Date: *[insert: date]*

Loan/Credit Number: *[insert: loan or credit number from RFP]*

RFP: *[insert: title and number of RFP]*

Contract: *[insert: name of System or Subsystem and number of Contract]*

To: *[insert: name of Purchaser and address]*

Attention: *[insert: name and title]*

Dear Sir or Madam:

With reference to your Request for Change Proposal, we are pleased to notify you of the approximate cost of preparing the below-referenced Change in accordance with GCC Clause 39.2.1 of the Contract. We acknowledge that your agreement to the cost of preparing the Change Proposal, in accordance with GCC Clause 39.2.2, is required before we proceed to prepare the actual Change Proposal including a detailed estimate of the cost of implementing the Change itself.

1. Title of Change: *[insert: title]*
2. Request for Change No./Rev.: *[insert: number]*
3. Brief Description of Change (including proposed implementation approach): *[insert: description]*
4. Schedule Impact of Change (initial estimate): *[insert: description]*
5. Initial Cost Estimate for Implementing the Change: *[insert: initial cost estimate]*
6. Cost for Preparation of Change Proposal: *[insert: cost in the currencies of the Contract]*, as detailed below in the breakdown of prices, rates, and quantities.

For and on behalf of the Supplier

Signed:

Date:

in the capacity of: *[state: "Supplier's Representative" or specify a other higher level authority in the Supplier's organization]*

4.3 Estimate Acceptance Form

(Purchaser's Letterhead)

Date: *[insert: date]*

Loan/Credit Number: *[insert: loan or credit number from RFP]*

RFP: *[insert: title and number of RFP]*

Contract: *[insert: name of System or Subsystem and number of Contract]*

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

Attention: *[insert: name and title]*

Dear Sir or Madam:

We hereby accept your Change Estimate and agree that you should proceed with the preparation of a formal Change Proposal.

1. Title of Change: *[insert: title]*
2. Request for Change No./Rev.: *[insert: request number / revision]*
3. Change Estimate Proposal No./Rev.: *[insert: proposal number / revision]*
4. Estimate Acceptance No./Rev.: *[insert: estimate number / revision]*
5. Brief Description of Change: *[insert: description]*
6. Other Terms and Conditions: *[insert: other terms and conditions]*

In the event that we decide not to order the Change referenced above, you shall be entitled to compensation for the cost of preparing the Change Proposal up to the amount estimated for this purpose in the Change Estimate Proposal, in accordance with GCC Clause 39 of the General Conditions of Contract.

For and on behalf of the Purchaser

Signed:

Date:

in the capacity of: *[state: "Project Manager" or specify a higher level authority in the Purchaser's organization]*

4.4 Change Proposal Form

(Supplier's Letterhead)

Date: *[insert: date]*

Loan/Credit Number: *[insert: loan or credit number from RFP]*

RFP: *[insert: title and number of RFP]*

Contract: *[insert: name of System or Subsystem and number of Contract]*

To: *[insert: name of Purchaser and address]*

Attention: *[insert: name and title]*

Dear Sir or Madam:

In response to your Request for Change Proposal No. *[insert: number]*, we hereby submit our proposal as follows:

1. Title of Change: *[insert: name]*
2. Change Proposal No./Rev.: *[insert: proposal number/revision]*
3. Originator of Change: *[select: Purchaser / Supplier; and add: name]*
4. Brief Description of Change: *[insert: description]*
5. Reasons for Change: *[insert: reason]*
6. The System Subsystem, major component, or equipment that will be affected by the requested Change: *[insert: description]*
7. Technical documents and/or drawings for the requested Change:
Document or Drawing No. Description
8. Estimate of the increase/decrease to the Contract Price resulting from the proposed Change: *[insert: amount in currencies of Contract]*, as detailed below in the breakdown of prices, rates, and quantities.
Total lump sum cost of the Change:
Cost to prepare this Change Proposal (i.e., the amount payable if the Change is not accepted, limited as provided by GCC Clause 39.2.6):
9. Additional Time for Achieving Operational Acceptance required due to the Change: *[insert: amount in days / weeks]*

10. Effect on the Functional Guarantees: *[insert: description]*
11. Effect on the other terms and conditions of the Contract: *[insert: description]*
12. Validity of this Proposal: for a period of *[insert: number]* days after receipt of this Proposal by the Purchaser
13. Procedures to be followed:
 - (a) You are requested to notify us of your acceptance, comments, or rejection of this detailed Change Proposal within *[insert: number]* days from your receipt of this Proposal.
 - (b) The amount of any increase and/or decrease shall be taken into account in the adjustment of the Contract Price.

For and on behalf of the Supplier

Signed:

Date:

in the capacity of: *[state: "Supplier's Representative" or specify a other higher level authority in the Supplier's organization]*

4.5 Change Order Form

(Purchaser's Letterhead)

Date: *[insert: date]*

Loan/Credit Number: *[insert: loan or credit number from RFP]*

RFP: *[insert: title and number of RFP]*

Contract: *[insert: name of System or Subsystem and number of Contract]*

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

Attention: *[insert: name and title]*

Dear Sir or Madam:

We hereby approve the Change Order for the work specified in Change Proposal No. *[insert: number]*, and agree to adjust the Contract Price, Time for Completion, and/or other conditions of the Contract in accordance with GCC Clause 39 of the Contract.

1. Title of Change: *[insert: name]*

2. Request for Change No./Rev.: *[insert: request number / revision]*

3. Change Order No./Rev.: *[insert: order number / revision]*

4. Originator of Change: *[select: Purchaser / Supplier; and add: name]*

5. Authorized Price for the Change:

Ref. No.: *[insert: number]*

Date: *[insert: date]*

[insert: amount in foreign currency A] plus *[insert: amount in foreign currency B]*
plus *[insert: amount in foreign currency C]* plus *[insert: amount in local currency]*

6. Adjustment of Time for Achieving Operational Acceptance: *[insert: amount and description of adjustment]*

7. Other effects, if any: *[state: "none" or insert description]*

For and on behalf of the Purchaser

Signed: _____

Date: *[insert date]*

in the capacity of: *[state: "Project Manager" or higher level authority in the Purchaser's organization]*

For and on behalf of the Supplier

Signed: _____

Date: *[insert date]*

in the capacity of: *[state "Supplier's Representative" or specify a higher level authority in the Supplier's organization]*

4.6 Application for Change Proposal Form

(Supplier's Letterhead)

Date: *[insert: date]*

Loan/Credit Number: *[insert: loan or credit number from RFP]*

RFP: *[insert: title and number of RFP]*

Contract: *[insert: name of System or Subsystem and number of Contract]*

To: *[insert: name of Purchaser and address]*

Attention: *[insert: name and title]*

Dear Sir or Madam:

We hereby propose that the below-mentioned work be treated as a Change to the System.

1. Title of Change: *[insert: name]*
2. Application for Change Proposal No./Rev.: *[insert: number / revision]* dated: *[insert: date]*
3. Brief Description of Change: *[insert: description]*
4. Reasons for Change: *[insert: description]*
5. Order of Magnitude Estimation: *[insert: amount in currencies of the Contract]*
6. Schedule Impact of Change: *[insert: description]*
7. Effect on Functional Guarantees, if any: *[insert: description]*
8. Appendix: *[insert: titles (if any); otherwise state "none"]*

For and on behalf of the Supplier

Signed:

Date:

in the capacity of: *[state: "Supplier's Representative" or specify a higher level authority in the Supplier's organization]*