POWER GRID BANGLADESH PLC

Bidding Document

for

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8)_Re-tender.

Volume 1 of 3

Issued on	:	July **25, 2024**
Invitation for Bids No.:		**27.21.0000.101.07.321.24.3990,** July **25, 2024**
OCB No.	:	**PGCB/AIIB/L8374/DWZTGEP/GIS/P8 (Re-tender)**
Country	:	**Bangladesh**

Employer:

Power Grid Bangladesh (Power Grid)

Power Grid Head office Building, Jahurul Islam city, Avenue-3

Aftabnagar, Badda, Dhaka-1212, Bangladesh.

Part I: Bidding Procedures

Section 1 - Instructions to Bidders (ITB)
Section 2 - Bid Data Sheet (BDS)
Section 3 - Evaluation and Qualification Criteria (EQC)
Section 4 - Bidding Forms (BDF)
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Section 1: Instructions to Bidders

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A. General

1. Scope of Bid

1.1 In connection with the Invitation for Bids (IFB) indicated in the Bid Data Sheet (BDS), the Employer, as indicated in the BDS, issues this Bidding Document for the procurement of plant and services as specified in Section 6 (Employer's Requirements). The name, identification, and number of lot/s (contract/s) of the open competitive bidding (OCB) are provided in the BDS.

1.2 Throughout this Bidding Document,

(a) the term "in writing" means communicated in written form and delivered against receipt;

(b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and

(c) "Day" means calendar day.

2. Source of Funds

2.1 The Borrower or Recipient (hereinafter called "Borrower") indicated in the BDS has applied for or received financing (hereinafter called "funds") from Asian Development Bank (ADB) and Asian Infrastructure Investment Bank (AIIB) toward the cost of the project named in the BDS. The Borrower intends to apply a portion of the funds from AIIB to eligible payments under the contract(s) for which this Bidding Document is issued.

2.2 Payments by AIIB will be made only at the request of the Borrower and upon approval by AIIB in accordance with the terms and conditions of the Financing Agreement between the Borrower and AIIB (hereinafter called "Financing Agreement"), and will be subject in all respects to the terms and conditions of that Financing Agreement. No party other than the Borrower shall derive any rights from the Financing Agreement or have any claim to the funds.

3. Fraud and Corruption

3.1 ADB's Anticorruption Policy (1998, as amended to date) requires Borrowers (including beneficiaries of ADB-financed activity), as well as Bidders, Suppliers, and Contractors under ADB-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, ADB

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;

(ii) "fraudulent practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;

(iii) "coercive practice" means 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;

(iv) "collusive practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;

(v) "abuse" means theft, waste, or improper use of assets related to ADB-related activity, either committed intentionally or through reckless disregard;

(vi) "conflict of interest" means any situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations;

(vii) "obstructive practice" means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an ADB investigation, or deliberately making false statements to investigators, with the intent to impede an ADB investigation; (b) threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to a Bank investigation or from pursuing the investigation; or (c) deliberate acts intended to impede the exercise of ADB's contractual rights of audit or inspection or access to information; and

(viii) "integrity violation" is any act, as defined under ADB's Integrity Principles and Guidelines (2015, as amended from time to time), which violates ADB's Anticorruption Policy, including (i) to (vii) above and the following: violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB's Anticorruption Policy, including failure to adhere to the highest ethical standard.

(b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;

(c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation;

(d) will impose remedial actions ona firm or an individual, at any time, in accordance with ADB's Anticorruption Policy and Integrity Principles and Guidelines, including declaring ineligible, either indefinitely or for a stated period of time, to participate[1] in ADB-financed,-administered,or -supported activities or to benefit from an ADB-financed, -administered,or -supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive orobstructive practices or other integrity violations; and

(e) will have the right to require that a provision be included in the Bidding

[1] Whether as a Contractor, Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document).

Documents and in contracts financed by ADB, requiring Bidders, suppliers and contractors to permit ADB or its representative to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB.

3.2 All Bidders, consultants, contractors, suppliers, and other third parties engaged or involved in ADB-related activities have a duty to cooperate fully in any screening or investigation when requested by ADB to do so. Such cooperation includes, but is not limited to, the following:

(a) being available to be interviewed and replying fully and truthfully to all questions asked;

(b) providing ADB with any items requested that are within the party's control including, but not limited to, documents and other physical objects;

(c) upon written request by ADB, authorizing other related entities to release directly to ADB such information that is specifically and materially related, directly or indirectly, to the said entities or issues which are the subject of the investigation;

(d) cooperating with all reasonable requests to search or physically inspect their person and/or work areas, including files, electronic databases, and personal property used on ADB activities, or that utilizes ADB's Information and Communications Technology (ICT) resources or systems (including mobile phones, personal electronic devices, and electronic storage devices such as external disk drives);

(e) cooperating in any testing requested by ADB, including but not limited to, fingerprint identification, handwriting analysis, and physical examination and analysis; and

(f) preserving and protecting confidentiality of all information discussed with, and as required by, ADB.

3.3 All Bidders, consultants, contractors and suppliers shall ensure that, in its contract with its sub-consultants, subcontractors, and other third parties engaged or involved in ADB-related activities, such sub-consultants, subcontractors, and other third parties similarly undertake the foregoing duty to cooperate fully in any screening or investigation when requested by ADB to do so.

3.4 The Employer hereby puts the Bidder on notice that the Bidder or any Joint Venture partner of the Bidder (if any) may not be able to receive any payments under the Contract if the Bidder or any of its Joint Venture partners, as appropriate, is, or is owned (in whole or in part) by a person or entity subject to applicable sanctions.

3.5 Furthermore, Bidders shall be aware of the provision stated in GCC 9.6 and GCC 42.2.1 (c).

4. Eligible Bidders

4.1 A Bidder may be a natural person, private entity, or government-owned enterprise subject to ITB 4.5 - or any combination of them with a formal intent to enter into an agreement or under an existing agreement in the form of a Joint Venture. In the case of a Joint Venture,

(a) all partners shall be jointly and severally liable, and

(b) the Joint Venture shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the partners of the Joint Venture during the bidding process and, in the event the Joint Venture is awarded the Contract, during contract execution.

4.2 A Bidder, and all partners constituting the Bidder, shall have the nationality of an eligible country, in accordance with Section 5 (Eligible Countries). A Bidder shall be deemed to have the nationality of a country if the Bidder is a citizen or is constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including related services.

4.3 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in this bidding process if any of, including but not limited to, the following apply:

(a) they have controlling shareholders in common; or

(b) they receive or have received any direct or indirect subsidy from any of them; or

(c) they have the same legal representative for purposes of this bid; or

(d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to material information about or improperly influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or

(e) a Bidder participates in more than one bid in this bidding process, either individually or as a partner in a Joint Venture, except for alternative offers permitted under ITB 13. This will result in the disqualification of all Bids in which it is involved. However, subject to any finding of a conflict of interest in terms of ITB 4.3 (a) - (d) above, this does not limit the participation of a Bidder as a subcontractor in another Bid or of a firm as a subcontractor in more than one Bid; or

(f) a Bidder, Joint Venture partner, associates, parent company or any affiliated entity, participated as a consultant in the preparation of the design or technical specifications of the plant and services that are the subject of the Bid; or

(g) a Bidder was affiliated with a firm or entity thathas been hired (or is proposed to be hired) by the Employer or Borrower as Project Manager for the Contract; or

(h) a Bidder would be providing goods, works, or nonconsulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with

that firm.

4.4 A firm shall not be eligible to participate in any procurement activities under an ADB-financed, -administered, or -supported project while under temporary suspension or debarment by ADB pursuant to its Anticorruption Policy (see ITB 3), whether such debarment was directly imposed by ADB, or enforced by ADB pursuant to the Agreement for Mutual Enforcement of Debarment Decisions. A bid from a temporary suspended or debarred firm will be rejected.

4.5 Government-owned enterprises in the Borrower's country shall be eligible only if they can establish that they (i) are legally and financially autonomous, (ii) operate under commercial law, and (iii) are not dependent agencies of the Employer.

4.6 A Bidder shall not be under suspension from bidding by the Employer as the result of the execution of a Bid–Securing Declaration.

4.7 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.

4.8 Firms shall be excluded if (a) 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 persons or entities in that country; or (b) in accordance with the prevailing law of the Borrower's country, if they are from countries with which the Borrower's country prohibits commercial relations, provided that ADB is satisfied that such exclusion does not preclude effective competition in relation to such procurement.

4.9 In case a prequalification process has been conducted prior to the bidding process, this bidding is open only to prequalified Bidders.

5. Eligible Plantand Services

5.1 The plant and services to be supplied under the Contract shall have their origin in eligible source countries as defined in ITB 4.2 and all expenditures under the Contract will be limited to such plant and services.

5.2 For purposes of ITB 5.1 above, "origin" means the place where the plant, or component parts thereof are mined, grown, produced, or manufactured, and from which the services are provided. Plant components are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that is substantially in its basic characteristics or in purpose or utility from its components.

B. Contents of Bidding Document

6. Sections of Bidding Document

6.1 The Bidding Document consists of Parts I, II, and III, which include all the sections indicated below, and should be read in conjunction with any addenda issued in accordance with ITB 8.

PART I Bidding Procedures

Section 1 - Instructions to Bidders (ITB)
Section 2 - Bid Data Sheet (BDS)
Section 3 - Evaluation and Qualification Criteria (EQC)
Section 4 - Bidding Forms (BDF)
Section 5 - Eligible Countries (ELC)

PART II Requirements
Section 6 - Employer's Requirements (ERQ)

PART III Conditions of Contract and Contract Forms
Section 7 - General Conditions of Contract (GCC)
Section 8 - Special Conditions of Contract (SCC)
Section 9 - Contract Forms (COF)

6.2 The IFB issued by the Employer is not part of the Bidding Document.

6.3 The Employer is not responsible for the completeness of the Bidding Document and its addenda, if they were not obtained directly from the source stated by the Employer in the IFB.

6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Document. Failure to furnish all information or documentation required by the Bidding Document may result in the rejection of the Bid.

7. Clarification of Bidding Document, Site Visit, Pre-Bid Meeting

7.1 A prospective Bidder requiring any clarification on the Bidding Document shall contact the Employer in writing at the Employer's address indicated in the BDS, or raise inquiries during the pre-bid meeting if provided for in accordance with ITB 7.4. The Employer will respond to any request for clarification, provided that such request is received no later than 21 days prior to the deadline for submission of bids. The Employer'sresponse shall be in writing with copies to all Bidders who have acquired the Bidding Document in accordance with ITB 6.3, including a description of the inquiry but without identifying its source. Should the Employer deem it necessary to amend the Bidding Document as a result of a request for clarification, it shall do so following the procedure under ITB 8 and ITB 24.2.

7.2 The Bidder is advised to visit and examine the site where the plant is to be installed and its surroundings and obtain for itself on its own responsibility all information that may be necessary for preparing the Bid and entering into a contract for the provision of plant and services. The costs of visiting the site shall be at the Bidder's own expense.

7.3 The Bidder and any of its personnel or agents will be granted permission by the Employer to enter its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents, will release and indemnify the Employer 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 Bidder's designated representative is invited to attend a pre-bid meeting, if provided for in the BDS. 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 Bidder is requested to submit any questions in writing, to reach the Employer not later than 1 week before the pre-bid meeting.

7.6 Minutes of the pre-bid 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 Bidders who have acquired the Bidding Document in accordance with ITB 6.3. Any modification to the Bidding Document that may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting.

7.7 Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.

8. Amendment of Bidding Document

8.1 At any time prior to the deadline for submission of Bids, the Employer may amend the Bidding Document by issuing addenda.

8.2 Any addendum issued shall be part of the Bidding Document and shall be communicated in writing to all who have obtained the Bidding Document from the Employer in accordance with ITB 6.3.

8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer may, at its discretion, extend the deadline for the submission of Bids, pursuant to ITB 24.2

C. Preparation of Bids

9. Cost of Bidding

9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

10. Language of Bid

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

11. Documents Comprising the Bid

11.1 The Bid shall comprise two envelopes submitted simultaneously, one containing the Technical Bid and the other the Price Bid, both envelopes enclosed together in an outer single envelope.

11.2 The Technical Bid submitted by the Bidder shall comprise the following:

(a) Letter of Technical Bid;

(b) Bid Security or Bid-Securing Declaration, in accordance with ITB 21;

(c) alternative Bids, if permissible, in accordance with ITB 13;

(d) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 22.2;

(e) documentary evidence in accordance with ITB 14.1, that the plant and services offered by the Bidder in its Bid or in any alternative Bid, if permitted, are eligible;

(f) documentary evidence in accordance with ITB 15, the Bidder's eligibility and qualifications to perform the contract if its Bid is accepted;

(g) Technical Proposal in accordance with ITB 17.

(h) documentary evidence in accordance with ITB 16, that the plant and services offered by the Bidder conform to the Bidding Document;

(i) in the case of a bid submitted by a Joint Venture, the Bid shall include a copy of the Joint Venture Agreement entered into by all partners. Alternatively, a Letter of Intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all partners and submitted with the Bid, together with a copy of the proposed agreement;

(j) list of subcontractors, in accordance with ITB 17.2; and

(k) any other document required in the BDS.

11.3 The Price Bid submitted by the Bidder shall comprise the following:

(a) Letter of Price Bid;

(b) completed schedules as required, including Price Schedules, in accordance with ITB 12 and ITB 18;

(c) alternative price Bids, if permissible, in accordance with ITB 13; and

(d) any other document required in the BDS.

12. Letter of Bid and Schedules

12.1 The Letters of Technical Bid and Price Bid, and the Schedules, and all documents listed under ITB 11, shall be prepared using the relevant forms furnished in Section 4 (Bidding Forms). The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested and as required in the BDS.

13. Alternative Bids

13.1 The BDS indicates whether alternative Bids are allowed. If they are allowed, the BDS will also indicate whether they are permitted in accordance with ITB 13.3, or invited in accordance with ITB13.2 and/or ITB 13.4.

13.2 When alternatives to the Time Schedule are explicitly invited, a statement to that effect will be included in the BDS, and the method of evaluating different time schedules will be described in Section 3 (Evaluation and Qualification Criteria).

13.3 Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the Employer's requirements as described in the Bidding Document must also provide: (i) a price at which they are prepared to offer a plant meeting the Employer's requirements;and (ii) all information necessary for a complete evaluation of the alternatives by the Employer, 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 lowest evaluated Bidder conforming to the basic technical requirements shall be considered by the Employer.

13.4 When Bidders are invited in the BDS to submit alternative technical solutions for specified parts of the facilities, such parts shall be described in Section 6 (Employer's Requirements). Technical alternatives for the specific parts of the facilities that comply with the performance and technical criteria specified for the plant and services shall be considered by the Employer on their own merits, pursuant to ITB 32.

14. Documents Establishing the Eligibility of Plant and Services

14.1 To establish the eligibility of the plant and services in accordance with ITB 5, Bidders shall complete the Country of Origin Declaration Form included in Section 4 (Bidding Forms).

15. Documents Establishing the Eligibility and Qualifications of the Bidder

15.1 To establish its eligibility and qualifications to perform the Contract in accordance with Section 3 (Evaluation and Qualification Criteria), the Bidder shall provide the information requested in the corresponding information sheets included in Section 4 (Bidding Forms).

15.2 Domestic Bidders, individually or in Joint Ventures, applying for eligibility for domestic preference shall supply all information required to satisfy the criteria for eligibility as described in ITB 38.

16. Documents Establishing Conformity of the Plant and Services

16.1 The documentary evidence of the conformity of the plant and services to the Bidding Document may be in the form of literature, drawings and data, and shall furnish:

(a) a detailed description of the essential technical and performance characteristics of the plant and services, including the functional guarantees of the proposed plant and services, in response to the Specification;

(b) a list giving full particulars, including available sources, of all spare parts and special tools necessary for the proper and continuing functioning of the plant for the period named in the BDS, following completion of plant and services in accordance with provisions of the contract; and

(c) A commentary on the Employer's Specifications and adequate evidence demonstrating the substantial responsiveness of the plant

and services to those specifications. Bidders shall note that standards for workmanship, materials and equipment designated by the Employer in the Bidding Document are intended to be descriptive (establishing standards of quality and performance) only and not restrictive. The Bidder may substitute alternative standards, brand names and/or catalog numbers in its Bid, provided that it demonstrates to the Employer's satisfaction that the substitutions are substantially equivalent or superior to the standards designated in the Specifications.

17. Technical Proposal, Subcontractors

17.1 The Bidder shall furnish a Technical Proposal including a statement of work methods, equipment, personnel, schedule and any other information as stipulated in Section 4 (Bidding Forms), in sufficient detail to demonstrate the adequacy of the Bidders' proposal to meet the work requirements and the completion time.

17.2 For major items of plant and services as listed by the Employer in Criterion 2.5 of Section 3 (Evaluation and Qualification Criteria), which the Bidder intends to purchase or subcontract, the Bidder shall give details of the name and nationality of the proposed Subcontractors, including Manufacturers, for each of those items. In addition, the Bidder shall include in its Bid information establishing compliance with the requirements specified by the Employer for these items. Bidders are free to list more than one Subcontractor against each item of the plant and services. 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.

17.3 The Bidder shall be responsible for ensuring that any Subcontractor proposed complies with the requirements of ITB 4, and that any plant, or services to be provided by the Subcontractor comply with the requirements of ITB 5 and ITB 15.1

18. Bid Prices and Discounts

18.1 Unless otherwise specified in the BDS and/or Section 6 (Employer's Requirements), bidders shall quote for the entire plant and services on a "single responsibility" basis such that the total Bid price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the Bidding Document in respect of the design, manufacture, including procurement and subcontracting (if any), delivery, construction, installation, and completion of the plant. This includes all requirements under the Contractor's responsibilities for testing, pre-commissioning and commissioning of the plant and, where so required by the Bidding Document, the acquisition of all permits, approvals, and licenses, etc.; the operation, maintenance, and training services and such other items and services as may be specified in the Bidding Document, all in accordance with the requirements of the General Conditions. Items against which no price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed to be covered by the prices for other items.

18.2 Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the Bidding Document.

18.3 Bidders shall give a breakdown of the prices in the manner and detail called for in the Price Schedules included in Section 4 (Bidding Forms).Where no different Price Schedules are included in the Bidding Document, Bidders shall present their prices in the following manner: Separate numbered Schedules included in Section 4 (Bidding Forms) shall be used for each of the following elements. The total amount from each Schedule (Nos. 1 to 4) shall be summarized in a Grand Summary (Schedule No. 5) giving the total bid price(s) to be entered in the Letter of Price Bid. Absence of the total bid price in the Letter of Price Bid may result in the rejection of the Bid.

Schedule No. 1: Plant and Mandatory Spare Parts Supplied from Abroad

Schedule No. 2: Plant and Mandatory Spare Parts Supplied from Within the Employer's Country

Schedule No. 3: Design Services

Schedule No. 4: Installation and Other Services

Schedule No. 5 Grand Summary (Schedule Nos. 1 to 4)

Schedule No. 6: Recommended Spare Parts

Bidders shall note that the plant and mandatory spare parts included in Schedule Nos. 1 and 2 above exclude materials used for civil, building, and other construction works. All such materials shall be included and priced under Schedule No. 4, Installation and Other Services.

18.4 In the Schedules, Bidders shall give the required details and a breakdown of their prices as follows:

(a) Plant to be Supplied from Abroad (Schedule No. 1):

(i) the price of the plant shall be quoted carriage and insurance paid (CIP)-named place of destination basis specified in the BDS;

(ii) all customs duties and other taxes paid or payable in the Employer's country on the plant if the contract is awarded to the Bidder; and

(iii) the total price for the plant.

(b) Plant Supplied from Within the Employer's Country (Schedule No. 2):

(i) the price of the plant shall be quoted on an EXW Incoterm basis (ex works, ex factory, ex warehouse, ex showroom, as applicable), including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of plant quoted ex works or ex factory, or on the previously imported plant of foreign origin quoted ex warehouse, ex showroom;

(ii) sales tax and other taxes payable in the Employer's country on the plant if the contract is awarded to the Bidder, and

(iii) the total price for the plant.

(c) Design Services. (Schedule No. 3). Rates or prices shall include all taxes, duties, levies, and charges payable in the Employer's country as of 28 days prior to the deadline for submission of Bids.

(d) Installation and Other Services (Schedule No. 4) shall be quoted separately and shall include rates or prices for local transportation, insurance, and other services incidental to delivery of the plant, all labor, contractor's equipment, temporary works, materials, consumables, and all matters and things of whatsoever nature, including operations and maintenance services, the provision of operations and maintenance manuals, training, etc., where identified in the Bidding Document, as necessary for the proper execution of the installation and other services, including all taxes, duties, levies, and charges payable in the Employer's country as of 28 days prior to the deadline for submission of bids.

(e) Recommended spare parts (Schedule No. 6) shall be quoted separately as specified in either subparagraph (a) or (b) above in accordance with the origin of the spare parts.

18.5 The current edition of Incoterms, published by the International Chamber of Commerce shall govern.

18.6 The prices shall be either fixed or adjustable as specified in the BDS.

(a) In the case of Fixed Price, prices quoted by the Bidder shall be fixed during the Bidder's performance of the contract and not subject to variation on any account. A Bid submitted with an adjustable price quotation will be treated as nonresponsive and rejected.

(b) In the case of Adjustable Price, prices quoted by the Bidder shall be subject to adjustment during performance of the contract to reflect changes in the cost elements such as labor, material, transport, and contractor's equipment in accordance with the procedures specified in the corresponding appendix to the Contract Agreement. A Bid submitted with a fixed price quotation will be treated as nonresponsive and be rejected. The Bidder shall furnish the indexes (e.g. for labor and materials), their weightings and source in the Tables of Adjustment Data included in Section 4 (Bidding Forms). The Employer may require the Bidder to justify its proposed indexes and weightings. Any bid that omits indexes and weightings shall be subject to clarification with the Bidder.

18.7 If so indicated in BDS 1.1, Bids are being invited for individual lots (contracts) or for any combination of lots (packages). Bidders wishing to offer any price reduction (discount) for the award of more than one contract shall specify in their Letter of Price Bid the price reductions applicable to each package, or alternatively, to individual contracts within the package, and the manner in which the price reductions will apply.

19. Currencies of Bid and Payment

19.1 The currency(ies) of the bid shall be, as specified in the BDS.

19.2 Bidders may be required by the Employer to justify, to the Employer's satisfaction, their local and foreign currency requirements.

20. Period of Validity of Bids

20.1 Bids shall remain valid for the period specified in the BDS after the bid submission deadline date prescribed by the Employer. A bid valid for a shorter period shall be rejected by the Employer as nonresponsive.

20.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Employer may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 21, it shall also be extended 28 days beyond the deadline of the extended bid validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its Bid.

21. Bid Security/ Bid Securing Declaration

21.1 Unless otherwise specified in the BDS, the Bidder shall furnish as part of its Bid, in original form, either a Bid-Securing Declaration or a bid securityas specified in the BDS. In the case of a bid security, the amount and currency shall be as specified in the BDS.

21.2 If a Bid-Securing Declaration is required pursuant to ITB 21.1, it shall use the form included in Section 4 (Bidding Forms). The Employer will declare a Bidder ineligible to be awarded a Contract for a specified period of time, as indicated in the BDS, if a Bid-Securing Declaration is executed.

21.3 If a bid security is specified pursuant to ITB 21.1, the bid security shall be,at the Bidder's option, in any of the following forms:

(a) an unconditional bank guarantee,

(b) an irrevocable letter of credit,

(c) a cashier's or certified check,or

(d) SWIFT message in the form of MT760.

allfrom a reputable source from an eligible country as described in Section 5 (Eligible Countries). In the case of a bank guarantee,the bid security shall be submitted using either the Bid Security Form included in Section 4 (Bidding Forms) or another form acceptable to the Employer. The form must include the complete name of the Bidder. The bid security shall be valid for 28 days beyond the original validity period of the Bid, or beyond any period of extension if requested under ITB 20.2.

21.4 Unless otherwise specified in the BDS, any Bid not accompanied by a substantially compliant bid security or Bid-Securing Declaration, if one is required in accordance with ITB 21.1,shall be rejected by the Employer as nonresponsive.

21.5 If a bid security is specified pursuant to ITB 21.1, the bid security of the unsuccessful Bidder shall be returned promptly upon the successful Bidder's furnishing of the performance security pursuant to ITB 46.

21.6 If a bid security is specified pursuant to ITB 21.1, the bid security of successful Bidders shall be returned promptly once the successful Bidder

has signed the Contract and furnished the required performance security.

21.7 The bid security may be forfeited or the Bid-Securing Declaration executed, if

(a) notwithstanding ITB 26.3, a Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Letters of Technical Bid and Price Bid, except as provided in ITB 20.2 or

(b) the successful Bidder fails to:

(i) sign the Contract in accordance with ITB 45;

(ii) furnish a performance security in accordance with ITB 46; or

(iii) accept the arithmetical corrections of its Bid in accordance with ITB 36.

21.8 If the bid security is required as per ITB 21.1, the bid security of a Joint Venture shall be in the name of the Joint Venture that submits the Bid. If the Joint Venture has not been legally constituted at the time of bidding, the bid security shall be in the name of any or all of the Joint Venture partners. If the Bid-Securing Declaration is required as per ITB 21.1, the Bid-Securing Declaration of a Joint Venture shall be in the name of the Joint Venture that submits the Bid. If the Joint Venture has not been legally constituted at the time of bidding, the Bid-Securing Declaration shall be in the names of all future partners as named in the letter of intent referred to in ITB 4.1.

22. Format and Signing of Bid

22.1 The Bidder shall prepare one original set of the Technical Bid and one original set of the Price Bidcomprising the Bid as described in ITB 11 and clearly mark it “ORIGINAL - TECHNICAL BID” and “ORIGINAL - PRICE BID”. Alternative bids, if permitted in accordance with ITB 13, shall be clearly marked “ALTERNATIVE”. In addition, the Bidder shall submit copies of the Bid, in the number specified in the BDS and clearly mark each of them “COPY.” In the event of any discrepancy between the original and the copies, the original shall prevail.

22.2 The original and all copies of the Bid shall be typed or written in indelible ink and shall be signed by a person duly authorized to sign on behalf of the Bidder. This authorization shall consist of a written confirmation as specified in the BDS and shall be attached to the Bid. The name and position held by each person signing the authorization must be typed or printed below the signature. If a Bidder submits a deficient authorization, the Bid shall not be rejected in the first instance. The Employer shall request the Bidder to submit an acceptable authorization within the number of days as specified in the BDS. Failure to provide an acceptable authorization within the period stated in the Employer’s request shall cause the rejection of the Bid. If either the Letter of Technical Bid or Letter of Price Bid or the Bid-Securing Declaration (if applicable) is not signed, the Bid shall be rejected.

22.3 A Bid submitted by a Joint Venture shall be signed so as to be legally binding on all partners.

22.4 Any amendments such as interlineations, erasures, or overwriting shall be

valid only if they are signed or initialed by the person signing the Bid.

D. Submission and Opening of Bids

23. Submission, Sealing, and Marking of Bids

23.1 Bidders may submit their Bids by mail or by hand. When so specified in the BDS, Bidders shall have the option of submitting their Bids electronically. Procedures for submission, sealing and marking are as follows:

(a) Bidders submitting Bids by mail or by hand shall enclose the original and each copy of the Bid, including alternative Bids, if permitted in accordance with ITB 13, in separate sealed envelopes, duly marking the envelopes as "ORIGINAL," "ALTERNATIVE," and "COPY." These envelopes containing the original and the copies shall then be enclosed in one single envelope. The rest of the procedure shall be in accordance with ITB 23.2 to ITB 23.6.

(b) Bidders submitting Bids electronically shall follow the electronic bid submission procedures specified in the BDS.

23.2 The inner and outer envelopes shall

(a) bear the name and address of the Bidder,

(b) be addressed to the Employer in accordance with ITB 24.1, and

(c) bear the specific identification of this bidding process indicated in the BDS 1.1.

23.3 The outer envelopes and the inner envelopes containing the Technical Bid shall bear a warning not to open before the time and date for the opening of Technical Bid, in accordance with ITB 27.1.

23.4 The inner envelopes containing the Price Bid shall bear a warning not to open until advised by the Employer in accordance with ITB 27.7.

23.5 Alternative Bids, if permissible in accordance with ITB 13, shall be prepared, sealed, marked, and delivered in accordance with the provisions of ITB 20 and ITB 21, with the inner envelopes marked in addition "ALTERNATIVE NO…." as appropriate.

23.6 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.

24. Deadline for Submission of Bids

24.1 Bids must be received by the Employer at the address and no later than the date and time indicated in the BDS.

24.2 The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 8, in which case all rights and obligations of the Employer and Bidders previously subject

to the deadline shall thereafter be subject to the deadline as extended.

25. Late Bids

25.1 The Employer shall not consider any Bid that arrives after the deadline for submission of Bids, in accordance with ITB 24. Any Bid received by the Employer after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.

26. Withdrawal, Substitution, and Modification of Bids

26.1 A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB 22.2 (except for withdrawal notices, which do not require copies). The corresponding substitution or modification of the Bid must accompany the respective written notice. All notices must be:

(a) prepared and submitted in accordance with ITB 22 and ITB 23 (except for withdrawal notices, which do not require copies), and in addition, the respective envelopes shall be clearly marked "WITHDRAWAL," "SUBSTITUTION," "MODIFICATION;" and

(b) received by the Employer prior to the deadline prescribed for submission of Bids, in accordance with ITB 24.

26.2 Bids requested to be withdrawn in accordance with ITB 26.1 shall be returned unopened to the Bidders.

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

27. Bid Opening

27.1 The Employer shall open the Technical Bids in public at the address, on the date, and time specified in the BDS in the presence of Bidder's designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 23.1, shall be as specified in the BDS.The Price Bids will remain unopened and will be held in custody of the Employer until the specified time of their opening. If the Technical Bid and the Price Bid are submitted together in one envelope, the Employer may reject the entire Bid. Alternatively, the Price Bid may be immediately resealed for later evaluation.

27.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding Bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening.

27.3 Second, outer envelopes marked "SUBSTITUTION" shall be opened. The inner envelopes containing the Substitution Technical Bid and/or Substitution Price Bid shall be exchanged for the corresponding envelopes being substituted, which are to be returned to the Bidder unopened. Only the Substitution Technical Bid, if any, shall be opened, read out, and recorded. Substitution Price Bid will remain unopened in accordance with ITB 27.1. No envelope shall be substituted unless the corresponding

Substitution Notice contains a valid authorization to request the substitution and is read out and recorded at bid opening.

27.4 Next, outer envelopes marked “MODIFICATION” shall be opened. No Technical Bid and/or Price Bid shall be modified unless the corresponding Modification Notice contains a valid authorization to request the modification and is read out and recorded at the opening of Technical Bids. Only the Technical Bids, both Original as well as Modification, are to be opened, read out, and recorded at the opening. Price Bids, both Original as well as Modification, will remain unopened in accordance with ITB 27.1.

27.5 All other envelopes holding the Technical Bids shall be opened one at a time, and the following read out and recorded:

(a) the name of the Bidder;

(b) whether there is a modification or substitution;

(c) the presence of a bid security or a Bid-Securing Declaration, if required; and

(d) any other details as the Employer may consider appropriate.

Only Technical Bids and alternative Technical Bids read out and recorded at bid opening shall be considered for evaluation. Unless otherwise specified in the BDS, all pages of the Letter of Technical Bid are to be initialed by at least three representatives of the Employer attending the bid opening.No Bid shall be rejected at the opening of Technical Bids except for late Bids, in accordance with ITB 25.1.

27.6 The Employer shall prepare a record of the opening of Technical Bids that shall include, as a minimum: the name of the Bidder and whether there is a withdrawal, substitution, or modification; and alternative Bids; and the presence or absence of a bid security or a Bid-Securing Declaration, if one was required. The Bidders’ representatives who are present shall be requested to sign the record. The omission of a Bidder’s signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidders who submitted Bids on time, and posted online when electronic bidding is permitted.

27.7 At the end of the evaluation of the Technical Bids, the Employer will invite bidders who have submitted substantially responsive Technical Bids and who have been determined as being qualified for award to attend the opening of the Price Bids. The date, time, and location of the opening of Price Bids will be advised in writing by the Employer. Bidders shall be given reasonable notice of the opening of Price Bids.

27.8 The Employer will notify Bidders in writing who have been rejected on the grounds of their Technical Bids being substantially nonresponsive to the requirements of the Bidding Document and return their Price Bids unopened.

27.9 The Employer shall conduct the opening of Price Bids of all Bidders who submitted substantially responsive Technical Bids, in the presence of Bidders` representatives who choose to attend at the address, on the date, and time specified by the Employer. The Bidder’s representatives who are

present shall be requested to sign a register evidencing their attendance.

27.10 All envelopes containing Price Bids shall be opened one at a time and the following read out and recorded:

(a) the name of the Bidder;

(b) whether there is a modification or substitution;

(c) the Bid Prices, including any discounts and alternative offers; and

(d) Any other details as the Employer may consider appropriate.

Only Price Bids, discounts, and alternative offers read out and recorded during the opening of Price Bids shall be considered for evaluation. Unless otherwise specified in the BDS, all pages of the Letter of Price Bid and Price Schedules are to be initialed by at least three representatives of the Employer attending bid the opening. No Bid shall be rejected at the opening of Price Bids.

27.11 The Employer shall prepare a record of the opening of Price Bids that shall include, as a minimum: the name of the Bidder, the Bid Price (per lot if applicable), any discounts, and alternative offers. The Bidders' representatives who are present shall be requested to sign the record. The omission of a Bidder's signature on the record shall not invalidate the contents and effect of the record. A copy of the record shall be distributed to all Bidderswho submitted Bids on time, and posted online when electronic bidding is permitted.

E. Evaluation and Comparison of Bids

28. Confidentiality

28.1 Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until publication ofContract award.

28.2 Any attempt by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid.

28.3 Notwithstanding ITB 28.2, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact the Employer on any matter related to the bidding process, it should do so in writing.

29. Clarification of Bids

29.1 To assist in the examination, evaluation, and comparison of the Technical and Price Bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change in the substance of the Technical Bid or prices in the Price Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids, in accordance with ITB 36.

29.2 If a Bidder does not provide clarifications of its Bid by the date and time set in

the Employer's request for clarification, its Bid may be rejected.

30. Deviations, Reservations, and Omissions

30.1 During the evaluation of Bids, the following definitions apply:

(a) "Deviation" is a departure from the requirements specified in the Bidding Document;

(b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and

(c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.

31. Examination of Technical Bids

31.1 The Employer shall examine the Technical Bid to confirm that all documents and technical documentation requested in ITB 11.2 have been provided, and to determine the completeness of each document submitted. If any of these documents or information is missing, the Bid may be rejected.

31.2 The Employer shall confirm that the following documents and information have been provided in the Technical Bid. If any of these documents or information is missing, the offer shall be rejected.

(a) Letter of Technical Bid;

(b) written confirmation of authorization to commit the Bidder;

(c) Bid Security or Bid-Securing Declaration, if applicable; and

(d) Technical Proposal in accordance with ITB 17.

32. Responsiveness of Technical Bid

32.1 The Employer's determination of a bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB11.

32.2 A substantially responsive Technical Bidis one that meets the requirements of the Bidding 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 plant and services specified in the Contract; or

(ii) Limit in any substantial way, inconsistent with the Bidding Document, the Employer's rights or the Bidder's obligations under the proposed Contract; or

(b) If rectified, would unfairly affect the competitive position of other Bidders presenting substantially responsive Bids.

32.3 The Employer shall examine the technical aspects of the Bid submitted in accordance with ITB 17, Technical Proposal, in particular to confirm that all requirements of Section 6 (Employer's Requirements) have been met without any material deviation, reservation, or omission.

32.4 If a Bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

33. Nonmaterial Nonconformities

33.1 Provided that a Bid is substantially responsive, the Employer may waive any nonconformities in the Bid that do not constitute a material deviation, reservation, or omission.

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

33.3 Provided that a Bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or nonconforming item or component. The adjustment shall be made using the method indicated in Section 3 (Evaluation and Qualification Criteria).

34. Detailed Evaluation of Technical Bids

34.1 The Employer will carry out a detailed technical evaluation of the Bids not previously rejected as being substantially nonresponsive, to determine whether the technical aspects are in compliance with the Bidding Document. The Bid that does not meet minimum acceptable standards of completeness, consistency, and detail, and the specified minimum and/or maximum requirements for specified functional guarantees, will be treated as nonresponsive and hence rejected. To reach such a determination, the Employer will examine and compare the technical aspects of the bids on the basis of the information supplied by the Bidders, taking into account the following:

(a) overall completeness and compliance with the Employer's Requirements; deviations from the Employer's Requirements; conformity of the plant and services offered with specified performance criteria; suitability of the plant and services offered in relation to the environmental and climatic conditions prevailing at the site; and quality, function and operation of any process control concept included in the Bid. The Bid that does not meet minimum and/or maximum acceptable standards of completeness, consistency, and detail will be rejected for non-responsiveness;

(b) type, quantity, and long-term availability of mandatory and recommended spare parts and maintenance services; and

(c) Other relevant factors, if any, listed in Section 3 (Evaluation and Qualification Criteria).

34.2 Where alternative technical solutions have been allowed in accordance with ITB 13, and offered by the Bidder, the Employer will make a similar evaluation of the alternatives. Where alternatives have not been allowed but have been offered, they shall be ignored.

35. Eligibility and Qualification of the Bidder

35.1 The Employer shall determine to its satisfaction during the evaluation of Technical Bids whether a Biddermeets the eligibility and qualifying criteria specified in Section 3 (Evaluation and Qualification Criteria).

35.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 15.Unless permitted in the BDS, the determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialist Subcontractors if permitted in the bidding document), or any other firm(s) different from the Bidder.

35.3 An affirmative determination shall be a prerequisite for the opening and evaluation of a Bidder's Price Bid. The Employer reserves the right to reject the bid of any bidder found to be in circumstances described in GCC 42.2.1(a). A negative determination shall result into the disqualification of the Bid, in which event the Employer shall return the unopened Price Bid to the Bidder.

35.4 The capabilities of the manufacturers and subcontractors proposed in its Bid for the major items of plant and services to be used by a Bidder will also be evaluated for acceptability in accordance with Section 3 (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 Bid will not be rejected, but the Bidder will be required to propose, without changing its bid price, an acceptable substitute manufacturer or subcontractor meeting the minimum technical specifications stated in Section 6 (Employer's Requirements). If a Bidder does not provide an acceptable substitute manufacturer or subcontractor by the date and time set in the Employers request for substitution of manufacturer or subcontractor, its Bid may be rejected.

35.5 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.

36. Correction of Arithmetical Errors

36.1 During the evaluation of Price Bids, the Employer 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 amounts given under the column for the price breakdown shall prevail and the Total Price will be corrected accordingly;

(b) where there are errors between the total of the amounts of Schedule

Nos. 1 to 4 and the amount given in Schedule No. 5 (Grand Summary), the total of the amounts of Schedule Nos. 1 to 4 shall prevail and the Schedule No. 5 (Grand Summary) will be corrected accordingly;

(c) if there is a discrepancy between the grand total price given in Schedule No. 5 (Grand Summary) and the bid amount in item (c) of the Letter of Price Bid, the grand total price given in Schedule No. 5 (Grand Summary) will prevail and the bid amount in item (c) of the Letter of Price Bid will be corrected; and

(d) 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 arithmetical error, in which case the amount in figures shall prevail subject to (a), (b), and (c) above.

36.2 If the Bidder that submitted the lowest evaluated Bid does not accept the correction of errors, its Bid shall be disqualified and its bid security may be forfeited or its Bid-Securing Declaration executed.

37. Conversion to Single Currency

37.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted into a single currency as specified in the BDS.

38. Domestic Preference

38.1 Unless otherwise specified in the BDS, domestic preference shall not apply.

39. Evaluation and Comparison of Price Bids

39.1 The Employer shall use the criteria and methodologies listed in this clause. No other evaluation criteria or methodologies shall be permitted.

39.2 I. To evaluate a Price Bid, the Employer shall consider the following:

(a) the bid price, excluding provisional sums and the provision, if any, for contingencies in the Price Schedules;

(b) price adjustment for correction of arithmetical errors in accordance with ITB 36.1;

(c) price adjustment due to discounts offered in accordance with ITB 18.7;

(d) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 33.3;

(e) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 37;

(f) assessment whether the bid is abnormally low in accordance with ITB 40; and

(g) the evaluation factors indicated in Section 3 (Evaluation and Qualification Criteria).

II. The Employer's evaluation of a Bid will exclude and not take into account,

(a) in the case of Plant and Mandatory Spare Parts (Schedule No. 1) supplied from abroad, all taxes and duties, applicable in the Employer's country and payable on the Plant and Mandatory Spare

Parts if the Contract is awarded to the Bidder; and

(b) in the case of Plant and Mandatory Spare Parts (Schedule No. 2) supplied from within the Employer's country, sales and other taxes, applicable in the Employer's country and payable on the Plant and Mandatory Spare Parts if the Contract is awarded to the Bidder.

39.3 If price adjustment is allowed in accordance with ITB 18.6, the estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.

39.4 If this Bidding Document allows Bidders to quote separate prices for different lots (contracts), and the award to a single Bidder of multiple lots (contracts), the methodology to determine the lowest evaluated price of the lot (contract) combinations, including any discounts offered in the Letter of Price Bid, is specified in Section 3 (Evaluation and Qualification Criteria).

39.5 If the Bid, which results in the lowest Evaluated Bid Price, is seriously unbalanced or front loaded in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Price Schedules, to demonstrate the internal consistency of those prices with the methods and time schedule proposed. After evaluation of the price analyses, taking into consideration the terms of payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.

39.6 The Employer shall compare all substantially responsive Bids to determine the lowest evaluated Bid, in accordance with ITB 39.2.

40. Abnormally Low Bids

40.1 An abnormally low bid is one where the bid price, in combination with other elements of the bid, appears to be so low that it raises concerns as to the capability of the Bidder to perform the contract for the offered bid price.

40.2 When the offered bid price appears to be abnormally low, the Employer shall undertake a three-step review process as follows:

(a) identify abnormally low costs and unit rates by comparing them with the engineer's estimates, other substantially responsive bids, or recently awarded similar contracts;

(b) clarify and analyze the bidder's resource inputs and pricing, including overheads, contingencies and profit margins; and

(c) decide whether to accept or reject the bid.

40.3 With regard to ITB 40.2 (b) above, the Employer will seek a written explanation from the bidder of the reasons for the offered bid price, including a detailed analysis of costs and unit prices, by reference to the scope, proposed methodology, schedule, and allocation of risks and responsibilities. This may also include information regarding the economy of the manufacturing process; the services to be provided, or the construction method to be used; the technical solutions to be adopted; and any exceptionally favorable conditions

available to the bidder for the works, equipment or services proposed.

40.4 After examining the explanation given and the detailed price analyses presented by the bidder, the Employer may:

(a) accept the bid, if the evidence provided satisfactorily accounts for the low bid price and costs, in which case the bid is not considered abnormally low;

(b) accept the bid, but require that the amount of the performance security be increased at the expense of the bidder to a level sufficient to protect the Employer against financial loss. The amount of the performance security shall generally be not more than 20% of the contract price; or

(c) reject the bid if the evidence provided does not satisfactorily account for the low bid price, and make a similar determination for the next ranked bid, if required.

41. Employer's Right to Accept Any Bid, and to Reject Any or All Bids

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

42. Notice of Intention for Award of Contract

42.1 If Standstill provisions apply as specified in the BDS, the standstill period shall be defined in the BDS to specify the duration subsequent to notification of intention for award of contract (before making the actual contract award) within which any unsuccessful bidder can challenge the proposed award.

F. Award of Contract

43. Award Criteria

43.1 The Employer shall award the Contract to the Bidder whose offer has been determined successful in line with ITB 34 to ITB 40 above to be the lowest evaluated Bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be eligible and qualified to perform the Contract satisfactorily.

44. Notification of Award

44.1 Prior to the expiration of the period of bid validity and upon expiry of the standstill period specified in ITB 42.1, or upon satisfactory resolution of a complaint filed within standstill period, if applicable, the Employer shall transmit the Notification of Award using the form included in Section 9 (Contract Forms) to the successful Bidder, in writing, that its Bid has been accepted. At the same time, the Employer shall also notify all other Bidders of the results of the bidding.

44.2 Unless standstill period applies, upon notification of award, unsuccessful Bidders may request in writing to the Employer for a debriefing seeking explanations on the grounds on which their Bids were not selected. The Employer shall promptly respond in writing and/or in a debriefing meeting to any unsuccessful Bidder who, after publication of contract award, requests a debriefing.

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

44.4 Within 2 weeks of the award of contract or expiry of the standstill period, where such period applies, or, if a complaint has been filed within the standstill period, upon receipt of ADB's confirmation of satisfactory resolution of the complaint, the borrower shall publish in an English language newspaper or widely known and freely accessible website the results identifying the bid and lot or package numbers, as applicable and the following information:

(a) name of each Bidder who submitted a bid;

(b) bid prices as read out at bid opening;

(c) name and evaluated prices of each bid that was evaluated;

(d) name of Bidders whose Bids were rejected and the reasons for their rejection; and

(e) name of the winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded.

45. Signing of Contract

45.1 Promptly after notification, the Employer shall send the successful Bidder the Contract Agreement.

45.2 Within 28 days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.

46. Performance Security

46.1 Within 28 days of the receipt of notification of award from the Employer, the successful Bidder shall furnish the performance security in accordance with the conditions of contract, subject to ITB 39.5 and ITB 40.4, using for that purpose the Performance Security Form included in Section 9 (Contract Forms), or another form acceptable to the Employer. If the institution issuing the performance security is located outside the country of the employer, it shall have a correspondent financial institution located in the country of the employer to make it enforceable.

46.2 Failure of the successful Bidder to submit the abovementioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security or execution of the Bid-Securing Declaration. In that event, the Employer may award the Contract to the next lowest evaluated Bidder whose offer is substantially responsive and is determined by the Employer to be qualified to perform the Contract satisfactorily.

47. Bidding-Related Complaints

47.1 The procedures for dealing with Bidding-Related Complaints arising out of this bidding process are specified in the BDS.

Section 2

Bid Data Sheet

(This section consists of provisions that are specific to this procurement and supplement the information or requirements included in Section 1 - Instructions to Bidders.)

A. General

ITB 1.1	The number of the Invitation for Bids (IFB) is: **27.21.0000.101.07**.321.**24**.**3990,** July 25**, 202**4
	The Employer is: **Power Grid Bangladesh PLC (Power Grid)**
	The name of the Open competitive bidding (OCB) is: **Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8)_Re-tender.** The identification number of the OCB is: **PGCB/AIIB/L8374/DWZTGEP/GIS/P8(Re-tender)** The number and identification of lots (contracts) comprising this OCB is: **"None"**
ITB 2.1	The Borrower is: **The People's Republic of Bangladesh**
	The name of the project is: **Dhaka and Western Zone Transmission Grid Expansion Project**
	The following shall be added at the end of ITB 2.1: Asian Development Bank (ADB) and Asian Infrastructure Investment Bank (AIIB) will finance the Project. AIIB funding will be used for this Contract. The ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time) apply, and ADB will be the focal point in all matters relating to procurement, financial management and compliance with ADB's Safeguard Policy (2009, as amended from time to time).

B. Contents of Bidding Document

ITB 7.1	For **clarification purposes** only, the Employer's address is: **Power Grid Bangladesh PLC (Power Grid)** Attn.: Company Secretary Street address: PGCB Head Office Floor/room number: 2nd Floor City, ZIP code: Avenue-3, Jahurul Islam City, Aftabnagar,Badda,Dhaka-1212 Country: Bangladesh Telephone: +88 02 550467 31-35 Fax: +88 02 55046722 E-mail address: share.cs@pgcb.gov.bd, se.contract@pgcb.gov.bd, se.ssd@pgcb.gov.bd, asifmelvin.buet@gmail.com .
ITB 7.4	A pre-bid meeting **will** take place. The Pre-Bid meeting will take place, at the date, time and place as follows: Date: August **14, 2024** Time: 11:00 Hours Bangladesh Standard Time Place: **Power Grid Bangladesh PLC (Power Grid)** Head Office Bid Opening Room, Level-7, Avenue-3, Jahurul Islam City, Aftabnagar, Badda, Dhaka-1212,Bangladesh. Site visits **will not be** organized by the Employer. Bidders are advised to conduct site visits at their own responsibility. The Employer may arrange necessary permissions if requested by the Bidders.

C. Preparation of Bids

ITB 10.1	The Language of the Bid is English. The following text is added at the end: Following supporting documents and documents submission requirement defined in section-3 shall be in English notarized version duly certified by certificated translator. – Operational acceptance certificate/End user certificate – Documentary proof of quantity manufactured – Type test reports – ISO certificate – Financial Report
ITB 11.2 (k)	The Bidder shall submit with its Technical Bid the following additional documents - Not Applicable
ITB 11.3 (d)	The Bidder shall submit with its Price Bid the following additional documents: Cash flow statement for project implementation.
ITB 12.1	The units and rates in figures entered into the Price Schedules should be typewritten or if written by hand, must be in print form. Price Schedules not presented accordingly may be considered nonresponsive.
ITB 13.1	Alternative bids are: **not permitted**
ITB 13.2	Alternatives to the Time Schedule are: **not permitted**
ITB 13.4	Alternative technical solutions are: **not permitted**
ITB 16.1 (b)	The period following completion of plant and services in accordance with provisions of the contract shall be **5 (five) years**
ITB 18.1	Bidders shall quote for **The entire plant and services on a single responsibility basis.** **In addition, no certification/bifurcation of the price for items against which no price is entered in the price schedule by the Tenderer will be done by the Employer for the purpose of payment of customs duty.**

	If the contractor has left any line item blank or mentioned the price of the item as "included" or hyphen "-", the Employer reserves the right to ask the bidder to quote a price for each such item of the price schedule before signing of the contract without adopting any way of changing the quoted price.
ITB 18.4 (a)(i)	The Incoterm for quoting plant to be supplied from abroad is: **CIP** **Destinations are as follows:** Bhola, Nilphamari, Lalmonirhat, Madaripur, Faridpur, Jhalokathi, Naogaon, Gopalganj, Dinajpur and Pirojpur Districts of Bangladesh.
ITB 18.6	The prices quoted by the Bidder shall be Adjustable The formula for adjusting the prices and explanatory details are specified in the Special Conditions of Contract (SCC) clause 11.2 and Appendix 2 of Contract Agreement. Bidder shall fill out the Tables of Adjustment Data in section 4 (Bidding forms).
ITB 19.1	The currencies of the Bid shall be as follows: (a) The prices shall be quoted either in the currency of the Bidder's home country, or in any fully convertible currency of up to three foreign currencies. (b) A Bidder expecting to incur a portion of its expenditures in the performance of the Contract in more than one currency, and wishing to be paid accordingly, shall so indicate in the Schedule of Prices and the Letter of Price Bid. (c) If some of the contract expenditures related to Design, Installation and Other Services are to be incurred in the Employer's country, such expenditures shall be quoted in either foreign and/or local currency, depending upon the currency in which the costs are to be incurred. (d) Bidders may be required by the Employer to clarify their local and foreign currency requirements, and to substantiate that the amounts included in the Price Schedules are reasonable and responsive to ITB 18.1 in which case a detailed breakdown of its foreign currency requirements shall be provided by the Bidder (e) During the performance of the contract, the foreign currency portions of the outstanding balance of the Contract Price may be adjusted by agreement between the Employer and the Contractor to reflect any changes in foreign currency requirements for the contract. Any such adjustment shall be effected by comparing the amounts quoted in the bid with the amounts already used in the Facilities and the Contractor's future needs for imported items.
ITB 20.1	The bid validity period shall be. **180 (one hundred eighty) days**
ITB 21.1	The Bidder shall furnish a bid security in the amount of: **USD 1,000,000 (United States Dollars One million) only** or an equivalent amount in freely convertible currency.

ITB 21.2	Bidder shall note that Bid Securing Declaration is not acceptable for this Package.
ITB 21.4	Subject to the succeeding sentences, any bid not accompanied by an irrevocable and callable bid security shall be rejected by the Employer as nonresponsive. If a Bidder submits a bid security that (i) deviates in form, amount, and/or period of validity, or (ii) does not provide sufficient identification of the Bidder (including, without limitation, failure to indicate the name of the Joint Venture or, where the Joint Venture has not yet been constituted, the names of all future Joint Venture Partners), the Employer shall request the Bidder to submit a compliant bid security within **14** days of receiving such a request. Failure to provide a compliant bid security within the prescribed period of receiving such a request shall cause the rejection of the Bid.
ITB 22.1	In addition to the original Bid, the number of copies is: 2 (two) hard copies and 2 (two) electronic copies in USB memory. In case of discrepancies, the information provided in the "Original" hard copy of the bid shall prevail. • The electronic copy of the technical bid shall be included in the envelope with the original technical bid. • The electronic copy of the price bid shall be included in the envelope with the original price bid. • The electronic copy of the price bid shall additionally include the price schedules in editable format (MS Excel). **Packing:** ***Technical Bids:*** • Each technical bid (original, hard copy (1 No.) and hard copy (2 No.)) shall be packed in a separate "inner" envelope. • These three ‘’inner" envelopes containing the technical bids shall be packed together in one ‘’outer" envelope. ***Price Bids:*** • Each price bid (original, hard copy (1 No.) and hard copy (2 No.)) shall be packed in a separate ‘’inner" envelope. The electronic copy of the price schedules in editable format (MS Excel) shall be in the original copy. • These three ‘’inner" envelopes containing the price bids shall be packed together in one ‘’outer" envelope. Finally, Technical and Price Bids shall be packed together in one envelope.
ITB 22.2	The written confirmation of authorization to sign on behalf of the Bidder shall con-

	sist of an organisational document, board resolution or its equivalent, or power of attorney specifying the representative's authority to sign the Bid on behalf of, and to legally bind, the Bidder. If the Bidder is an intended or an existing Joint Venture, the power of attorney should be signed by all partners and specify the authority of the named representative of the Joint Venture to sign on behalf of, and legally bind, the intended or existing Joint Venture. If the Joint Venture has not yet been formed, also include evidence from all proposed Joint Venture partners of their intent to enter into a Joint Venture in the event of a contract award in accordance with ITB 11.2.
ITB 22.2	The Bidder shall submit an acceptable authorization within **15 (fifteen) days**.

D. Submission and Opening of Bids

ITB 23.1	Bidders **shall not** have the option of submitting their bids electronically.
ITB 23.1 (b)	If Bidders shall have the option of submitting their bids electronically, the electronic bidding submission procedures shall be: **Not Applicable**
ITB 24.1	For **bid submission purposes** only, the Employer's address is: **Power Grid Bangladesh PLC (Power Grid)** Attn.: Company Secretary Street address: PGCB Head Office Floor/room number: Bid Opening Room, 7th Floor City, ZIP code: Avenue-3, Jahurul Islam City, Aftabnagar, Badda, Dhaka-1212 Country: Bangladesh **The deadline for bid submission is:** Date: **September** 08**, 202**4 Time: 11:00 Hours Bangladesh Standard Time (BST)
ITB 27.1	The bid opening of Technical Bids shall take place at: **Power Grid Bangladesh PLC (Power Grid)** Street address: Head Office Floor/room number: Conference Room, 2nd Floor City, ZIP code: Avenue-3, Jahurul Islam City Aftabnagar, Badda, Dhaka-1212 Country: Bangladesh Date: **September** 08**, 202**4 Time: 11:05 Hours Bangladesh Standard Time (BST) Electronic bid opening procedure shall be as follows: Not applicable.
ITB 27.5	The Letter of Technical Bid shall be initialed by at least three representatives of the Employer attending Technical Bid opening.
ITB 27.10	The Letter of Price Bid and Price Schedules shall be initialled by at least three representatives of the Employer attending the Price Bid opening.

E. Evaluation and Comparison of Bids

ITB 35.2	The qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, Subcontractors **shall not** be permitted.
ITB 36.1	The following texts are added at the end of ITB 36.1: (e) In case the Bidder filled the Unit Price and/or Total Price for an item but there is a discrepancy between the quantity of the same item quoted by the Bidder and the quantity provided by the Employer in the bidding documents, the quantity specified in the bidding documents shall prevail, and the total cost will be corrected by multiplying the unit rate and quantity. (f) In case a Bidder quotes any additional item(s) not mentioned in the price schedules provided by the Employer in the bidding documents, these items shall be excluded, and the total quoted bid price shall be corrected accordingly. (g) In case the bidder quotes no unit price but only a total price is quoted for an item, the total price will be divided by the total quantity of this item to find out the unit price. In case the bidder quotes no total price but only a unit price is quoted for an item, the unit price will be multiplied by the total quantity of this item to find out the total price. (h) In case there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected.
ITB 37.1	The currency that shall be used for bid evaluation and comparison purposes to convert all bid prices expressed in various currencies into a single currency is: **BDT (Bangladesh Taka)** The source of the selling exchange rate shall be: **The selling rate of Bangladesh Bank in Bangladesh.** **For the date selling exchange rates not quoted/available from Bangladesh Bank, rate available on the previous working day shall be used.** The date for the selling exchange rate shall be: **The date of opening of the Technical Proposal**
ITB 38.1	Domestic Preference **shall** apply. The application methodology will be as specified in Section 3, Evaluation and Qualification Criteria.
ITB 39.2 I. (c)	The following texts are added at the end ofITB 39.2 I.(c) :

	If (i) discount(s)/rebate(s) offered by the Bidder is/are percentage discount(s) and the price component(s) on which the said discount(s) apply is not indicated in the bid, this discount / rebate shall be considered on the total bid price [i.e. proportionately on each price component] during evaluation and in the event of award. (ii) However, if a lump sum discount is offered, the foreign currency portion of the same shall be considered in full on the foreign currency price component of the bid price and the Bangladesh Taka portion shall be considered in full on the Bangladesh Taka price component of the bid price (by proportionately reducing foreign currency/Bangladesh Taka price of individual items) during evaluation and in case of award. To obtain unit prices of each item, the discount mentioned in (i) and (ii) above shall be applied proportionately to each individual item, and the above unit price shall be applicable for the entire contract period.
ITB 42.1	Standstill provisions shall not apply.
ITB 47.1	The procedures for Bidding-Related Complaints are referenced in Appendix 7 of the Procurement Regulations for ADB Borrowers. The Bidder should submit its complaint following these procedures, in writing, to: For the attention: Md. Jahangir Azad Title/position: Company Secretary Employer: Power Grid Company of Bangladesh Limited (PGCB) Email address: share.cs@pgcb.gov.bd; Fax number : +88 02 55046722

Section 3

Evaluation and Qualification Criteria

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1. Evaluation

1.1 Technical Evaluation

In addition to the criteria listed in ITB 34.1 (a) – (b), other relevant factors are as follows:

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key equipment and personnel for the contract consistent with its proposal regarding work methods, scheduling, and material sourcing in sufficient detail and fully in accordance with the requirements stipulated in Section-6, Volume-1.

Non-compliance with equipment and personnel requirements described in Section 6 (Employer's Requirements) shall not normally be a ground for bid rejection and such non-compliance will be subject to clarification during bid evaluation and rectification prior to contract award.

1.2 Alternative Technical Solutions

Technical alternatives, if per mitted under ITB 13.4, will be evaluated as follows: **Not permitted**.

1.3 Economic Evaluation

In addition to the criteria listed in ITB 39.2 I (a)–(f), other relevant factors are as follows:
Adjustments in price that result from the procedures outlined below shall be added, for purposes of comparative evaluation only, to arrive at an 'Evaluated Bid Price.' Bid prices quoted by Bidders shall remain unaltered.

1.3.1 Quantifiable Deviations and Omissions

The evaluation shall be based on the evaluated cost of fulfilling the contract in compliance with all contractual obligations under this bidding document.

(a) Pursuant to ITB 33.3, the cost of all quantifiable nonmaterial nonconformities or omissions (minor omissions or missing items) from the contractual and commercial conditions shall be evaluated. The evaluation shall be based on the average price of the item or component as quoted in other substantially responsive Bids. If the price of the item(s) or component cannot be derived from the price of other substantially responsive Bids, the Employer shall make its own assessment for the purpose of ensuring fair comparison of Bids.

(b) Scope of work of each bidder will be examined for completeness and compliance with the contract requirements. For missing item(s), an amount representing the average amount for these excluded items of all other responsive Bidders will be added to the bid price for evaluation purposes.

If any Bidder has not quoted price against any particular item or kept blank in price column, the price of that item will be deemed to be included in the total bid price.

(c) In case there is a discrepancy between the quantity of an item quoted by the Tenderer and the quantity specified in the tendering documents, the quantity specified in the tendering documents shall prevail, and the total cost will be corrected by multiplying the unit rate and quantity.

(d) In case a Tenderer quotes any additional item(s) not mentioned in the tendering documents, these items shall be excluded and the total quoted tender price shall be corrected accordingly.

(e) In case an item is quoted without indicating any quantity, the total price quoted for this item shall prevail and the unit price of that item shall be obtained by dividing the total quoted price by the quantity specified in the tendering documents.

(f) If

(i) discount(s)/rebate(s) offered by the Tenderer is/are percentage discount(s) and the price component(s) on which the said discount(s) apply is not indicated in the tender, this discount / rebate shall be considered on the total tender price [i.e. proportionately on each price component] during evaluation and in the event of award.

(ii) However, if a lump sum discount is offered, the foreign currency portion of the same shall be considered in full on the foreign currency price component of the tender price and the Bangladesh Taka portion shall be considered in full on the Bangladesh Taka price component of the tender price (by proportionately reducing foreign currency/Bangladesh Taka price of individual items) during evaluation and in case of award.

To obtain unit prices of each item, the discount mentioned in (i) and (ii) above shall be applied proportionately to each individual item, and the above unit price shall be applicable for the entire contract period.

(g) In case the tenderer quotes no unit price but only a total price is quoted for an item, the total price will be divided by the total quantity of this item to find out the unit price.

(h) In case there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, the unit price shall prevail, and the total price shall be corrected

1.3.2 Time Schedule

Time to complete the plant and services from the effective date specified in Article 3 of the Contract Agreement for determining the time for completion of pre-commissioning activities is 900 (nine hundred) days. No credit will be given for earlier completion.

1.3.3 Operation and Maintenance Costs

Not applicable

1.3.4 Functional Guarantees of the Facilities

To arrive at an "evaluated bid price", operating costs of the transformers (each transformer of the scope, except the auxiliary transformer) will be taken into account which includes the capitalization of transformer losses which will be evaluated in accordance with the following formula.

For each unit of transformer, Capitalization of transformer losses
=N x a + L x b + M x c

Where,

N = Average No-load loss in kW (refer to GTP section of Volume 3 of 3 of the Bidding Document)

L = Average On-Load loss in kW (refer to GTP section of Volume 3 of 3 of the Bidding Document)

M = load of ancillary equipment in kW (refer to GTP section of Volume 3 of 3 of the Bidding Document)

a = Cost/kW of no-load loss valued at 600,000 Bangladesh Taka

b = Cost/kW of load loss valued at 300,000 Bangladesh Taka

c = Cost/kW of ancillary equipment loss valued at 300,000 Bangladesh Taka

If any bidder proposes more than one manufacturer, bid will be evaluated & ranked considering the highest capitalization (worst case) value of transformer losses.

It is to be noted that the bidder shall submit the confirmation letter with the bid regarding transformer loss in manufacturer's respective letterhead stationery signed by the person who has issued the manufacturing authorization.

1.3.5 Work, Services, Facilities, etc., to be provided by the Employer

Bids including the undertaking of work or the provision of services or facilities by the Employer in excess of the provisions allowed for in the Bidding Document shall not be permitted.

1.3.6 Specific Additional Criteria

Not Applicable

1.3.7 Domestic Preference

Domestic Preference will be granted to eligible domestically produced Plant and Equipment in accordance with the following provisions:

(a) The preference margin shall not be applied to the whole facility but only to the eligible domestically produced Plant and Equipment within the contract.

(b) Plant and Mandatory Spare Parts supplied from abroad shall be quoted CIP (Section 4, Bidding Forms, Schedule No. 1) and Plant and Mandatory Spare Parts supplied from within the Employer's

country shall be quoted EXW (ex works, ex-factory, ex warehouse, ex showroom, or off-the-shelf, as applicable) free of sales and similar taxes (Section 4, Bidding Forms, Schedule No. 2).

(c) All other cost components for services and works such as costs for design, local handling, transportation, storage, installation, and commissioning shall be quoted separately (Section 4, Bidding Forms, Schedule No. 3 - Design Services and Schedule No. 4 - Installation and Other Services).

(d) In the comparison of Bids, only the CIP price component of each Bid for the Plant and Equipment offered from outside the Employers country shall be increased by 15%.

(e) No domestic preference shall be applied to any of the services or works included in the contract.

(f) Bidders shall not be permitted or required to modify the mix of local and foreign Plant and Equipment after bid opening.

1.4 Multiple Contracts

Not applicable.

2. Qualification

It is the legal entity or entities comprising the Bidder, and not the Bidder's parent companies, subsidiaries, or affiliates, that must satisfy the qualification criteria described below.

2.1 Eligibility

Criteria	Compliance Requirements				Documents
Requirements	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
2.1.1 Nationality Nationality in accordance with ITB Sub-clause 4.2	must meet requirement	must meet requirement	must meet requirement	not applicable	Forms ELI-1, ELI-2 with attachments
2.1.2 Conflict of Interest No conflicts of interest in accordance with ITB Subclause 4.3.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
2.1.3 ADB Eligibility Not having been declared ineligible by ADB, as described in ITB Subclauses 4.4 and 4.8.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
2.1.4 Government-Owned Enterprise Bidder required to meet conditions of ITB Subclause 4.5	must meet requirement	must meet requirement	must meet requirement	not applicable	Forms ELI-1, ELI-2 with attachments
2.1.5 United Nations Eligibility Not having been excluded by an act of compliance with a UN Security Council resolution in accordance with ITB Sub-clause 4.8.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid

2.2 Historical Contract Nonperformance

2.2.1 History of Nonperforming Contracts

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Non-performance of a contract[a] did not occur as a result of contractor default since 1st July 2014.	Must meet requirement	Must meet requirement	Must meet requirement[b]	Not applicable	Form CON-1

[a] *Nonperformance, as decided by the Employer, 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 Employers 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 Bidder have been exhausted.*

[b] *This requirement also applies to contracts executed by the Bidder as Joint Venture member.*

2.2.2 Suspension Based on Execution of Bid-Securing Declaration

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Not under suspension based on execution of a Bid Securing Declaration pursuant to ITB 4.6.	Must meet requirement	Must meet requirement	Must meet requirement	Not applicable	Letter of Technical Bid

2.2.3 Pending Litigation and Arbitration

Pending litigation and arbitration criterion shall not apply.

2.3 Financial Situation

2.3.1 Historical Financial Performance

Criteria	Compliance Requirements				Documents
Requirements	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Submission of audited financial statements or, if not required by the law of the Bidder's country, other financial statements acceptable to the Employer, for the last **3 (three) years** to demonstrate the current soundness of the Bidder's financial position. As a minimum, the Bidder's net worth for the last year calculated as the difference between total assets and total liabilities should be positive.	must meet requirement	not applicable	must meet requirement	not applicable	Form FIN-1 with attachments

2.3.2 Average Annual Turnover

Criteria	Compliance Requirements				Documents
Requirements	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Minimum average annual turnover of: **US$ 47,000,000** **(Forty seven million United States Dollars)** calculated as total certified payments received for contracts in progress or completed, within the last **3 (three) years**.	must meet requirement	must meet requirement	must meet **25% (twenty five percent)** of the requirement	must meet **40% (forty percent)** of the requirement	Form FIN-2

2.3.3 Financial Resources

If the bid evaluation process and the decision for the award of the Contract takes more than one (1) year from the date of bid submission, Bidders may be asked to resubmit their current contract commitments and latest information on financial resources supported by latest audited accounts / audited financial state-

ments, or if not required by the law of the Bidder's country, other financial statements acceptable to the Employer, and the Bidders' financial capacity shall be reassessed on this basis.

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
For Single Entities: The Bidder must demonstrate that its financial resources defined in FIN - 3, less its financial obligations for its current contract commitments defined in FIN - 4, meet or exceed the total requirement for the Subject Contract of **USD 6.0** million.	must meet requirement	not applicable	not applicable	not applicable	Form FIN – 3 and Form FIN - 4
For Joint Ventures: (1) One partner must demonstrate that its financial resources defined in FIN - 3, less its financial obligations for its own current contract commitments defined in FIN - 4, meet or exceed its required share of **USD 2.4** million from the total requirement for the Subject Contract. AND	not applicable	not applicable	not applicable	must meet requirement	Form FIN – 3 and Form FIN - 4
(2) Each partner must demonstrate that its financial resources defined in FIN - 3, less its financial obligations for its own current contract commitments defined in FIN - 4, meet or exceed its required share of **USD 1.5** million from the total requirement for the Subject Contract. AND	not applicable	not applicable	must meet requirement	not applicable	Form FIN – 3 and Form FIN - 4
(3) The joint venture must demonstrate that the combined financial resources of all partners defined in FIN - 3, less all the partners' total financial obligations for the current contract commitments defined in FIN - 4, meet or exceed the total requirement for the Subject Contract of **USD 6.0 million.**	not applicable	must meet requirement	not applicable	not applicable	Form FIN – 3 and Form FIN - 4

2.4 Bidder's Experience

2.4.1 Contracts of Similar Size and Nature

Criteria	Compliance Requirements				Documents
Requirements	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Participation as a contractor, Joint Venture partner in at least three contracts that have been successfully completed between 1st July 2014 and the bid submission deadline and that are similar to the proposed contract, where the value of the Bidder's (or JV partner[1]) participation under each contract exceeds 20 million USD. The similarity of the Bidder's participation shall be based on the physical size, nature of works, complexity, methods, technology or other characteristics as described in Section 6 (Employer's Requirements). The scope of each contract must include design, supply, installation, testing & commissioning of new construction or extension/renovation of existing110/X kV and/or 220/X kV or higher rated voltage AIS and/or GIS substations with a minimum of three bays including one (1) power transformer of 110/X kV and/or 220/X kV voltage rating or above. For the above contracts executed during the period stipulated in 2.4.2 above, a minimum experience in the following key activities:	must meet requirement	must meet requirement	Must meet requirements of at least one comparable contract as mentioned in the requirement.	Must meet requirements of at least two comparable contracts as mentioned in the requirement.	Form EXP-1 Operational acceptance certificate or End User Certificate on the user's letterhead, indicating address, telephone and fax numbers, project name, employer's name, description of work, commissioning date and contract amount. In case documents are not available in English, an English notarized version duly certified by certified translator should be provided.
(i) At least one contract shall be with new 220/X kV or higher voltage rating GIS substation and that have been in successful operation for a minimum of three (3) years counting backward from the date of the bid submission deadline. (ii) At least one contract must be completed either in Bangladesh or outside the Bidder's own country.					

(iii) At least two contracts shall be 220 kV or higher voltage rating with 220/X kV power transformer. Evidence of above experience shall be submitted in the bid. It shall be given on the user's letterhead, indicating address, telephone and fax numbers of the user. It shall include the name of the project, name of the employer, description of the work, commissioning date and contract amount.					

[1] For contracts under which the Bidder participated as a joint venture member, only the Bidder's share, by value, shall be considered to meet this requirement

2.4.2 Experience in Key Activities

Criteria	Compliance Requirements				Documents
Requirements	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Not Applicable	must meet requirement	must meet requirement	not applicable	must meet requirement	Form EXP-2

2.5 Subcontractors/Manufacturers

2.5.1 Manufacturers

Subcontractors or Manufacturers for the fallowing major items of plant and services must meet the following minimum criteria, herein listed for that item. Failure to comply with this requirement may result in rejection of the Manufacturers/Subcontractors but not the bidder.

List of minimum required Type test reports can be found in the clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document

A) Evidence from the End Users of satisfactory service of respective equipment shall be issued by the end user's respective letterhead stationary indicating:

- official name, address, telephone and fax numbers of the user
- technical details (i.e., kV, MVA/ Current/ Model as applicable) of the equipment indicated in the table below
- commissioning date
- end user's issuing date in their letter.

B) Supply Record of respective equipment shall be issued by the manufacturer in manufacturer's letterhead stationary indicating:

- technical details (i.e. kV, MVA &Current, as applicable) of the equipment indicated in the table below
- Year of supply
- User name, address, contact information to whom the equipment has been supplied.

C) Bidder shall provide Technical Particulars and Guarantees of equipment issued by respective manufacturer in manufacturer's letterhead stationary with the seal and signature of the responsible personnel of the manufacturer.

D) Requirement:

Item No.	Description of Item	Minimum Criteria to be met	Document Submission Requirements
1.	Gas Insulated Switchgear (GIS)	• Manufacturer's proposed factory shall have at least fifteen (15) years of manufacturing experience prior to the date of bid submission of equal or higher voltage rating GIS Switchgear with minimum delivery of at least one hundred (100) similar or higher rating GIS bays over the last fifteen (15) years. • Manufacturer's Authorization letter • At least one evidence from end users for satisfactory service of GIS with the similar specification or above for a minimum of three (3) years outside manufacturer's country as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Satisfactory Type test reports as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document for GIS with similar or higher rating (KV, rated current, short circuit current). • Technical data sheets, drawings, catalogues and other technical documents as per clause 3.8.2, section-3A of Volume 2 of 3. • GIS gas leakage rate shall be less than 0.5% / year on complete bay.	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) for the last fifteen (15) years. • Manufacturer's Authorization letter • User's letter: At least one evidence from end users for satisfactory service of similar or higher rating equipment for a minimum of three (3)years outside manufacturer's country. • ISO certificates • Test report: Bidder shall submit satisfactory type test as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document. • Technical data sheets, drawings, catalogues and other technical documents as per clause 3.8.2, section-3A of Volume 2 of 3.
2.	230kV Power Transformer.	• Manufacturer's proposed factory shall have at least ten (10) years of manufacturing experience prior to the date of bid submission of 220 kV or higher voltage	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) of the 3-phase power

		rating power transformer with minimum delivery of at least ten (10)nos. of similar or higher rating (kV, MVA) Power transformer over the last ten (10) years outside the manufacturer's own country or in Bangladesh. • Manufacturer's Authorization letter. • At least one evidence from end users for satisfactory service of similar or higher rating (KV, MVA) equipment for a minimum of three (3) years outside the manufacturer's own country or in Bangladesh as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Satisfactory Type test reports as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document for inter bus three phase power transformer with similar or higher rating (MVA, KV). • Technical data sheets, drawings, wiring diagrams, catalogues and other technical documents	transformers for the last ten (10) years. Manufacturer's Authorization letter. • User's letter: At least one evidence from end users for satisfactory service of similar or higher rating (MVA, KV) equipment for a minimum of three (3) years outside manufacturer's country or in Bangladesh. • ISO certificates • Test report: Bidder shall submit satisfactory type test as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document. • Technical data sheets, drawings, catalogues and other technical documents as per tender requirement.
3.	132kV Power Transformer	• Manufacturer's proposed factory shall have at least ten (10) years of manufacturing experience prior to the date of bid submission of 110 kV or higher voltage rating power transformer with minimum delivery of at least ten (10) nos. of similar or higher rating (kV, MVA) Power transformer over the last ten (10) years outside the manufacturer's own country or in Bangladesh. • Manufacturer's Authorization letter. • At least one evidence from end users for satisfactory service of similar or higher rating (KV, MVA) equipment for a minimum of three (3) years outside the manufacturer's own country or in Bangladesh as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Satisfactory Type test reports as per clause 1.3 of Section 6: Employers Re-	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) of the 3-phase power transformers for the last ten (10) years. Manufacturer's Authorization letter. User's letter: At least one evidence from end users for satisfactory service of similar or higher rating (MVA, KV) equipment for a minimum of three (3) years outside manufacturer's country or in Bangladesh. • ISO certificates • Test report: Bidder shall submit satisfactory type test as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document. • Technical data sheets, drawings,

		quirements of volume 1 of 3 of the bidding document for inter bus three phase power transformer with similar or higher rating (MVA, KV). • Technical data sheets, drawings, wiring diagrams, catalogues and other technical documents	catalogues and other technical documents as per tender requirement.
4.	AIS Circuit Breaker	• Manufacturer's proposed factory shall have at least ten (10) years of manufacturing experience prior to the date of bid submission for similar or higher rating Circuit breaker with minimum delivery of one hundred (100) similar or higher rating circuit breakers including 50 nos. outside manufacturer's country over the last 5 years. • Manufacturer's Authorization letter • At least one evidence from end users for satisfactory service of similar or higher rating equipment for a minimum of three (3) years outside manufacturer's country as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Satisfactory Type test reports as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document for similar or higher rating(KV, rated Current and Short circuit current) Circuit breaker. • Technical data sheets, drawings, catalogues and other technical documents • All Circuit breakers shall be from same factory.	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) of circuit breaker for the last ten (10) years. • Manufacturer's authorization letter • User's letter: At least one evidence from end users for satisfactory service of similar or higher rating equipment for a minimum of three (3) years outside manufacturer's country. • ISO certificates • Test report: Bidder shall submit satisfactory type test as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document. • Technical data sheets, drawings, catalogues and other technical documents as per tender requirement.
5.	AIS Disconnector Switch	• Manufacturer's proposed factory shall have at least ten (10) years of manufacturing experience prior to the date of bid submission or similar or higher rating Disconnector Switches with minimum delivery of one hundred (100) similar or higher rating Disconnector Switches including 50 nos. outside manufacturer's country over the last 5 years. • Manufacturer's Authorization letter • At least one evidence from end users for satisfactory service of similar or higher rating equipment for a minimum of three (3) years outside manufacturer's country	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) of Disconnector Switches for the last ten (10) years. • Manufacturer's authorization letter • User's letter: At least one evidence from end users for satisfactory service of similar or higher rating equipment for a minimum of three (3) years outside manufacturer's

		as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Satisfactory Type test reports as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document for similar or higher rating (KV, rated Current and Short circuit current) Disconnector Switches. • Technical data sheets, drawings, catalogues and other technical documents • All Disconnector Swiches shall be from same factory.	country. • ISO certificates • Test report: Bidder shall submit satisfactory type test as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document. • Technical data sheets, drawings, catalogues and other technical documents as per tender requirement.
6.	AIS Current transformer	• Manufacturer's proposed factory shall have at least ten (10) years of manufacturing experience prior to the date of bid submission for similar or higher rating current transformer with minimum delivery of one hundred (100) similar or higher rating Current Transformers including 50 nos. outside manufacturer's country over the last 5 years. • Manufacturer's Authorization letter • At least one evidence from end users for satisfactory service of similar or higher rating equipment for a minimum of three (3) years outside manufacturer's country as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Satisfactory Type test reports as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding documents for similar or higher rating (KV, rated Current, short circuit current) current transformer. • Technical data sheets, drawings, catalogues and other technical documents • All current transformers shall be from same factory.	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) of current transformer for the last ten (10) years. • Manufacturer's authorization letter • User's letter: At least one evidence from end users for satisfactory service of similar or higher rating equipment for a minimum of three (3) years outside manufacturer's country. • ISO certificates • Test report: Bidder shall submit satisfactory type test as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document. • Technical data sheets, drawings, catalogues and other technical documents as per tender requirement
7.	AIS Voltage transformer	• Manufacturer's proposed factory shall have at least ten (10) years of manufacturing experience prior to the date of bid submission for similar or higher rating voltage transformer with minimum delivery of one hundred (100) similar or higher	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) of voltage transformer for the last ten (10) years. • Manufacturer's authorization letter

		rating Voltage Transformers including 50 nos. outside manufacturer's country over the last 5 years. • Manufacturer's Authorization letter • At least one evidence from end users for satisfactory service of similar or higher rating equipment for a minimum of three (3) years outside manufacturer's country as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Satisfactory Type test reports as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document for similar or higher rating voltage transformer. • Technical data sheets, drawings, catalogues and other technical documents. • All voltage transformers shall be from same factory.	• User's letter: At least one evidence from end users for satisfactory service of similar or higher rating equipment for a minimum of three (3) years outside manufacturer's country • ISO certificates • Test report: Bidder shall submit satisfactory type test as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document. • Technical data sheets, drawings, catalogues and other technical documents as per tender requirement.
8.	AIS Surge Arrester.	• Manufacturer's proposed factory shall have at least ten (10) years of manufacturing experience prior to the date of bid submission for similar or higher rating surge arrester with minimum delivery of at least three hundred (300) similar or higher rating Surge Arresters including one hundred (100) nos. outside manufacturer's country over the last 5 years. • Manufacturer's Authorization letter • At least one evidence from end users for satisfactory service of similar or higher rating surge arrester for a minimum of three (3) years outside manufacturer's country as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Satisfactory Type test reports as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document for similar or higher rating of same type surge arrester. • Technical data sheets, drawings, catalogues and other technical documents. • All surge arresters shall be from same factory.	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) of surge arrester for the last ten (10) years. • Manufacturer's authorization letter • User's letter: At least one evidence from end users for satisfactory service of similar or higher rating equipment for a minimum of three (3) years outside manufacturer's country • ISO certificates • Test report: Bidder shall submit satisfactory type test as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document. • Technical data sheets, drawings, catalogues and other technical documents as per tender requirement

9.	Post and Disc Insulator	• Manufacturer's proposed factory shall have at least ten (10) years of manufacturing experience prior to the date of bid submission for similar or higher rating post insulator and/or disc insulator with minimum delivery of at least one hundred (100) similar to proposed type insulator or higher rating insulator over the last ten (10) years. • Manufacturer's Authorization letter (clearly mentioning Post and/or Disc Insulators). • At least one evidence from end users for satisfactory service of similar or higher rating insulator (Post and/or Disc Insulators as proposed)for a minimum of three (3) years outside manufacturer's country as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Satisfactory Type test reports as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document for similar or higher rating of each type insulator. • Technical data sheets, drawings, catalogues and other technical documents.	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) of insulator for the last ten (10) years. • Manufacturer's authorization letter • User's letter: At least one evidence from end users for satisfactory service of similar or higher rating insulator for a minimum of three (3) years outside manufacturer's country. • ISO certificates • Test report: Bidder shall submit satisfactory type test as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document. • Technical data sheets, drawings, catalogues and other technical documents as per tender requirement.
10.	Battery & Charger	• At least last ten (10) years of manufacturing experience prior to the date of bid submission for battery and/or Charger. • Minimum delivery of at least ten (10) complete substation battery and/or Charger systems over the last 5 years. • Manufacturer's Authorization letter. • At least one evidence from end users for satisfactory service of equipment for a minimum of three (3) years outside manufacturer's own country as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Technical data sheets, drawings, catalogues and other technical documents.	• Form EXP-3 • Reference list: Supply Record of at least last 10 (ten) years • User's letter: At least one evidence from end users for satisfactory service of similar or higher rating equipment for a minimum of three (3) years outside manufacturer's country • Manufacturer's authorization letter. • ISO certificates • Technical data sheets, drawings, catalogues and other technical documents as per tender requirement.
11.	Substation Automation System & Protective Re-	• At least ten (10) years of manufacturing experience prior to the date of bid submission for Substation Automation System & Protective Relay.	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) of Substation Automa-

	lays	• Minimum delivery of at least ten (10) complete substation automation system over the last three (3) years. • Manufacturer's Authorization letter. • Evidence from end users for satisfactory service of equipment for a minimum of three (3) years in employer's country as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Type tests for each type as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding document. • Technical data sheets, drawings, catalogues and other technical documents.	tion system & Protective Relay for the last ten (10) years. • User's letter: At least one (1) evidences from end users for satisfactory service of equipment for minimum three (3) years in employer's country . • Manufacturer's authorization letter • ISO certificates • Test report: Bidder shall submit satisfactory type test as per clause 1.3 of Section 6: Employers Requirements of volume 1 of 3 of the bidding documents. • Technical data sheets, drawings, catalogues and other technical documents as per tender requirement.
12.	Communication Equipment (Fiber Optic Multiplexer)	• At least ten (10) years of manufacturing experience prior to the date of bid submission for Communication Equipment (Fiber Optic Multiplexer). • Minimum delivery of at least ten (10) complete substation communication equipment over the last three (3) years. • Manufacturer's Authorization letter. • At least one evidence from end users for satisfactory service of equipment for a minimum of three (3) years outside manufacturer's country as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Technical data sheets, drawings, catalogues and other technical documents • Existing Fiber Optic Multiplexers used in PGCB's Grid network are ABB make FOX 515/615 and Areva make MSE 5001 type. The proposed Fiber Optic Multiplexer shall have to be integrated with existing telecommunication Network Management System and compatible with existing equipment.	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) of Substation communication equipment for the last ten (10) years. • User's letter: At least one (1) evidence from end users for satisfactory service of equipment for minimum three (3) years outside manufacturer's country. • Manufacturer's authorization letter. • ISO certificates • Technical data sheets, drawings, catalogues and other technical documents as per tender requirement.

13.	DFDR	• At least ten (10) years of manufacturing experience prior to the date of bid submission for DFDR. • Minimum delivery of at least ten (10) DFDR over the last three (3) years. • Manufacturer's Authorization letter • At least one evidence from end users for satisfactory service of equipment for a minimum of three (3) years outside manufacturer's country as on the date of bid opening. • Copies of valid ISO 9001:2015 or equivalent certificates issued by an authorized agency of proposed manufacturer's factory. • Technical data sheets, drawings, catalogues and other technical documents.	• Form EXP-3 • Reference list: Bidder shall provide Manufacturer's supply record (Reference list) of DFDR for the last ten (10) years. • User's letter: At least one (1) evidence from end users for satisfactory service of equipment for minimum three (3) years outside manufacturer's country. • Manufacturer's authorization letter • ISO certificates • Technical data sheets, drawings, catalogues and other technical documents as per tender requirement.

In the case of a Bidder who offers to supply and install major items of plant under the contract, which the Bidder did not manufacture or otherwise produce, the Bidder shall provide the Manufacturer's authorization, using the form provided in Section 4 (Bidding Forms), showing that the Bidder has been duly authorized by the Manufacturer or producer of the related plant and equipment or component to supply and install that item in the Employer's country. Failure to submit the Manufacturer's authorization at the first instance is considered a minor, nonmaterial omission and shall be subjected to clarification. However, failure of the Bidder to submit the omitted authorization shall lead to rejection of the Subcontractor or Manufacturer of the item under evaluation in accordance with ITB 35.4.

Bidders shall also submit all other documents which are not mentioned here but mentioned in any other places of the Bidding Document

2.5.2 Subcontractors

Subcontractors for the following major services must meet the following minimum qualification criteria, herein listed for a Subcontractor for that item. Failure to comply with this requirement will result in rejection of the Subcontractor but not the Bidder.

No.	Services	Minimum Criteria	Document Submission Requirements
1	Electrical Works Subcontractor	• Minimum five (5) years of general experience prior to the date of bid submission in the installation of new 110 kV or higher rating AIS/GIS substations. • At least one contract for the installation of a new 110 kV or higher rating GIS substations with at least two bays including one power transformer	• Form EXP-3 • Documentary evidence to support the experience, copy of contract or completion certificate.

No.	Services	Minimum Criteria	Document Submission Requirements
		within the last ten yearsprior to the bid submission date. The sub-contractor's experience shall not be evaluated during Bid evaluation stage and shall be finalized during execution of the project. However bidder may propose the name of the sub-contractor in their Bid Proposal.	
2	Civil Works Subcontractor	• At least last five (5) years of experience prior to the date of bid submission in civil works for the installation of new 110 kV or higher rating AIS/GIS substations. • At least one contract for civil works for the installation of a new 110 kV or higher rating GIS substations with at least two bays including one power transformer within the last ten years prior to the bid submission date. The sub-contractor's experience shall not be evaluated during Bid evaluation stage and shall be finalized during execution of the project. However bidder may propose the name of the sub-contractor in their Bid Proposal.	• Form EXP-3 • Documentary evidence for the requirements to support the experience, copy of contract or completion certificate.

Section 4: Bidding Forms

This section contains the forms to be completed by the Bidder and submitted as part of its Bid.

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Letter of Technical Bid

– Note –

The Bidder must accomplish the Letter of Technical Bid on its letterhead clearly showing the Bidder's complete name and address.

Date:

OCB No.: **PGCB/AIIB/L8374/DWZTGEP/GIS/P8(Re-tender)**

Invitation for Bid No.: **27.21.0000.101.07.321.24.3990**

To:

Power Grid Bangladesh PLC (Power Grid)
The Company Secretary
Power Grid Head Office, 2nd Floor
Avenue-03, Jahurul Islam City, Aftabnagar, Badda, Dhaka-1212, Bangladesh

We, the undersigned, declare that:

(a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) 8.

(b) We offer to design, manufacture, test, deliver, install, pre-commission, and commission in conformity with the Bidding Document the following Plant and Services:

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8)_Re-tender.

(c) Our Bid consisting of the Technical Bid and the Price Bid shall be valid for a period of [*insert bid validity period as specified in ITB 20.1 of the BDS*] days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.

(d) We, including any Subcontractors or Manufacturers for any part of the Contract, have or will have nationalities from eligible countries, in accordance with ITB 4.2.

(e) We, including any Subcontractors or Suppliers for any part of the Contract, do not have any conflict of interest in accordance with ITB 4.3.

(f) We are not participating, as a Bidder, either individually or as partner in a Joint Venture, in more than one bid in this bidding process in accordance with ITB 4.3(e), other than alternative offers submitted in accordance with ITB 13.

(g) Our firm, Joint Venture partners, associates, parent company, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, are not subject to, or not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Asian Development Bank or a debarment imposed by the Asian Development

Bank in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the Asian Development Bank and other development banks.[1]

(h) Our firm, Joint Venture partners, associates, parent company, affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the Contract, are not, or have never been, temporarily suspended, debarred, declared ineligible, or blacklisted by the Employer's country, any international organization, and other donor agency.

If so debarred, declared ineligible, temporarily suspended, or blacklisted, please state details (as applicable to each Joint Venture partner, associate, parent company, affiliate, subsidiaries, Subcontractors, and/or Suppliers):

(i) Name of Institution: _____

(ii) Period of debarment, ineligibility, or blacklisting [*start and end date*]: _____

(iii) Reason for the debarment, ineligibility, or blacklisting: _____

(i) Our firm's, Joint Venture partners, associates, parent company's affiliates or subsidiaries, including any Subcontractors or Suppliers key officers and directors have not been [*charged or convicted*] of any criminal offense (including felonies and misdemeanors) or infractions and/or violations of ordinance which carry the penalty of imprisonment.

If so charged or convicted, please state details:

(i) Nature of the offense/violation: _____

(ii) Court and/or area of jurisdiction: _____

(iii) Resolution [*i.e. dismissed, settled, or convicted; duration of penalty*]: _____

(iv) Other relevant details [*please specify*]: _____

(j) We understand that it is our obligation to notify ADB should our firm, Joint Venture partners, associates, parent company, affiliates or subsidiaries, including any Subcontractors or Suppliers, be temporarily suspended, debarred or become ineligible to work with ADB or any other MDBs, the Employer's country, international organizations, and other donor agencies, or any of our key officers and directors be charged or convicted of any criminal offense or infractions/violations of ordinance which carry the penalty of imprisonment.

(k) Our firm, Joint Venture partners, associates, parent company, affiliates or subsidiaries, including any Subcontractors or Suppliers, are not from a country which is prohibited to export goods to or receive any payments from the Employer's country 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.

(l) [We are not a government-owned enterprise] / [We are a government-owned enterprise but meet the requirements of ITB4.5].[2]

[1]These institutions include African Development Bank, European Bank for Reconstruction and Development (EBRD), Inter-American Development Bank (IADB), and the World Bank Group. According to paragraph 9 of the Agreement, other international financial institutions may join upon the consent of all Participating Institutions and signature of a Letter of Adherence by the international financial institution substantially in the form provided (Annex B to the Agreement). Upon adherence, such international financial institution shall become a Participating Institution for purposes of the Agreement. Bidders are advised to check www.adb.org/integrity for updates.

(m) We have not been suspended nor declared ineligible by the Employer based on execution of a Bid-Securing Declaration in accordance with ITB 4.6.

(n) We agree to permit ADB or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by ADB.

(o) If our Bid is accepted, we commit to mobilizing key equipment and personnel in accordance with the requirements set forth in Section 6 (Employer's Requirements) and our technical proposal, or as otherwise agreed with the Employer.

(p) We understand that any misrepresentation that knowingly or recklessly misleads, or attempts to mislead may lead to the automatic rejection of the Bid or cancellation of the contract, if awarded, and may result in remedial actions, in accordance with ADB's Anticorruption Policy (1998, as amended to date) and Integrity Principles and Guidelines (2015, as amended from time to time).

Name .....

In the capacity of .....

Signed .....

Duly authorized to sign the Bid for and on behalf of .....

Date.....

[2] Use one of the two options as appropriate.

Country of Origin Declaration Form

Name of Bidder _____ IFB Number _____ Page ___ of ___

Item	Description	Country of Origin

Letter of Price Bid

– Note –

The Bidder must accomplish the Letter of Price Bid on its letterhead clearly showing the Bidder's complete name and address.

Date:

OCB No.: **PGCB/AIIB/L8374/DWZTGEP/GIS/P8(Re-tender)**

Invitation for Bid No.: **27.21.0000.101.07.321.24.3990**

To:
Power Grid Bangladesh PLC (Power Grid)
The Company Secretary
Power Grid Head Office, 2nd Floor
Avenue-03, Jahurul Islam City, Aftabnagar, Badda, Dhaka-1212, Bangladesh

We, the undersigned, declare that:

(a) We have examined and have no reservations to the Bidding Document, including Addenda issued in accordance with Instructions to Bidders (ITB) 8.

(b) We offer to design, manufacture, test, deliver, install, pre-commission, and commission in conformity with the Bidding Document the following Plant and Services:

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8)_Retender.

(c) The total price of our Bid, excluding any discounts offered in item (d) below is the sum of

[*amount of foreign currency in words*], [*amount in figures*], and [*amount of local currency in words*], [*amount in figures*]

The total bid price from the Grand Summary (Schedule No. 5) should be entered by the Bidder inside this box. Absence of the total bid price in the Letter of Price Bid may result in the rejection of the bid.

(d) The discounts offered and the methodology for their application are as follows: [*insert discounts and methodology for their application if any*]

(e) Our Bid shall be valid for a period of [*insert bid validity period as specified in ITB 20.1 of the BDS*] days from the date fixed for the submission deadline in accordance with the Bidding Documents, and

it shall remain binding upon us and may be accepted at any time before the expiration of that period.

(f) If our Bid is accepted, we commit to obtain a performance security in accordance with the Bidding Document.

(g) We have paid, or will pay the following commissions, gratuities, or fees with respect to the bidding process or execution of the Contract: [3]

Name of Recipient	Address	Reason	Amount
.....	.....	.....	.....
.....	.....	.....	..... .

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

(i) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

(j) We agree to permit ADB or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by ADB.

Name .....

In the capacity of .....

Signed .....

Duly authorized to sign the Bid for and on behalf of .....

Date .....

[3] If none has been paid or is to be paid, indicate "None."

Price Schedules

PREAMBLE

General

1. The Price Schedules are divided into separate Schedules as follows:

   Schedule No. 1: Plant and Mandatory Spare Parts Supplied from Abroad

   Schedule No. 2: Plant and Mandatory Spare Parts Supplied from within the Employer's Country

   Schedule No. 3: Design Services

   Schedule No. 4: Installation and Other Services

   Schedule No. 5: Grand Summary

   Schedule No. 6: Recommended Spare Parts

2. The Schedules do not generally give a full description of the plant to be supplied and the services to be performed under each item. Bidders shall be deemed to have read the Employer's Requirements and other sections of the Bidding Document and reviewed the Drawings to ascertain the full scope of the requirements included in each item prior to filling in the rates and prices. The entered rates and prices shall be deemed to cover the full scope as aforesaid, including overheads and profit.

3. If Bidders are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with ITB 7 prior to submitting their bid.

Pricing

4. The units and rates in figures entered into the Price Schedules should be typewritten or if written by hand, must be in print form. Price Schedules not presented accordingly may be considered nonresponsive. Any alterations necessary due to errors, etc., shall be initialed by the Bidder.

   As specified in the Bid Data Sheet and Special Conditions of Contract, prices shall be fixed and firm for the duration of the Contract, or prices shall be subject to adjustment in accordance with the corresponding Appendix (Price Adjustment) to the Contract Agreement.

5. Bid prices shall be quoted in the manner indicated and in the currencies specified in the Instructions to Bidders in the Bidding Document.

   For each item, Bidders shall complete each appropriate column in the respective Schedules, giving the price breakdown as indicated in the Schedules.

   Prices given in the Schedules against each item shall be for the scope covered by that item as detailed in Section 6 (Employer's Requirements) or elsewhere in the Bidding Document.

6. Payments will be made to the Contractor in the currency or currencies indicated under each respective item.

7. When requested by the Employer for the purposes of making payments or part payments, valuing variations or evaluating claims, or for such other purposes as the Employer may reasonably require, the Contractor shall provide the Employer with a breakdown of any composite or lump sum items included in the Schedules.

8. The bid price is inclusive of all Environmental, Health and Safety management and compliance cost.

Schedules of Rates and Prices

Schedule No. 1: Plant and Mandatory Spare Parts Supplied from Abroad

Item	Description	Country of Origin	Quantity	Unit Price[a]		Total Price[a]	Taxes and Duties
				Foreign Currency	CIP	Foreign Currency	Local Currency
1	2	3	4	5	6	7 = 4 x 6	8
TOTAL Column 7 to be carried forward to Schedule No. 5: Grand Summary							

Name of Bidder _____

Signature of Bidder _____

[a] *Specify currencies in accordance with ITB 19.1 of the BDS. Create additional columns for foreign currencies if so required.*

Schedule No. 2: Plant and Mandatory Spare Parts Supplied from Within the Employer's Country

Item	Description	Quantity	Unit Price[a]		Total EXW Price[a]	Sales and other Taxes
			Local Currency	EXW Price[b]		
1	2	3	4	5	6 = 3 x 5	7
TOTAL Column 6 to be carried forward to Schedule No. 5: Grand Summary						

Name of Bidder _____

Signature of Bidder _____

[a] *Specify currency in accordance with ITB 19.1 of the BDS.*

[b] *Column 5 EXW Price shall include all customs duties and sales and other taxes already paid or payable on the components and raw materials used in the manufacture or assembly of the item or the customs duties and sales and other taxes already paid on previously imported items.*

Schedule No. 3: Design Services

Item	Description	Quantity	Unit Price[a]		Total Price[a]	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6 = 3 x 4	7 = 3 x 5
TOTAL Columns 6 and 7 to be carried forward to Schedule No. 5: Grand Summary						

Name of Bidder _____

Signature of Bidder _____

[a] *Specify currency in accordance with ITB19.1 of the BDS.*

Schedule No. 4 - Installation and Other Services

Item	Description	Quantity	Unit Price[a]		Total Price[a]	
			Local Currency Portion	Foreign Currency Portion	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6 = 3 x 4	7 = 3 x 5
1	. . . . .					
2	. . . . .					
3	. . . . .					
4	. . . . .					
5	. . . . .					
6	STI. STD and HIV/AIDS alleviation program[b]					
etc	. . . . .					
	TOTAL Columns 6 and 7 to be carried forward to Schedule No. 5: Grand Summary					

Name of Bidder _____

Signature of Bidder _____

[a] *Specify currency in accordance with ITB19.1 of the BDS.*

[b] *As described in SCC 22.2.7.*

Schedule No. 5: Grand Summary

Schedule No.	Title	Total Price[a]	
		Foreign	Local
1	Plant and Mandatory Spare Parts Supplied from Abroad [b]		
2	Plant and Mandatory Spare Parts Supplied from Within the Employer's Country [b]		
3	Design Services		
4	Installation and Other Services		
	Grand Total to be carried forward to Letter of Price Bid		

Name of Bidder _____

Signature of Bidder _____

[a] *Specify currency in accordance with ITB19.1 of the BDS. Create additional columns for foreign currencies if so required.*

[b] *Taxes and/or duties from Schedules 1 and 2 may be added to the contract price in accordance with GCC 14 (Taxes and Duties) but excluded from bid evaluation in accordance with ITB 39.2.*

Schedule No. 6: Recommended Spare Parts

Item	Description	Quantity	Unit Price[a]		Total Price[a]	
			EXW Local Parts Local Currency	CIP Imported Parts Foreign Currency	Local Currency Portion	Foreign Currency Portion
1	2	3	4	5	6 = 3 x 4	7 = 3 x 5
				TOTAL		

Name of Bidder _____

Signature of Bidder _____

[a] *Specify currency in accordance withITB19.1 of the BDS.*

Price Schedule

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8).

Schedule B1: Plant & Equipment Supplied from Abroad

1. New 230/33 kV Substation at BHOLA

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….) Unit Price CIP	Foreign Currency (in…….) Total Price CIP
				(1)			(2)	(3) = (1) x (2)
A	230 kV switchgear, equipment connection and steel structures							
1A1	245kV GIS Line Feeder Bays		Set	6				
1A2	245kV GIS Auto Transformer Feeder Bays		Set	2				
1A3	245kV Bus Coupler Bays		set	1				
1A4	245kV Bus Section Bays		Set	1				
1A5	245kV GIS Double Busbar VT		Set	3				
1A6	245kV GIS Busbar HSES		Set	3				
1A7	192kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters		No.	18				
1A8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 230kV GIS Switchyard		Lot	1				
1A9	Insulator and fittings including all necessary clamps and connectors as required for completing 230kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
1A10	Steel gantry, having single/ double tier for each double circuit of 230kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 230kV GIS Switchyard							
	a)	Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	6				
	b)	Gantry Having single tier for Transformer						

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			*(2)*	*(3) = (1) x (2)*
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	Equipment Structure						
	i.	LA	No.	18				
1A11	post insulator		lot	1				
1B	**145 kV Indoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures**							
	Deleted							
1C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
1C1	**Two (2) sets of 36kV, 3150A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				
1C2	**Disconnector 36 kV, 3150A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
1C3	**36kV, 3150A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
1C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
1C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
1C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
1C7	**post insulator**		lot	1				
1C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
1C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
1C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
1C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
1D		**Transformers & accessories**						
1D1		230/33kV, 120/140 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
1D2		33/0.415kV, 300kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings.	Set	2				
1D3		Complete CAF (Compressed Air Foam) Type fire fighting system for auto transformer	Set	1				
1E	**SCADA system for Telecontrol and Telemetering**							
1E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
1F	**Control, Protection, SAS and Metering**							
		245kV Circuits						
1F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
1F.2	**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**		set	2				
1F3	**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**		set	1				
1F4	**Control, Protection,monitoring & SAS Function for Bus section circuits**		set	1				
1F5	**Busbar protection system for complete substation**		lot	1				
1F6		**Tarif metering**						

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			*(2)*	*(3) = (1) x (2)*
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
1F7		**Control, Protection,monitoring & SAS for 33kV circuits**	**set**	2				
1F8		Tariff metering						
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
1F9	**Substation Automation system**		lot	1				
1G	**Digital Fault & Disturbance Recorder**		lot	1				
1H	**Power cable & GIL (paid at actual)**							
1H1		GIL & accessories for 230kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	400				
	iii)	Bushing	nos.	18				
	iv)	Support structure & accessories	lot	1				
1H2		245kV, 50 kA / 1 sec, 1000A cu cables XLPE power cable for connection						
	i)	Power Cable, ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
1I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
1J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
1J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
1J2	Portable(maintenance) earthing equipment device		set	2				
1K	**Batteries, chargers & DC distribution**							
1K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, not less than 600Ah or above	set	2				
	ii.	_Charger not less than 170A	set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
1K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,not less than 250Ah or above	set	2				
	ii.	_Charger not less than 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
1L	**LVAC Distribution**							
1L1	i.	_AC 415V or 240V distribution panels	lot	1				
	ii.	_Tariff metering at LV side(Main & Check)	No	4				
1M	**Civil Works, Building and Foundation**							
1M1	Complete civil items required for outdoor works including boundary wall and slope protection		Refer to Schedule B4					
1M2	Complete civil works for GIS Hall, Operation & Panel Room							
	i)	_Foundation works	Refer to Schedule B4					
	ii)	_Super structures	Refer to Schedule B4					
	iii)	_All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv)	_8 ton EOT Crane	lot	1				
	v)	Passenger lift(4 person)	set	1				
1M3	Testing of Foundation		Refer to Schedule B4					
1M4	Civil Works related to CAF system		Refer to Schedule B4					
1N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**							
1N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building		Refer to Schedule B2					

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
1N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Refer to Schedule B2					
1N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 230kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
1N4	Complete CCTV & with motion sensor	Refer to Schedule B2					
1O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
1O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
1O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for New Bhola 230/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of BHOLA 230/33kV SS)							

2. New 132/33 kV Substation at Hatiabandha

Item No.	Description of Equipment Requirement	Unit	Quantity			Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
2A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
2B	**132 kV switchgear, equipment connection and steel structures**						

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
2B1	145kV GIS Line Feeder Bays		Set	4				
2B2	145kV GIS Auto Transformer Feeder Bays		Set	2				
2B3	145kV Bus Coupler Bays		set	1				
2B4	145kV Bus Section Bays		Set	1				
2B5	145kV GIS Double Busbar VT		Set	3				
2B6	145kV GIS Busbar HSES		Set	3				
2B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters		No.	12				
2B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard		Lot	1				
2B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
2B10	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	4				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	Equipment Structure						
	i.	LA	No.	18				
2B11	post insulator		LOT	1				
2C	**33 kV Switchgear, equipment connection and steel structures**							

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
2C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				
2C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
2C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
2C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
2C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
2C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
2C7	**post insulator**		lot	1				
2C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
2C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
2C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
2C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				

Item No.		Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
2D		**Transformers & accessories**						
2D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
2D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
2D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
2E	**SCADA system for Telecontrol and Telemetering**							
2E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
2F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
2F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	4				
2F.2	**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**		set	2				
2F3	**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**		set	1				
2F4	**Control, Protection,monitoring & SAS Function for Bus section circuits**		set	1				
2F5	**Busbar protection system for complete substation**		lot	1				
2F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	12				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
2F7	**Control, Protection,monitoring & SAS for 33kV circuits**		set	2				
2F8		**Tariff metering**						

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			*(2)*	*(3) = (1) x (2)*
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater , TTBs & other accessories (if required)	lot	1				
2F9	**Substation Automation system**		lot	1				
2G	**Digital Fault & Disturbance Recorder**		Deleted					
2H	**Power Cable & cable termination & GIL(paid at actual)**							
2H1		GIL & accessories for 145kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	200				
	ii)	GIL for Transformer bay, ckt meter	m	80				
	iii)	Bushing	nos.	18				
	iv)	Support structure & accessories	lot	1				
2I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
2J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
2J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
2J2	Portable(maintenance) earthing equipment device		set	2				
2K	**Batteries, chargers & DC distribution**							
2K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, not less than 600Ah or above	set	2				
	ii.	_Charger not less than 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
2K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,not less than 250Ah or above	set	2				
	ii.	_Charger not less than 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
2L	**LVAC Distribution**							

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
2L1	_AC 415V or 240V distribution panels	lot	1				
2L2	_Tariff metering at LV side(Main & Check)	No	4				
2M	**Civil Works, Building and Foundation**						
2M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
2M2	Complete civil works for GIS Hall, Operation & Panel Room						
	i) _Foundation works	Refer to Schedule B4					
	ii) _Super structures	Refer to Schedule B4					
	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv) _5 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
2M3	Testing of Foundation	Refer to Schedule B4					
2M4	Civil Works related to CAF system	Refer to Schedule B4					
2N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
2N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Refer to Schedule B2					
2N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Refer to Schedule B2					
2N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
2N4	Complete CCTV & with motion sensor	Refer to Schedule B2					
2O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
2O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
2O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for New Hatibandha 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of Hatibandha 132/33kV SS)							

3. New 132/33 kV Substation at Pirojpur

Item No.	Description of Equipment Requirement	Unit	Quantity			Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
3A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
3B	**132 kV switchgear, equipment connection and steel structures**						
3B1	145kV GIS Line Feeder Bays	Set	6				
3B2	145kV GIS Auto Transformer Feeder Bays	Set	2				
3B3	145kV Bus Coupler Bays	set	1				
3B4	145kV Bus Section Bays	Set	1				
3B5	145kV GIS Double Busbar VT	Set	3				
3B6	145kV GIS Busbar HSES	Set	3				
3B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters	No.	18				
3B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard	Lot	1				
3B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard						
	i Insulator	Lot	1				
	ii Fittings & Clamps_Connector	Lot	1				
	iii _Cable trench including fitting, fixing accessories	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
3B10	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	Gantry Having double tier for Line						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	6				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	Equipment Structure						
	i.	LA	No.	24				
3B11	post insulator		lot	1				
3C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
3C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				
3C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
3C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
3C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
3C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
3C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
3C7	**post insulator**		lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
3C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
3C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
3C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
3C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
3D		**Transformers & accessories**						
3D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
3D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
3D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
3E	**SCADA system for Telecontrol and Telemetering**							
3E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
3F	**Control, Protection, SAS and Metering**							
		145kV Circuits						

Item No.		Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
3F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
3F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	2				
3F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
3F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
3F5	**Busbar protection system for complete substation**		lot	1				
3F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
3F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	2				
3F8		**Tariff metering**						
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
3F9	**Substation Automation system**		lot	1				
3G	**Digital Fault & Disturbance Recorder**		Deleted					
3H	**Power cable & GIL(paid at actual)**							
3H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	344				
	ii)	GIL for Transformer bay, ckt meter	m	44				
	iii)	Bushing	nos.	24				
	iv)	Support structure & accessories	lot	1				
3I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
3J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
3J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
3J2	Portable(maintenance) earthing equipment device		set	2				
3K	**Batteries, chargers & DC distribution**							
3K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
3K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
3L	**LVAC Distribution**							
3L1	_AC 415V or 240V distribution panels		lot	1				
3L2	_Tariff metering at LV side(Main & Check)		No	4				
3M	**Civil Works, Building and Foundation**							
3M1	Complete civil items required for outdoor works including boundary wall and slope protection		Refer to Schedule B4					
3M2	Complete civil works for GIS Hall, Operation & Panel Room							
	i)	_Foundation works	Refer to Schedule B4					
	ii)	_Super structures	Refer to Schedule B4					
	iii)	_All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv)	_5 ton EOT Crane	lot	1				
	v)	Passenger lift(4 person)	set	1				
3M3	Testing of Foundation		Refer to Schedule B4					
3M4	Civil Works related to CAF system		Refer to Schedule B4					

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….) Unit Price CIP	Foreign Currency (in…….) Total Price CIP
			(1)			(2)	(3) = (1) x (2)
3N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
3N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Refer to Schedule B2					
3N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Refer to Schedule B2					
3N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
3N4	Complete CCTV & with motion sensor	Refer to Schedule B2					
3O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
3O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
3O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New PIROJPUR 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of PIROJPUR 132kV SS)							

4. New 132/33 kV Substation at Bhanga

Item No.	Description of Equipment Requirement	Unit	Quantity			Foreign Currency (in…….) Unit Price CIP	Foreign Currency (in…….) Total Price CIP
			(1)			(2)	(3) = (1) x (2)
4A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
4B	**132 kV switchgear, equipment connection and steel structures**						

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
4B1	145kV GIS Line Feeder Bays		Set	6				
4B2	145kV GIS Auto Transformer Feeder Bays		Set	3				
4B3	145kV Bus Coupler Bays		set	1				
4B4	145kV Bus Section Bays		Set	1				
4B5	145kV GIS Double Busbar VT		Set	3				
4B6	145kV GIS Busbar HSES		Set	3				
4B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters		No.	21				
4B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard		Lot	1				
4B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
4B10	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	6				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	3				
	b)	Equipment Structure						
	i.	LA	No.	27				
4B11	Post insulator		lot	1				
4C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
4C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	3				
4C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	3				
	ii)	**DS with ES**	set	3				
4C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	2				
4C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	9				
4C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	9				
4C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	9				
4C7	**Post insulator**		lot	1				
4C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
4C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
4C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
4C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
4D		**Transformers & accessories**						
4D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	3				

Name of Bidder: Signature of Bidder:_____

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
4D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
4D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
4E	**SCADA system for Telecontrol and Telemetering**							
4E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
4F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
4F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
4F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	3				
4F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
4F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
4F5	**Busbar protection system for complete substation**		lot	1				
4F6		Tarif metering						
	a)	Meters (Main & Check)	No.	18				
	b)	Panel including wiring, lighting,humidity controller, heater , TTBs & other accessories	lot	1				
	33kV Circuits							
4F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	3				
4F8		**Tariff metering**						
	a)	Meters	No.	6				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
4F9	**Substation Automation system**		lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
4G	**Digital Fault & Disturbance Recorder**		Deleted					
4H	**Power cable & GIL (paid at actual)**							
4H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	300				
	ii)	GIL for Transformer bay, ckt meter	m	84				
	iii)	Bushing	nos.	27				
	iv)	Support structure & accessories	lot	1				
4I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
4J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
4J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
4J2	Portable(maintenance) earthing equipment device		set	2				
4K	**Batteries, chargers & DC distribution**							
4K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
4K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
4L	**LVAC Distribution**							
4L1	_AC 415V or 240V distribution panels		lot	1				
4L2	_Tariff metering at LV side(Main & Check)		No	4				
4M	**Civil Works, Building and Foundation**							

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
4M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
4M2	Complete civil works for GIS Hall, Operation & Panel Room						
	i) _Foundation works	Refer to Schedule B4					
	ii) _Super structures	Refer to Schedule B4					
	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv) _5 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
4M3	Testing of Foundation	Refer to Schedule B4					
4M4	Civil Works related to CAF system	Refer to Schedule B4					
4N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
4N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Refer to Schedule B2					
4N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for	Refer to Schedule B2					
4N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
4N4	Complete CCTV & with motion sensor	Refer to Schedule B2					
4O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
4O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
4O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New Bhanga 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of Bhanga 132kV SS)							

Name of Bidder: Signature of Bidder:_____

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)

5. New 132/33 kV Substation at Jhalkathi

Item No.	Description of Equipment Requirement	Unit	Quantity			Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
5A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
5B	**132 kV switchgear, equipment connection and steel structures**						
5B1	145kV GIS Line Feeder Bays	Set	6				
5B2	145kV GIS Auto Transformer Feeder Bays	Set	2				
5B3	145kV Bus Coupler Bays	set	1				
5B4	145kV Bus Section Bays	Set	1				
5B5	145kV GIS Double Busbar VT	Set	3				
5B6	145kV GIS Busbar HSES	Set	3				
5B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters	No.	18				
5B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard	Lot	1				
5B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard						
	i Insulator	Lot	1				
	ii Fittings & Clamps_Connector	Lot	1				
	iii _Cable trench including fitting, fixing accessories	Lot	1				
5B10	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard						
	a) Gantry Having double tier for line						
	i. Gantry Column including nut-bolts & accessories	No.	4				
	ii. Gantry beam including nut-bolts & accessories	No.	6				
	b) Gantry Having single tier for Transformer						

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			*(2)*	*(3) = (1) x (2)*
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	Equipment Structure						
	i.	LA	No.	24				
5B11	Post insulator		LOT	1				
5C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
5C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				
5C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
5C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
5C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
5C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
5C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
5C7	**Post insulator**		lot	1				
5C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
5C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
5C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
5C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
5D		**Transformers & accessories**						
5D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
5D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
5D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
5E	**SCADA system for Telecontrol and Telemetering**							
5E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
5F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
5F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
5F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	2				
5F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
5F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
5F5	**Busbar protection system for complete substation**		lot	1				
5F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
5F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	2				
5F8		**Tariff metering**						
	a)	Meters	No.	4				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
5F9	**Substation Automation system**		lot	1				
5G	**Digital Fault & Disturbance Recorder**		Deleted					
5H	**Power cable & GIL(paid at actual)**							
5H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	340				
	ii)	GIL for Transformer bay, ckt meter	m	84				
	iii)	Bushing	nos.	24				
	iv)	Support structure & accessories	lot	1				
5I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
5J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
5J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
5J2	Portable(maintenance) earthing equipment device		set	2				
5K	**Batteries, chargers & DC distribution**							
5K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
5K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
5L	**LVAC Distribution**							
5L1	_AC 415V or 240V distribution panels		lot	1				
5L2	_Tariff metering at LV side(Main & Check)		No	4				

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
5M	**Civil Works, Building and Foundation**						
5M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
5M2	Complete civil works for GIS Hall, Operation & Panel Room						
	i) _Foundation works	Refer to Schedule B4					
	ii) _Super structures	Refer to Schedule B4					
	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv) _5 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
5M3	Testing of Foundation	Refer to Schedule B4					
5M4	Civil Works related to CAF system	Refer to Schedule B4					
5N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
5N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Refer to Schedule B2					
5N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic	Refer to Schedule B2					
5N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
5N4	Complete CCTV & with motion sensor	Refer to Schedule B2					
5O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
5O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
5O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New JHALKATHI 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of JHALKATHI 132kV SS)							

Name of Bidder: Signature of Bidder:_____

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)

6. New 132/33 kV Substation at Shibchar

Item No.	Description of Equipment Requirement	Unit	Quantity			Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
6A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
6B	**132 kV switchgear, equipment connection and steel structures**						
6B1	145kV GIS Line Feeder Bays	Set	4				
6B2	145kV GIS Auto Transformer Feeder Bays	Set	3				
6B3	145kV Bus Coupler Bays	set	1				
6B4	145kV Bus Section Bays	Set	1				
6B5	145kV GIS Double Busbar VT	Set	3				
6B6	145kV GIS Busbar HS**ES**	Set	3				
6B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters	No.	15				
6B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard	Lot	1				
6B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard						
	i Insulator	Lot	1				
	ii Fittings & Clamps_Connector	Lot	1				
	iii _Cable trench including fitting, fixing accessories	Lot	1				
6B10	Steel gantry, having single/ double tier for each double circuit of 230kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard						
	a) 245KV Gantry Having double tier for line						
	i. Gantry Column including nut-bolts & accessories	No.	2				
	ii. Gantry beam including nut-bolts & accessories	No.	2				
	b) 145KV Gantry Having double tier for line						

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
	i.	Gantry Column including nut-bolts & accessories	No.	2				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	c)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	3				
	d)	Equipment Structure						
	i.	LA	No.	21				
6B11	Post insulator		lot	1				
6C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
6C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	3				
6C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	3				
	ii)	**DS with ES**	set	3				
6C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	2				
6C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	9				
6C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	9				
6C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	9				
6C7	**Post insulator**		lot	1				
6C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
6C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
6C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
6C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
6D		**Transformers & accessories**						
6D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	3				
6D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
6D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
6E	**SCADA system for Telecontrol and Telemetering**							
6E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
6F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
6F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	4				
6F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	3				
6F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
6F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
6F5	**Busbar protection system for complete new substation**		lot	1				
6F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	14				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
6F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	3				
6F8		Tariff metering						
	a)	Meters	No.	6				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
6F9	**Substation Automation system**		lot	1				
6G	**Digital Fault & Disturbance Recorder**		**Deleted**					
6H	**Power cable & GIL (paid at actual)**							
6H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	120				
	ii)	GIL for Transformer bay, ckt meter	m	120				
	iii)	Bushing	nos	15				
	iv)	Support structure & accessories	lot	1				
6H2		145KV XLPE cables with corresponding GIS connections and cable end terminals, with all required equipment; 145 kV, 1600 A, 40 kA / 1 sec, 50 Hz, for connection of one 145 kV bay.						
	i)	Power Cable , ckt meter	m	150				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
6I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
6J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
6J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
6J2	Portable(maintenance) earthing equipment device		set	2				
6K	**Batteries, chargers & DC distribution**							

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
6K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
6K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
6L	**LVAC Distribution**							
6L1	_AC 415V or 240V distribution panels		lot	1				
6L2	_Tariff metering at LV side(Main & Check)		No	4				
6M	**Civil Works, Building and Foundation**							
6M1	Complete civil items required for outdoor works including boundary wall and slope protection		Refer to Schedule B4					
6M2	Complete civil works for GIS Hall, Operation & Panel Room							
	i)	_Foundation works	Refer to Schedule B4					
	ii)	_Super structures	Refer to Schedule B4					
	iii)	_All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv)	_5 ton EOT Crane	lot	1				
	v)	Passenger lift(4 person)	set	1				
6M3	Testing of Foundation		Refer to Schedule B4					
6M4	Civil Works related to CAF system		Refer to Schedule B4					
6N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**							
6N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building		Refer to Schedule B2					

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
6N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Refer to Schedule B2					
6N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
6N4	Complete CCTV & with motion sensor	Refer to Schedule B2					
6O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
6O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
6O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New Shibchar 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of Shibchar 132kV SS)							

7. New 132/33 kV Substation at Domar

Item No.	Description of Equipment Requirement	Unit	Quantity			Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
						(2)	(3) = (1) x (2)
7A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
7B	**132 kV switchgear, equipment connection and steel structures**						
7B1	145kV GIS Line Feeder Bays	Set	6				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
7B2	145kV GIS Auto Transformer Feeder Bays		Set	2				
7B3	145kV Bus Coupler Bays		set	1				
7B4	145kV Bus Section Bays		Set	1				
7B5	145kV GIS Double Busbar VT		Set	3				
7B6	145kV GIS Busbar HSES		Set	3				
7B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters		No.	18				
7B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard		Lot	1				
7B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
7B10	Steel gantry, having single/ double tier for each double circuit of 132kV & 230KV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	245KV Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	2				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	145KV Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	4				
	c)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	d)	Equipment Structure						

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
	i.	LA	No.	24				
7B11	Post insulator		lot	1				
7C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
7C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				
7C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
7C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
7C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
7C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
7C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
7C7	**Post insulator**		lot	1				
7C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
7C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
7C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
	3)	For equipment supports	Lot	1				
7C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
7D		**Transformers & accessories**						
7D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
7D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
7D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
7E	**SCADA system for Telecontrol and Telemetering**							
7E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
7F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
7F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
7F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	2				
7F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
7F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
7F5	**Busbar protection system for complete substation**		lot	1				
7F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
7F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			*(2)*	*(3) = (1) x (2)*
7F8		**Tariff metering**						
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
7F9	**Substation Automation system**		lot	1				
7G	**Digital Fault & Disturbance Recorder**		**Deleted**					
7H	**Power Cable & GIL (paid at actual)**							
7H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	200				
	ii)	GIL for Transformer bay, ckt meter	m	80				
	iii)	Bushing	nos	18				
	iv)	Support structure & accessories	lot	1				
7H2		145KV XLPE cables with corresponding GIS connections and cable end terminals, with all required equipment; 145 kV, 1600 A, 40 kA / 1 sec, 50 Hz, for connection of one 145 kV bay.						
	i)	Power Cable, ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
7I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
7J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
7J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
7J2	Portable(maintenance) earthing equipment device		set	2				
7K	**Batteries, chargers & DC distribution**							
	110V Ni-cad Batteries with chargers & distribution board including others							

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
7K1	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
7K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
7L	**LVAC Distribution**							
7L1	_AC 415V or 240V distribution panels		lot	1				
7L2	_Tariff metering at LV side(Main & Check)		No	4				
7M	**Civil Works, Building and Foundation**							
7M1	Complete civil items required for outdoor works including boundary wall and slope protection		Refer to Schedule B4					
7M2	Complete civil works for GIS Hall, Operation & Panel Room							
	i)	_Foundation works	Refer to Schedule B4					
	ii)	_Super structures	Refer to Schedule B4					
	iii)	_All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv)	_5 ton EOT Crane	lot	1				
	v)	Passenger lift(4 person)	set	1				
7M3	Testing of Foundation		Refer to Schedule B4					
7M4	Civil Works related to CAF system		Refer to Schedule B4					
7N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**							
7N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting		Refer to Schedule B2					
7N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.		Refer to Schedule B2					
7N3	Fire Fighting system for GIS Hall & Control Room		Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
7N4	Complete CCTV & with motion sensor	Refer to Schedule B2					
7O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
7O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
7O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New Domar 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of Domar 132kV SS)							

8. Extension of 132kV AIS bays at 132/33 kV Substation at Patnitola

Item No.	Description of Equipment Requirement	Unit	Quantity			Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
8A	**230 kV AIS &GIS**						
	Deleted						
8B	**132 kV air insulatedswitchgear, equipment connection and steel structures**						
8B1	145kV, 1600A, 40kA/1sec, 50Hz, 650kVp BIL, live tank type, single pole operation, SF6 gas circuit breakers with spring-stored energy operating mechanism with support structure.	set	2				
8B2	145kV, 1600A, 40kA/1sec, 50Hz, 650kVp BIL horizontal double break, post type, motor operated disconnectors with motor-operated earthing switch	set	2				

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
8B3	145kV, 1600A, 40kA/1sec, 50Hz, 650kVp BIL,horizontal double break, post type, motor operated disconnectors without earthing switch.	Set	4				
8B4	single-phase, 5-core, 145kV, 3150A, 40kA/1sec, 50Hz, 650kVp BIL, ,post type current transformer	No	6				
8B5	single-phase, 3-core, 145kV, 50Hz, 650kVp BIL inductive type voltage transformers.	No	6				
8B6	120kV rated voltage, 98kV(rms) continuous operating voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single	No	6				
8B7	One(1) lot of flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 145kV busbar and switchgear connection.	lot	1				
8B8	One(1) lot of insulators and fittings including all necessary accessories required to complete 145kV switchyard						
i)	_Insulator	lot	1				
ii)	_Fittings	lot	1				
8B9	Steel Structures for gantry and equipment supports						
a)	_Gantry Column including nut & bolts For Main & Jack Bus	lot	1				
b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts	lot	1				
c)	_Equipment support structures including nut & bolts						
i)	DS with ES	set	2				
ii)	DS without ES	set	4				
iii)	Bus ES	Deleted					
iv)	CT	No	6				
v)	IVT	No	6				
vi)	LA	No	6				
vii)	Wave Trap	Deleted					
viii)	PI	lot	1				
d)	_Cable tray including fitting, fixing accessories	lot	1				
8B10	Post insulator	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
8C	**33kV AIS &GIS**		Deleted					
8D	**Power Transformer & Earthing/Auxiliary Transformer**		Deleted					
8E	**SCADA system for Telecontrol and Telemetering**							
8E1	Modification/Extension of SCADA hardware & software							
	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
8F	**Control, Protection, SAS and Metering**							
	132kV Circuits							
8F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				
8F2	Modification / Extension of Busbar Protection		lot	1				
8F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
8F4	**Modification / Extension of Substation Automation System**		Lot	1				
8G	**Digital Fault & Disturbance Recorder**		Deleted					
8H	**Power Cable**		Deleted					
8I	**Multicore Cables**							
8I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
	ii) LV Power Cable	lot	1				
8J	**Earthing and Lightning Protection**						
8J1	_Extension of Earthing system for 132kV Switchyard	lot	1				
8J2	_Extension of Lightning Protection System for 132kV Switchyard	lot	1				
8K	**Batteries, chargers & DC distribution**						
8K1	110V Ni-cad Batteries with chargers & distribution board						
	a) for 132kV System						
	i) Extension of 110V DC Distribution panel and board	Lot	1				
8K2	48V Ni-cad Batteries with chargers & distribution board						
	i) Extension of 48V DC Distribution panel and board	Lot	1				
8L	**LVAC Distribution**						
8L1	_Extension of AC 415V or 240V distribution panels	lot	1				
8L2	_Tariff metering at LV side(Main & Check)	Deleted					
8M	**Civil Works, Building and Foundation**						
8M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
8M2	Complete civil works for Control Room, Operation & Panel Room	Refer to Schedule B4					
8M3	Testing of Foundation	Refer to Schedule B4					
8N	**Lighting, small power, air conditioning and Ventilation**						
8N1	Extension of indoor small power lighting, air conditioning for extension work	Refer to Schedule B2					
8N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Refer to Schedule B2					
8O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
8O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the						
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)	Lot	1				
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
8O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed,	Lot	1				
Total Price(for Extension of Patnitola 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Patnitola 132kV SS)							

9. Extension of 132kV GIS bays at 132/33 kV Substation at Niyamatpur

Item No.	Description of Equipment Requirement	Unit	Quantity			Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
9A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
9B	**145 kV Outdoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures**						
9B1	145kV GIS Line Feeder Bays	Set	2				
	132kV Air Insulated Switchgear						
9B7	120kV rated voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arrester	No.	6				
9B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 145kV GIS Switchyard	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
9B9	insulator and fittings including all necessary clamps and connectors as required for completing 145kV GIS Switchyard							
	i	_Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	ii	Nut-bolt	Lot	1				
	iv.	_Cable trench including fitting, fixing accessories	Lot	1				
9B10	Steel gantry & structure including all necessary accessories required for completing 145kV GIS Switchyard							
	a)	_Gantry Column including nut & bolts For Main & Jack Bus	lot	1				
	b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts	lot	1				
	c)	_Equipment support structures including nut & bolts						
	i)	LA	nos	6				
	ii)	PI	lot	1				
	d)	_Cable tray including fitting, fixing accessories	lot	1				
9C	**33kV AIS &GIS**		Deleted					
9D	**Power Transformer & Earthing/Auxiliary Transformer**		Deleted					
9E	**SCADA system for Telecontrol and Telemetering**							
9E1	Modification/Extension of SCADA hardware & software							
	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
9F	**Control, Protection, SAS and Metering**							
	132kV Circuits							
9F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				
9F2	Modification / Extension of Busbar Protection		Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
9F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
9F4	**Substation Automation System**		Deleted					
9G	**Digital Fault & Disturbance Recorder**		Deleted					
9H	**Power Cable**							
9H1		GIL & accessories for 132kV Switchyard						
		GIB & accessories for 132kV Switchyard						
	i)	GIB, ckt meter	m	150				
	iii)	Bushing	nos	6				
	iv)	Support structure & accessories	lot	1				
9H2		145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay						
	i)	Power Cable , ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
9I	**Multicore Cables**							
9I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				
	ii) LV Power Cable		lot	1				
9J	**Earthing and Lightning Protection**							

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
9J1	_Extension of Earthing system for 132kV Switchyard	lot	1				
9J2	_Extension of Lightning Protection System for 132kV Switchyard	lot	1				
9K	**Batteries, chargers & DC distribution**						
9K1	110V Ni-cad Batteries with chargers & distribution board						
	a) for 132kV System						
	i) Extension of 110V DC Distribution panel and board	Lot	1				
9K2	48V Ni-cad Batteries with chargers & distribution board						
	i) Extension of 48V DC Distribution panel and board	Lot	1				
9L	**LVAC Distribution**						
9L1	_Extension of AC 415V or 240V distribution panels	lot	1				
9L2	_Tariff metering at LV side(Main & Check)	Deleted					
9M	**Civil Works, Building and Foundation**						
9M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
9M2	Complete civil works for Control Room, Operation & Panel Room	Refer to Schedule B4					
9M3	Testing of Foundation	Refer to Schedule B4					
9N	**Lighting, small power, air conditioning and Ventilation**						
9N1	Extension of indoor small power lighting, air conditioning for extension work	Refer to Schedule B2					
9N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Refer to Schedule B2					
9O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
9O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
9O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for Extension of Niyamatpur 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Niyamatpur 132kV SS)							

10. Extension of 132kV AIS bays at 400/230/132 kV Substation at Gopalganj

Item No.	Description of Equipment Requirement	Unit	Quantity			Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
10A	**230 kV AIS &GIS**						
	Deleted						
10B	**132 kV air insulatedswitchgear, equipment connection and steel structures**						

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
10B1	145kV, 1600A, 50kA/1sec, 50Hz, 650kVp BIL, live tank type, single pole operation, SF6 gas circuit breakers with spring-stored energy operating mechanism with support structure.	set	2				
10B2	145kV, 1600A, 50kA/1sec, 50Hz, 650kVp BIL horizontal double break, post type, motor operated disconnectors with motor-operated earthing switch	set	2				
10B3	145kV, 1600A, 50kA/1sec, 50Hz, 650kVp BIL,horizontal double break, post type, motor operated disconnectors without earthing switch.	Set	4				
10B4	single-phase, 5-core, 145kV, 3150A, 50kA/1sec, 50Hz, 650kVp BIL, ,post type current transformer	No	6				
10B5	single-phase, 3-core, 145kV, 50Hz, 650kVp BIL inductive type voltage transformers.	No	6				
10B6	120kV rated voltage, 98kV(rms) continuous operating voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters.	No	12				
10B7	One(1) lot of flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 145kV busbar and switchgear connection.	lot	1				
10B8	One(1) lot of insulators and fittings including all necessary accessories required to complete 145kV switchyard						
i)	_Insulator	lot	1				
ii)	_Fittings	lot	1				
10B9	Steel Structures for gantry and equipment supports						
a)	_Gantry Column including nut & bolts						
	i. _Gantry Column including nut & bolts For termination 230kv si	lot	1				
	ii. _Gantry Column including nut & bolts For Main & Jack Bus termination 132kv side	lot	1				
b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts						
	i. _Gantry beam including nut & bolts For termination 230kv side	lot	1				
	ii. _Gantry beam including nut & bolts For Main & Jack Bus termination 132kv side	lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
c)	_Equipment support structures including nut & bolts						
i)	DS with ES	set	2				
ii)	DS without ES	set	4				
iii)	Bus ES	Deleted					
iv)	CT	No	6				
v)	IVT	No	6				
vi)	LA	No	12				
vii)	Wave Trap	Deleted					
viii)	PI	lot	1				
d)	_Cable tray including fitting, fixing accessories	lot	1				
10B10	Post insulator	lot	1				
10C	**33kV AIS &GIS**	Deleted					
10D	**Power Transformer & Earthing/Auxiliary Transformer**	Deleted					
10E	**SCADA system for Telecontrol and Telemetering**						
10E1	Modification/Extension of SCADA hardware & software						
	Each Comprising						
	a) Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
10F	**Control, Protection, SAS and Metering**						
	132kV Circuits						
10F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays	set	2				
10F2	Modification / Extension of Busbar Protection	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
10F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
10F4	**Extension of existing Substation Automation System**		Lot	1				
10G	**Digital Fault & Disturbance Recorder**							
10G.1	**Extension of existing Digital Fault & Disturbance Recorder**		Lot	1				
10H	**Power Cable**							
10H1		**GIL & accessories for 132kV Switchyard**	**Deleted**					
10H2		145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay						
	i)	Power Cable , ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	12				
10I	**Multicore Cables**							
10I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				
	ii) LV Power Cable		lot	1				
10J	**Earthing and Lightning Protection**							
10J1	_Extension of Earthing system for 132kV Switchyard		lot	1				
10J2	_Extension of Lightning Protection System for 132kV Switchyard		lot	1				
10K	**Batteries, chargers & DC distribution**							
10K1	110V Ni-cad Batteries with chargers & distribution board							
	a) for 132kV System							
	i) Extension of 110V DC Distribution panel and board		Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
10K2	48V Ni-cad Batteries with chargers & distribution board						
	i) Extension of 48V DC Distribution panel and board	Lot	1				
10L	**LVAC Distribution**						
10L1	_Extension of AC 415V or 240V distribution panels	lot	1				
10L2	_Tariff metering at LV side(Main & Check)	Deleted					
10M	**Civil Works, Building and Foundation**						
10M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
10M2	Complete civil works for Control Room, Operation & Panel Room	Refer to Schedule B4					
10M3	Testing of Foundation	Refer to Schedule B4					
10N	**Lighting, small power, air conditioning and Ventilation**						
10N1	Extension of indoor small power lighting, air conditioning for extension work	Refer to Schedule B2					
10N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Refer to Schedule B2					
10O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
10O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
10O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed,	Lot	1				
Total Price(for Extension of Gopalganj 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Gopalganj 132kV SS)							

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)

11. Extension of 132kV GIS bays at 132/33 kV Substation at Purbasadipur

Item No.	Description of Equipment Requirement	Unit	Quantity			Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
11A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
11B	**145 kV Indoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures**						
11B1	145kV GIS Line Feeder Bays	Set	2				
	132kV Air Insulated Switchgear						
11B7	120kV rated voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arrester	No.	6				
11B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 145kV GIS Switchyard	Lot	1				
11B9	insulator and fittings including all necessary clamps and connectors as required for completing 145kV GIS Switchyard						
	i _Insulator	Lot	1				
	ii Fittings & Clamps_Connector	Lot	1				
	ii Nut-bolt	Lot	1				
	iv. _Cable trench including fitting, fixing accessories	Lot	1				
11B10	Steel Structures for gantry and equipment supports						
	a) _Gantry Column including nut & bolts For Main & Jack Bus	lot	1				
	b) _Gantry beam at Main Bus & Jack-Bus height including nut & bolts	lot	1				
	c) _Equipment support structures including nut & bolts						
	i) LA	nos	6				

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
	ii)	PI	lot	1				
	d)	_Cable tray including fitting, fixing accessories	lot	1				
11C	**33kV AIS &GIS**		Deleted					
11D	**Power Transformer & Earthing/Auxiliary Transformer**		Deleted					
11E	**SCADA system for Telecontrol and Telemetering**							
11E1	Modification/Extension of SCADA hardware & software							
	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
11F	**Control, Protection, SAS and Metering**							
	132kV Circuits							
11F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				
11F2	Modification / Extension of Busbar Protection		lot	1				
11F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
11F4	**Extension of existing Substation Automation System**		Lot	1				
11G	**Digital Fault & Disturbance Recorder**							
11G.1	**Extension of existing Digital Fault & Disturbance Recorder**		Lot	1				
11H	**Power Cable**							
11H1	**GIL & accessories for 132kV Switchyard**		**Deleted**					

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
11H2		145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay						
	i)	Power Cable , ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
11I	**Multicore Cables**							
11I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				
	ii) LV Power Cable		lot	1				
11J	**Earthing and Lightning Protection**							
11J1	_Extension of Earthing system for 132kV Switchyard		lot	1				
11J2	_Extension of Lightning Protection System for 132kV Switchyard		lot	1				
11K	**Batteries, chargers & DC distribution**							
11K1	110V Ni-cad Batteries with chargers & distribution board							
	a) for 132kV System							
	i) Extension of 110V DC Distribution panel and board		Lot	1				
11K2	48V Ni-cad Batteries with chargers & distribution board							
	i) Extension of 48V DC Distribution panel and board		Lot	1				
11L	**LVAC Distribution**							
11L1	_Extension of AC 415V or 240V distribution panels		lot	1				
11L2	_Tariff metering at LV side(Main & Check)		Deleted					
11M	**Civil Works, Building and Foundation**							

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
11M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
11M2	Complete civil works for Control Room, Operation & Panel Room	Refer to Schedule B4					
11M3	Testing of Foundation	Refer to Schedule B4					
11N	**Lighting, small power, air conditioning and Ventilation**						
11N1	Extension of indoor small power lighting, air conditioning for extension work	Refer to Schedule B2					
11N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Refer to Schedule B2					
11O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
11O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
11O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for Extension of Purbasadipur 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Purbasadipur 132kV SS)							

12. Extension of 132kV GIS bays at 132/33 kV Substation at Bhandaria

						Foreign Currency (in…….)

Item No.	Description of Equipment Requirement		Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
Item No.	Description of Equipment Requirement		Unit	Quantity			Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
12A	230 kV switchgear, equipment connection and steel structures							
	Deleted							
12B	145 kV Outdoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures							
12B1	145kV GIS Line Feeder Bays		Set	2				
	132kV Air Insulated Switchgear							
12B7	120kV rated voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arrester		No.	6				
12B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 145kV GIS Switchyard		Lot	1				
12B9	insulator and fittings including all necessary clamps and connectors as required for completing 145kV GIS Switchyard							
	i	_Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	ii	Nut-bolt	Lot	1				
	iv.	_Cable trench including fitting, fixing accessories	Lot	1				
12B10	Steel gantry & structure including all necessary accessories required for completing 145kV GIS Switchyard							
	a)	_Gantry Column including nut & bolts For Main & Jack Bus	lot	1				
	b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts	lot	1				
	c)	_Equipment support structures including nut & bolts						
	i)	LA	nos	6				
	ii)	PI	lot	1				
	d)	_Cable tray including fitting, fixing accessories	lot	1				
12C	33kV AIS &GIS		Deleted					
12D	Power Transformer & Earthing/Auxiliary Transformer		Deleted					

Item No.		Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
12E		**SCADA system for Telecontrol and Telemetering**						
12E1		Modification/Extension of SCADA hardware & software						
		Each Comprising						
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
12F		**Control, Protection, SAS and Metering**						
		132kV Circuits						
12F1		Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays	set	2				
12F2		Modification / Extension of Busbar Protection	Deleted					
12F3		**Tarif metering**						
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
12F4		**Substation Automation System**	Deleted					
12G		**Digital Fault & Disturbance Recorder**	Deleted					
12H		**Power Cable & GIB**						
12H1		GIB & accessories for 132kV Switchyard						
	i)	GIB , ckt meter	m	87				
	iii)	Bushing	set	6				
	iv)	Support structure & accessories	lot	1				
12H2		145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay						
	i)	Power Cable , ckt meter	m	200				

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
	ii) AIS Cable Sealing end & accessories	No.	6				
	iii) GIS Cable Sealing end & accessories	No.	6				
12I	**Multicore Cables**						
12I1	Multicore Cables for control, protection, metering & power circuits						
	i) LV Control Cable	lot	1				
	ii) LV Power Cable	lot	1				
12J	**Earthing and Lightning Protection**						
12J1	_Extension of Earthing system for 132kV Switchyard	lot	1				
12J2	_Extension of Lightning Protection System for 132kV Switchyard	lot	1				
12K	**Batteries, chargers & DC distribution**						
12K1	110V Ni-cad Batteries with chargers & distribution board						
	a) for 132kV System						
	ii) Extension of 110V DC Distribution panel and board	Lot	1				
	ii) Extension of battery	Lot	1				
	ii) Extension of charger	Lot	1				
12K2	48V Ni-cad Batteries with chargers & distribution board						
	i) Extension of 48V DC Distribution panel and board	Lot	1				
	ii) Extension of battery	Lot	1				
	ii) Extension of charger	Lot	1				
12L	**LVAC Distribution**						

Item No.	Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
						Unit Price	Total Price
						CIP	CIP
			(1)			(2)	(3) = (1) x (2)
12L1	_Extension of AC 415V or 240V distribution panels	lot	1				
12L2	_Tariff metering at LV side(Main & Check)	Deleted					
12M	**Civil Works, Building and Foundation**						
12M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
12M2	Complete civil works for Control Room, Operation & Panel Room	Refer to Schedule B4					
12M3	Testing of Foundation	Refer to Schedule B4					
12N	**Lighting, small power, air conditioning and Ventilation**						
12N1	Extension of indoor small power lighting, air conditioning for extension work	Refer to Schedule B2					
12N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Refer to Schedule B2					
12O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
12O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
12O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for Extension of Bhandaria 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Bhandaria 132kV SS)							

Item No.		Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
Schedule B1:Mandatory Spare Parts supplied from abroad								
13. Mandatory Spare, Maintanence & Test Equipement								
		230KV 132KV Gas Insulated Switchgear						
1		Complete bay equipment module with necessary accessories	sets	1				
2		Each type of auxiliary contacts unit	sets	1				
3		surge arrester (AIS)	nos.	2				
4		Complete Voltage transformer module	nos.	1				
5		Closing coils	nos.	2				
6		Tripping coils	nos.	4				
7		Motor for circuit breaker operating mechanism	nos.	1				
8		Motor for disconnector drive	nos.	1				
9		Coils for Blocking magnet in disconnector drive	nos.	1				
10		Gas pressure monitor with gauge and pressure switch	No	3				
11		Pressure Relief Device	No	1				
12		Supporting insulator with barrier	No	1				
13		Rubber gaskets “O” rings and seals for SF6 gas	lot	1				
14		All types of control valves for SF6 gas	lot	1				
		132KV Gas Insulated Switchgear						
15		Complete bay equipment module with necessary accessories	sets	6				
16		Each type of auxiliary contacts unit	sets	6				
17		surge arrester (AIS)	nos.	14				
18		Complete Voltage transformer module	nos.	6				
19		Closing coils	nos.	12				
20		Tripping coils	nos.	18				
21		Motor for circuit breaker operating mechanism	nos.	6				
22		Motor for disconnector drive	nos.	6				
23		Coils for Blocking magnet in disconnector drive	nos.	6				
24		Gas pressure monitor with gauge and pressure switch	nos.	15				
25		Pressure Relief Device	nos.	15				
26		Supporting insulator with barrier	nos.	4				
27		Rubber gaskets “O” rings and seals for SF6 gas	lot/SS	1				
28		All types of control valves for SF6 gas	lot/SS	1				

Item No.		Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
		145KV Air Insulated Switchgear						
29		Complete SF6 gas, livetank type 145kV Circuit Breaker (single-pole operation type)	sets	2				
30		Complete 145kV disconnector switch	sets	1				
31		Complete 145kV Current Transformer	nos.	3				
32		Complete 145kV capacitive VoltageTransformer	nos.	3				
33		Surge arrester	nos.	5				
34		Closing coils for CB	nos.	10				
35		Tripping coils for CB	nos.	15				
36		Motor for 145kV circuit breaker operating mechanism	nos.	2				
37		Motor for disconnector drive	nos.	2				
38		SF6 gas (45 kg) cylinder	nos.	5				
39		Contactors, relays, selector switches, push buttons, counters, heaters, humidity sensors etc., in motor drive mechanism and control cubicle, one of each type	nos.	5				
		36kV Switchgears						
40		36kV Vacuum Circuit Breaker with structure	sets	3				
41		36kV Disconnector Switch	sets	3				
42		36kV Load Beak Switch with fuse	sets	2				
43		36kV IVT (same as offered type)	nos.	3				
44		36kV Current Transformer (same as offered type)	nos.	3				
45		30kV Surge Arrester	nos.	3				
46		Closing coils for CB	nos.	5				
47		Tripping coils for CB	nos.	10				
		230/33kV TRANSFORMERS						
48		245kV bushings (same as offered type)	nos.	1				
49		Neutral Bushing	nos.	1				
50		36kV Bushing	nos.	1				
51		WTI with gaskets	sets/ss	1				
52		OTI with gaskets	sets/ss	1				
53		Buchholz relay	nos.	1				
54		Gas pressure relief device	No	1				
55		Tap changer control mechanism motor	nos.	1				
56		Set of gaskets	sets/ss	1				
57		Sets of auxiliry transformer gaskets	sets/ss	1				

Item No.		Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
58		Sets of tap changer spares	sets/ss	1				
59		Set of special tools, gauges and spanners (Bidders to give details) for transformer and OLTC	sets/ss	1				
60		Spare transformer oil [200/210 litre barrel]	nos.	50				
61		Silica gel with breather 100% spare	lot	1				
62		Transformer oil treatment plant, 10000litre/hr	set	0				
63		Oil Insulation Tester	set	0				
		132/33kV TRANSFORMERS						
64		145kV bushings (same as offered type)	nos.	3				
65		Neutral Bushing	No	3				
66		36kV Bushing	no.	3				
67		WTI with gaskets	sets/ss	1				
68		OTI with gaskets	sets/ss	1				
69		Buchholz relay	nos.	3				
70		Gas pressure relief device	No	3				
71		Tap changer control mechanism motor	nos.	3				
72		Set of gaskets	sets/ss	1				
73		Sets of earthing transformer gaskets	sets/ss	1				
74		Sets of tap changer spares	sets/ss	1				
75		Set of special tools, gauges and spanners (Bidders to give details) for transformer and OLTC		1				
76		Spare transformer oil [200/210 litre barrel] (40 nos/ss)	nos.	240				
77		Silica gel with breather 100% spare	lot	1				
78		Transformer oil treatment plant, 10000litre/hr	set	0				
79		Oil Insulation Tester	set	0				
		Compressed Air Foam system						
80		Spare item for CAF [as per manufacturer standard]	lot	1				
		Miscellaneous						
81		XLPE termination kits	set	1				
82		All types of control valves for SF6 gas	lot/substation	1				
83		Rubber gaskets “O” rings and seals for SF6 gas	lot/substation	1				
		PROTECTION, CONTROL, METERING						
84		Each type of protection relay for 230/33KV Bhola Substation (Bidder to list)	set	1				

Item No.		Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
85		Each type of protection relay for 132/33KV Hatibandhs Substation (Bidder to list)	set	1				
86		Each type of protection relay for 132/33KV Pirojpur Substation (Bidder to list)	set	1				
87		Each type of protection relay for 132/33KV Bhanga Substation (Bidder to list)	set	1				
88		Each type of protection relay for 132/33KV Jalokati Substation (Bidder to list)	set	1				
89		Each type of protection relay for 132/33KV Shibchar Substation (Bidder to list)	set	1				
90		Each type of protection relay for 132/33KV Domar Substation (Bidder to list)	set	1				
91		Each type of protection relay for 132/33KV Patnitola Substation (Bidder to list)	set	1				
92		Each type of protection relay for 132/33KV Niamatpur Substation (Bidder to list)	set	1				
93		Each type of protection relay for 400/132/KV Gopalganj Substation (Bidder to list)	set	1				
94		Each type of protection relay for 132/33KV Pubosadipur Substation (Bidder to list)	set	1				
95		Each type of protection relay for 132/33KV Bhandaria Substation (Bidder to list)	set	1				
96		Bus bar Differential Relay (Central Unit)	set	2				
97		Tripping relay (electrical reset)	nos.	12				
98		Each type of Auxiliary relays (Bidder to list)	sets	7				
99		Trip circuit supervision relays	nos.	12				
100		Bay Control Unit	nos.	7				
101		Relay Test Block & socket	nos.	7				
102		Heater	nos.	20				
103		Humidity Sensors	nos.	20				
104		Humidity stat and thermostat	nos.	20				
105		Annunciator bulbs	nos.	20				
106		Bulbs for discrepancy switches	nos.	20				
107		Multifunction Meter	nos.	14				
108		Tariff/Energy Meter	nos.	7				
		POWER & CONTROL CABLES						
109		Spare Multi-core Control cable comprising:						
	i.	control cable [length 300m of each type cable supplied under present scope for each substation]	Lot	1				
110		Power Cable						
	i.	33kV, supplied size	meter	500				
	ii.	132kV, supplied size	meter	600				
111		LV cables, 500m of each type	Lot	1				

Item No.		Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
		Batteries, Chargers, & DC Distribution						
112		Battery MCB/MCCB	nos.	10				
113		DC board incoming MCCB	sets	15				
114		Outgoing MCBs	sets	20				
		LV AC SWITCHGEAR						
115		3-phase set LVAC board incoming ACB/MCCB	no.	15				
116		3-phase sets outgoing MCCBs	nos.	30				
117		1-phase sets outgoing MCBs	nos.	30				
		SKADA & Fiber Optic Multiplexer Equipment						
118		Set of spare modules of necessary function	lot	1				
119		Protocol Analyzer	set	1				
		Post Type Insulator						
120		For 245kV	nos.	3				
121		For 145kV	nos.	10				
122		For 33kV	nos.	0				
		Gas Insulated Line (GIL)						
123		230kV GIL (with necessary bellow & angle joint)	meter	50				
124		145kV GIL (with necessary bellow & angle joint)	meter	50				
		Disc Insulator						
125		Each type of set of Disc Insulator	Lot	0				
		Conductor						
126		Each type of Bus Conductor	meter	0				
127		Each size of Rigid Tubular Conductor	meter	0				
		Clamp and Fitting						
128		Each type of Clamps and Fittings (bidder to list) (1 set for 1 SS)	sets	12				
		TEST and O&M EQUIPMENT						
129		SF6 Gas Treatment Plant For Gas Filling,Recovery,Evacuation,Filtering,Drying and Storage with necessary accessories	sets	7				
130		1 cylinder of SF6 gas with valve	sets	7				

Item No.		Description of Equipment Requirement	Unit	Quantity	Country of Origin	Code	Foreign Currency (in…….)	
							Unit Price	Total Price
							CIP	CIP
				(1)			(2)	(3) = (1) x (2)
131		SF6 gas leakage detector (Infrared type)	sets	7				
132		SF6 density monitoring device	sets	0				
133		SF6 pressure monitring device	sets	7				
134		Offline Partial Discharge monitoring Device for GIS	sets	7				
135		Portable vacuum pump suitable for SF6 circuit breaker	sets	2				
136		Contact resistance measurement test set (suitable for measurement down to 1 μ ohm at 10A d.c.)	set	7				
137		5 kV insulation resistance test set (range 0.5 –1.0 - 2.5 - 5 kV)	sets	7				
138		Earth resistance test set (range 10-100-1000 ohm: min scale division 0.1 ohm)	sets	7				
139		Earth Resistivity Tester (applicable for 4 point wenner method)	sets	1				
140		Clip-on mA meter (for spill current)	nos.	7				
141		Set of Tools for each substation (as per table of section II, schedule A of volume 03)	set	7				
142		Set of Tools for GIS at each substation	set	7				
143		Oxygen Analyzer	set	7				
144		SF6 Multi-Analyser for measurement of %SF6, Moister and SO2 concetration	set	7				
145		Dew point Meter	set	7				
146		Thermovision Camera (Flir System)	set	1				
147		Oil Insulation Tester	set	5				
148		Transformer oil treatment plant, 10000litre/hr	set	2				
Total Price(for Mandatory Spare, Maintenance & Test Equipment) carried to Summary of Price Schedule Schedule B5								
Total Price in words (for Mandatory Spare, Maintenance & Test Equipment)								

Country of Origin Declaration Form

Item	Description	Code	Country

Name of Bidder: Signature of Bidder:_____

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8).

Schedule B2.1: Plant & Equipment supplied from within Employer's Country

1. New 230/33 kV Substation at BHOLA

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
A	**230 kV switchgear, equipment connection and steel structures**							
1A1	245kV GIS Line Feeder Bays		Set	6				
1A2	245kV GIS Auto Transformer Feeder Bays		Set	2				
1A3	245kV Bus Coupler Bays		set	1				
1A4	245kV Bus Section Bays		Set	1				
1A5	245kV GIS Double Busbar VT		Set	3				
1A6	245kV GIS Busbar HSES		Set	3				
1A7	192kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters		No.	18				
1A8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 230kV GIS Switchyard		Lot	1				
1A9	Insulator and fittings including all necessary clamps and connectors as required for completing 230kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
	Steel gantry, having single/ double tier for each double circuit of 230kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 230kV GIS Switchyard							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
1A10	a)	Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	6				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	Equipment Structure						
	i.	LA	No.	18				
1A11	post insulator		lot	1				
1B	**145 kV Indoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures**							
	Deleted							
1C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
1C1	**Two (2) sets of 36kV, 3150A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				
1C2	**Disconnector 36 kV, 3150A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
1C3	**36kV, 3150A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
1C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
1C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
1C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
1C7	**post insulator**		lot	1				
1C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
1C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
1C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
1C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
1D		**Transformers & accessories**						
1D1		230/33kV, 120/140 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
1D2		33/0.415kV, 300kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
1D3		Complete CAF (Compressed Air Foam) Type fire fighting system for auto transformer	Set	1				
1E	**SCADA system for Telecontrol and Telemetering**							
1E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
1F	**Control, Protection, SAS and Metering**							
		245kV Circuits						
1F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
1F.2	**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**		set	2				
1F3	**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**		set	1				
1F4	**Control, Protection,monitoring & SAS Function for Bus section circuits**		set	1				
1F5	**Busbar protection system for complete substation**		lot	1				
1F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
1F7		**Control, Protection,monitoring & SAS for 33kV circuits**	**set**	2				
1F8		Tariff metering						
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
1F9	**Substation Automation system**		lot	1				
1G	**Digital Fault & Disturbance Recorder**		lot	1				
1H	**Power cable & GIL (paid at actual)**							
1H1		GIL & accessories for 230kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	400				
	iii)	Bushing	set	18				
	iv)	Support structure & accessories	lot	1				
1H2		245kV, 50 kA / 1 sec, 1000A cu cables XLPE power cable for connection						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
	i)	Power Cable, ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
1I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
1J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
1J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
1J2	Portable(maintenance) earthing equipment device		set	2				
1K	**Batteries, chargers & DC distribution**							
1K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, not less than 600Ah or above	set	2				
	ii.	_Charger not less than 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
1K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,not less than 250Ah or above	set	2				
	ii.	_Charger not less than 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
1L	**LVAC Distribution**							
1L1	i.	_AC 415V or 240V distribution panels	lot	1				
	ii.	_Tariff metering at LV side(Main & Check)	No	4				
1M	**Civil Works, Building and Foundation**							

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
1M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
1M2	Complete civil works for GIS Hall, Operation & Panel Room						
	i) _Foundation works	Refer to Schedule B4					
	ii) _Super structures	Refer to Schedule B4					
	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv) _8 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
1M3	Testing of Foundation	Refer to Schedule B4					
1M4	Civil Works related to CAF system	Refer to Schedule B4					
1N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
1N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				210
1N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				269
1N3	Fire Fighting system for GIS Hall & Control Room						60
	i) Fire Fighting system For 230kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
1N4	Complete CCTV & with motion sensor	Lot	1				
1O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
1O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
1O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for New Bhola 230/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of BHOLA 230/33kV SS)							

2. New 132/33 kV Substation at Hatiabandha

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		ocal Currency (BDT)	
				Unit Price	Total Price	Unit Price	
				CIP	CIP		
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	
2A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
2B	**132 kV switchgear, equipment connection and steel structures**						
2B1	145kV GIS Line Feeder Bays	Set	4				
2B2	145kV GIS Auto Transformer Feeder Bays	Set	2				
2B3	145kV Bus Coupler Bays	set	1				
2B4	145kV Bus Section Bays	Set	1				
2B5	145kV GIS Double Busbar VT	Set	3				
2B6	145kV GIS Busbar HSES	Set	3				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
2B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters		No.	12				
2B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard		Lot	1				
2B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
2B10	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	4				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	Equipment Structure						
	i.	LA	No.	18				
2B11	post insulator		LOT	1				
2C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
2C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism**		Set	2				
2C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
2C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
2C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
2C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
2C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
2C7	**post insulator**		lot	1				
2C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
2C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
2C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
2C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
2D		**Transformers & accessories**						
2D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
2D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
2D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
2E	**SCADA system for Telecontrol and Telemetering**							
2E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
2F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
2F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	4				
2F.2	**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**		set	2				
2F3	**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**		set	1				
2F4	**Control, Protection,monitoring & SAS Function for Bus section circuits**		set	1				
2F5	**Busbar protection system for complete substation**		lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
2F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	12				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
2F7	**Control, Protection,monitoring & SAS for 33kV circuits**		set	2				
2F8		**Tariff metering**						
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater , TTBs & other accessories (if required)	lot	1				
2F9	**Substation Automation system**		lot	1				
2G	**Digital Fault & Disturbance Recorder**		Deleted					
2H	**Power cable & GIL (paid at actual)**							
2H1		GIL & accessories for 145kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	200				
	ii)	GIL for Transformer bay, ckt meter	m	80				
	iii)	Bushing	nos.	18				
	iv)	Support structure & accessories	lot	1				
2I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
2J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
2J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
2J2	Portable(maintenance) earthing equipment device		set	2				
2K	**Batteries, chargers & DC distribution**							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
2K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, not less than 600Ah or above	set	2				
	ii.	_Charger not less than 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
2K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,not less than 250Ah or above	set	2				
	ii.	_Charger not less than 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
2L	**LVAC Distribution**							
2L1	_AC 415V or 240V distribution panels		lot	1				
2L2	_Tariff metering at LV side(Main & Check)		No	4				
2M	**Civil Works, Building and Foundation**							
2M1	Complete civil items required for outdoor works including boundary wall and slope protection		Refer to Schedule B4					
2M2	Complete civil works for GIS Hall, Operation & Panel Room							
	i)	_Foundation works	Refer to Schedule B4					
	ii)	_Super structures	Refer to Schedule B4					
	iii)	_All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv)	_5 ton EOT Crane	lot	1				
	v)	Passenger lift(4 person)	set	1				
2M3	Testing of Foundation		Refer to Schedule B4					
2M4	Civil Works related to CAF system		Refer to Schedule B4					
2N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**							

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
2N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
2N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
2N3	Fire Fighting system for GIS Hall & Control Room						
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
2N4	Complete CCTV & with motion sensor	Lot	1				
2O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
2O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
2O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for New Hatibandha 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of Hatibandha 132/33kV SS)							

3. New 132/33 kV Substation at Pirojpur

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	
				CIP	CIP		
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
3A	**230 kV switchgear, equipment connection and steel structures**							
	Deleted							
3B	**132 kV switchgear, equipment connection and steel structures**							
3B1	145kV GIS Line Feeder Bays		Set	6				
3B2	145kV GIS Auto Transformer Feeder Bays		Set	2				
3B3	145kV Bus Coupler Bays		set	1				
3B4	145kV Bus Section Bays		Set	1				
3B5	145kV GIS Double Busbar VT		Set	3				
3B6	145kV GIS Busbar HSES		Set	3				
3B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters		No.	18				
3B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard		Lot	1				
3B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
3B10	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	Gantry Having double tier for Line						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	6				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
	b)	Equipment Structure						
	i.	LA	No.	24				
3B11	post insulator		lot	1				
3C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
3C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				
3C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
3C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
3C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
3C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
3C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
3C7	**post insulator**		lot	1				
3C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
3C9	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
3C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
3C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
3D		**Transformers & accessories**						
3D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
3D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
3D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
3E	**SCADA system for Telecontrol and Telemetering**							
3E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
3F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
3F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
3F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	2				
3F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
3F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
3F5	**Busbar protection system for complete substation**		lot	1				
3F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
3F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	2				
3F8		**Tariff metering**						
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
3F9	**Substation Automation system**		lot	1				
3G	**Digital Fault & Disturbance Recorder**		Deleted					
3H	**Power cable & GIL(paid at actual)**							
3H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	344				
	ii)	GIL for Transformer bay,ckt meter	m	44				
	iii)	Bushing	nos.	24				
	iv)	Support structure & accessories	lot	1				
3I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
3J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
3J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
3J2	Portable(maintenance) earthing equipment device		set	2				
3K	**Batteries, chargers & DC distribution**							
3K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
3K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
3L	**LVAC Distribution**							
3L1	_AC 415V or 240V distribution panels		lot	1				
3L2	_Tariff metering at LV side(Main & Check)		No	4				
3M	**Civil Works, Building and Foundation**							
3M1	Complete civil items required for outdoor works including boundary wall and slope protection		Refer to Schedule B4					
3M2	Complete civil works for GIS Hall, Operation & Panel Room							
	i)	_Foundation works	Refer to Schedule B4					
	ii)	_Super structures	Refer to Schedule B4					

Name of Bidder: Signature of Bidder:_____

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
3M2	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv) _5 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
3M3	Testing of Foundation	Refer to Schedule B4					
3M4	Civil Works related to CAF system	Refer to Schedule B4					
3N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
3N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
3N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
3N3	Fire Fighting system for GIS Hall & Control Room						
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
3N4	Complete CCTV & with motion sensor	Lot	1				
3O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
3O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
3O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New PIROJPUR 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of PIROJPUR 132kV SS)							

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
4. New 132/33 kV Substation at Bhanga							
Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		ocal Currency (BDT)	
				Unit Price	Total Price	Unit Price	
				CIP	CIP		
			(1)	(2)	(3) = (1) x (2)	(2)	
4A	230 kV switchgear, equipment connection and steel structures						
	Deleted						
4B	132 kV switchgear, equipment connection and steel structures						
4B1	145kV GIS Line Feeder Bays	Set	6				
4B2	145kV GIS Auto Transformer Feeder Bays	Set	3				
4B3	145kV Bus Coupler Bays	set	1				
4B4	145kV Bus Section Bays	Set	1				
4B5	145kV GIS Double Busbar VT	Set	3				
4B6	145kV GIS Busbar HSES	Set	3				
4B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters	No.	21				
4B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard	Lot	1				
4B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard						
	i Insulator	Lot	1				
	ii Fittings & Clamps_Connector	Lot	1				
	iii _Cable trench including fitting, fixing accessories	Lot	1				
	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
4B10	a)	Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	6				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	3				
	b)	Equipment Structure						
	i.	LA	No.	27				
4B11	Post insulator		lot	1				
4C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
4C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	3				
4C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	3				
	ii)	**DS with ES**	set	3				
4C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	2				
4C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	9				
4C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	9				
4C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	9				
4C7	**Post insulator**		lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
4C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
4C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
4C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
4C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
4D		**Transformers & accessories**						
4D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	3				
4D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings.	Set	2				
4D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
4E	**SCADA system for Telecontrol and Telemetering**							
4E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
4F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
4F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
4F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	3				
4F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
4F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
4F5	**Busbar protection system for complete substation**		lot	1				
4F6		Tarif metering						
	a)	Meters (Main & Check)	No.	18				
	b)	Panel including wiring, lighting,humidity controller, heater , TTBs & other accessories	lot	1				
	33kV Circuits							
4F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	3				
4F8		**Tariff metering**						
	a)	Meters	No.	6				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
4F9	**Substation Automation system**		lot	1				
4G	**Digital Fault & Disturbance Recorder**		Deleted					
4H	**Power cable & GIL (paid at actual)**							
4H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	300				
	ii)	GIL for Transformer bay, ckt meter	m	84				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
	iii)	Bushing	nos.	27				
	iv)	Support structure & accessories	lot	1				
4I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
4J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
4J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
4J2	Portable(maintenance) earthing equipment device		set	2				
4K	**Batteries, chargers & DC distribution**							
4K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
4K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
4L	**LVAC Distribution**							
4L1	_AC 415V or 240V distribution panels		lot	1				
4L2	_Tariff metering at LV side(Main & Check)		No	4				
4M	**Civil Works, Building and Foundation**							
4M1	Complete civil items required for outdoor works including boundary wall and slope protection		Refer to Schedule B4					

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
4M2	Complete civil works for GIS Hall, Operation & Panel Room						
	i) _Foundation works	Refer to Schedule B4					
	ii) _Super structures	Refer to Schedule B4					
	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv) _5 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
4M3	Testing of Foundation	Refer to Schedule B4					
4M4	Civil Works related to CAF system	Refer to Schedule B4					
4N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
4N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
4N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for	Lot	1				
4N3	Fire Fighting system for GIS Hall & Control Room						
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
4N4	Complete CCTV & with motion sensor	Lot	1				
4O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
4O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
4O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1] Local Currency [In BDT] EXW	Unit Price[1] Foreign Currency [In ……..] Foreign Currency [In ……..] EXW	Total Price[1] Local Currency [In BDT] EXW	Total Price[1] Foreign Currency [In ……..] EXW
				(1)				
Total Price (for New Bhanga 132/33kV SS) carried to Summary of Price Schedule								
Total Price in words (for new of Bhanga 132kV SS)								
5. New 132/33 kV Substation at Jhalkathi								
Item No.	**Description of Equipment Requirement**		**Unit**	**Quantity**	**Foreign Currency (in…….) Unit Price CIP**	**Foreign Currency (in…….) Total Price CIP**	**ocal Currency (BDT) Unit Price**	
				(1)	(2)	(3) = (1) x (2)	(2)	
5A	**230 kV switchgear, equipment connection and steel structures**							
	Deleted							
5B	**132 kV switchgear, equipment connection and steel structures**							
5B1	145kV GIS Line Feeder Bays		Set	6				
5B2	145kV GIS Auto Transformer Feeder Bays		Set	2				
5B3	145kV Bus Coupler Bays		set	1				
5B4	145kV Bus Section Bays		Set	1				
5B5	145kV GIS Double Busbar VT		Set	3				
5B6	145kV GIS Busbar HSES		Set	3				
5B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters		No.	18				
5B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard		Lot	1				
5B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
5B10	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	6				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	Equipment Structure						
	i.	LA	No.	24				
5B11	Post insulator		LOT	1				
5C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
5C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				
5C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
5C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
5C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
5C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
5C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
5C7	**Post insulator**		lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
5C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
5C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
5C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
5C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
5D		**Transformers & accessories**						
5D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
5D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
5D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
5E	**SCADA system for Telecontrol and Telemetering**							
5E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
5F	**Control, Protection, SAS and Metering**							
		145kV Circuits						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
5F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
5F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	2				
5F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
5F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
5F5	**Busbar protection system for complete substation**		lot	1				
5F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
5F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	2				
5F8		**Tariff metering**						
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
5F9	**Substation Automation system**		lot	1				
5G	**Digital Fault & Disturbance Recorder**		Deleted					
5H	**Power cable & GIL(paid at actual)**							
5H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	340				
	ii)	GIL for Transformer bay, ckt meter	m	84				
	iii)	Bushing	nos.	24				
	iv)	Support structure & accessories	lot	1				
5I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
5J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
5J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
5J2	Portable(maintenance) earthing equipment device		set	2				
5K	**Batteries, chargers & DC distribution**							
5K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
5K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
5L	**LVAC Distribution**							
5L1	_AC 415V or 240V distribution panels		lot	1				
5L2	_Tariff metering at LV side(Main & Check)		No	4				
5M	**Civil Works, Building and Foundation**							
5M1	Complete civil items required for outdoor works including boundary wall and slope protection		Refer to Schedule B4					
5M2	Complete civil works for GIS Hall, Operation & Panel Room							
	i)	_Foundation works	Refer to Schedule B4					
	ii)	_Super structures	Refer to Schedule B4					
	iii)	_All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv)	_5 ton EOT Crane	lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
	v) Passenger lift(4 person)	set	1				
5M3	Testing of Foundation	Refer to Schedule B4					
5M4	Civil Works related to CAF system	Refer to Schedule B4					
5N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
5N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
5N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
5N3	Fire Fighting system for GIS Hall & Control Room						
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
5N4	Complete CCTV & with motion sensor	Lot	1				
5O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
5O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
5O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New JHALKATHI 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of JHALKATHI 132kV SS)							
6. New 132/33 kV Substation at Shibchar							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
Item No.	Description of Equipment Requirement		Unit	Quantity	Foreign Currency (in…….)		ocal Currency (BDT)	
					Unit Price	Total Price	Unit Price	
					CIP	CIP		
				(1)	(2)	(3) = (1) x (2)	(2)	
6A	230 kV switchgear, equipment connection and steel structures							
	Deleted							
6B	132 kV switchgear, equipment connection and steel structures							
6B1	145kV GIS Line Feeder Bays		Set	4				
6B2	145kV GIS Auto Transformer Feeder Bays		Set	3				
6B3	145kV Bus Coupler Bays		set	1				
6B4	145kV Bus Section Bays		Set	1				
6B5	145kV GIS Double Busbar VT		Set	3				
6B6	145kV GIS Busbar HSES		Set	3				
6B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters		No.	15				
6B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard		Lot	1				
6B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
	Steel gantry, having single/ double tier for each double circuit of 230kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	245KV Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	2				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
6B10	b)	145KV Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	2				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	c)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	3				
	d)	Equipment Structure						
	i.	LA	No.	21				
6B11	Post insulator		lot	1				
6C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
6C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	3				
6C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	3				
	ii)	**DS with ES**	set	3				
6C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	2				
6C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	9				
6C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	9				
6C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	9				
6C7	**Post insulator**		lot	1				

Item No.		Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
6C8		One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.	lot	1				
6C9		One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard	lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
6C10		Steel structures for completing 33 kV switchyard						
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
6C11		DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.	Set	2				
6D		**Transformers & accessories**						
6D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	3				
6D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
6D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
6E		**SCADA system for Telecontrol and Telemetering**						
6E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
6F		**Control, Protection, SAS and Metering**						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
		145kV Circuits						
6F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	4				
6F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	3				
6F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
6F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
6F5	**Busbar protection system for complete new substation**		lot	1				
6F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	14				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
6F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	3				
6F8		Tariff metering						
	a)	Meters	No.	6				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
6F9	**Substation Automation system**		lot	1				
6G	**Digital Fault & Disturbance Recorder**		**Deleted**					
6H	**Power cable & GIL (paid at actual)**							
6H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	120				
	ii)	GIL for Transformer bay, ckt meter	m	120				
	iii)	Bushing	nos.	15				
	iv)	Support structure & accessories	lot	1				
6H2		145KV XLPE cables with corresponding GIS connections and cable end terminals, with all required equipment; 145 kV, 1600 A, 40 kA / 1 sec, 50 Hz, for connection of one 145 kV bay.						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
	i)	Power Cable , ckt meter	m	150				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
6I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
6J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
6J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
6J2	Portable(maintenance) earthing equipment device		set	2				
6K	**Batteries, chargers & DC distribution**							
6K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
6K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
6L	**LVAC Distribution**							
6L1	_AC 415V or 240V distribution panels		lot	1				
6L2	_Tariff metering at LV side(Main & Check)		No	4				
6M	**Civil Works, Building and Foundation**							
6M1	Complete civil items required for outdoor works including boundary wall and slope protection		Refer to Schedule B4					

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
6M2	Complete civil works for GIS Hall, Operation & Panel Room						
	i) _Foundation works	Refer to Schedule B4					
	ii) _Super structures	Refer to Schedule B4					
	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv) _5 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
6M3	Testing of Foundation	Refer to Schedule B4					
6M4	Civil Works related to CAF system	Refer to Schedule B4					
6N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
6N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
6N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
6N3	Fire Fighting system for GIS Hall & Control Room						
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
6N4	Complete CCTV & with motion sensor	Lot	1				
6O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
6O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
6O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
Total Price (for New Shibchar 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of Shibchar 132kV SS)							

7. New 132/33 kV Substation at Domar

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	
				CIP	CIP		
				(2)	*(3) = (1) x (2)*	*(2)*	
7A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
7B	**132 kV switchgear, equipment connection and steel structures**						
7B1	145kV GIS Line Feeder Bays	Set	6				
7B2	145kV GIS Auto Transformer Feeder Bays	Set	2				
7B3	145kV Bus Coupler Bays	set	1				
7B4	145kV Bus Section Bays	Set	1				
7B5	145kV GIS Double Busbar VT	Set	3				
7B6	145kV GIS Busbar HSES	Set	3				
7B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters	No.	18				
7B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
7B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
7B10	Steel gantry, having single/ double tier for each double circuit of 132kV & 230KV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	245KV Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	2				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	145KV Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	4				
	c)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	d)	Equipment Structure						
	i.	LA	No.	24				
7B11	Post insulator		lot	1				
7C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
7C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
7C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
7C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
7C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
7C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
7C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
7C7	**Post insulator**		lot	1				
7C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
7C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
7C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
7C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
7D		**Transformers & accessories**						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
7D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
7D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings..	Set	2				
7D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
7E	**SCADA system for Telecontrol and Telemetering**							
7E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
7F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
7F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
7F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	2				
7F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
7F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
7F5	**Busbar protection system for complete substation**		lot	1				
7F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
7F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
7F8		**Tariff metering**						
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
7F9	**Substation Automation system**		lot	1				
7G	**Digital Fault & Disturbance Recorder**		**Deleted**					
7H	**Power Cable & GIL (paid at actual)**							
7H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	200				
	ii)	GIL for Transformer bay, ckt meter	m	80				
	iii)	Bushing	nos.	18				
	iv)	Support structure & accessories	lot	1				
7H2		145KV XLPE cables with corresponding GIS connections and cable end terminals, with all required equipment; 145 kV, 1600 A, 40 kA / 1 sec, 50 Hz, for connection of one 145 kV bay.						
	i)	Power Cable, ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
7I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
7J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
7J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
7J2	Portable(maintenance) earthing equipment device		set	2				
7K	**Batteries, chargers & DC distribution**							
7K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
7K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
7L	**LVAC Distribution**							
7L1	_AC 415V or 240V distribution panels		lot	1				
7L2	_Tariff metering at LV side(Main & Check)		No	4				
7M	**Civil Works, Building and Foundation**							
7M1	Complete civil items required for outdoor works including boundary wall and slope protection		Refer to Schedule B4					
7M2	Complete civil works for GIS Hall, Operation & Panel Room							
	i)	_Foundation works	Refer to Schedule B4					
	ii)	_Super structures	Refer to Schedule B4					
	iii)	_All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	Refer to Schedule B4					
	iv)	_5 ton EOT Crane	lot	1				
	v)	Passenger lift(4 person)	set	1				
7M3	Testing of Foundation		Refer to Schedule B4					
7M4	Civil Works related to CAF system		Refer to Schedule B4					
7N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**							

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
7N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
7N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
7N3	Fire Fighting system for GIS Hall & Control Room						
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
7N4	Complete CCTV & with motion sensor	Lot	1				
7O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
7O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
7O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New Domar 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of Domar 132kV SS)							

8. Extension of 132kV AIS bays at 132/33 kV Substation at Patnitola

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	
				CIP	CIP		

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	
8A	**230 kV AIS &GIS**						
	Deleted						
8B	**132 kV air insulatedswitchgear, equipment connection and steel structures**						
8B1	145kV, 1600A, 40kA/1sec, 50Hz, 650kVp BIL, live tank type, single pole operation, SF6 gas circuit breakers with spring-stored energy operating mechanism with support structure.	set	2				
8B2	145kV, 1600A, 40kA/1sec, 50Hz, 650kVp BIL horizontal double break, post type, motor operated disconnectors with motor-operated earthing switch	set	2				
8B3	145kV, 1600A, 40kA/1sec, 50Hz, 650kVp BIL,horizontal double break, post type, motor operated disconnectors without earthing switch.	Set	4				
8B4	single-phase, 5-core, 145kV, 3150A, 40kA/1sec, 50Hz, 650kVp BIL, ,post type current transformer	No	6				
8B5	single-phase, 3-core, 145kV, 50Hz, 650kVp BIL inductive type voltage transformers.	No	6				
8B6	120kV rated voltage, 98kV(rms) continuous operating voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters.	No	6				
8B7	One(1) lot of flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 145kV busbar and switchgear connection.	lot	1				
8B8	One(1) lot of insulators and fittings including all necessary accessories required to complete 145kV switchyard						
i)	_Insulator	lot	1				
ii)	_Fittings	lot	1				
8B9	Steel Structures for gantry and equipment supports						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
a)	_Gantry Column including nut & bolts For Main & Jack Bus		lot	1				
b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts		lot	1				
c)	_Equipment support structures including nut & bolts							
i)	DS with ES		set	2				
ii)	DS without ES		set	4				
iii)	Bus ES		Deleted					
iv)	CT		No	6				
v)	IVT		No	6				
vi)	LA		No	6				
vii)	Wave Trap		Deleted					
viii)	PI		lot	1				
d)	_Cable tray including fitting, fixing accessories		lot	1				
8B10	Post insulator		lot	1				
8C	**33kV AIS &GIS**		Deleted					
8D	**Power Transformer & Earthing/Auxiliary Transformer**		Deleted					
8E	**SCADA system for Telecontrol and Telemetering**							
8E1	Modification/Extension of SCADA hardware & software							
	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
8F	**Control, Protection, SAS and Metering**							
	132kV Circuits							
8F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				
8F2	Modification / Extension of Busbar Protection		lot	1				
	Each Comprising							
8F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
8F4	**Modification / Extension of Substation Automation System**		Lot	1				
8G	**Digital Fault & Disturbance Recorder**		Deleted					
8H	**Power Cable**		Deleted					
8I	**Multicore Cables**							
8I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				
	ii) LV Power Cable		lot	1				
8J	**Earthing and Lightning Protection**							
8J1	_Extension of Earthing system for 132kV Switchyard		lot	1				
8J2	_Extension of Lightning Protection System for 132kV Switchyard		lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
8K	**Batteries, chargers & DC distribution**						
8K1	110V Ni-cad Batteries with chargers & distribution board						
	a) for 132kV System						
	i) Extension of 110V DC Distribution panel and board	Lot	1				
8K2	48V Ni-cad Batteries with chargers & distribution board						
	i) Extension of 48V DC Distribution panel and board	Lot	1				
8L	**LVAC Distribution**						
8L1	_Extension of AC 415V or 240V distribution panels	lot	1				
8L2	_Tariff metering at LV side(Main & Check)	Deleted					
8M	**Civil Works, Building and Foundation**						
8M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
8M2	Complete civil works for Control Room, Operation & Panel Room	Refer to Schedule B4					
8M3	Testing of Foundation	Refer to Schedule B4					
8N	**Lighting, small power, air conditioning and Ventilation**						
8N1	Extension of indoor small power lighting, air conditioning for extension work	Lot	1				
8N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Lot	1				
8O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
8O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection &						
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)	Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
	SCADA data from switchgear and control system through SAS	Lot	1				
	Hot-line telephone system						
8O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed,	Lot	1				
Total Price(for Extension of Patnitola 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Patnitola 132kV SS)							

9. Extension of 132kV GIS bays at 132/33 kV Substation at Niyamatpur

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	
				CIP	CIP		
			(1)	(2)	(3) = (1) x (2)	(2)	
9A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
9B	**145 kV Outdoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures**						
9B1	145kV GIS Line Feeder Bays	Set	2				
	132kV Air Insulated Switchgear						
9B7	120kV rated voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arrester	No.	6				
9B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 145kV GIS Switchyard	Lot	1				
9B9	insulator and fittings including all necessary clamps and connectors as required for completing 145kV GIS Switchyard						
	i _Insulator	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
	ii	Fittings & Clamps_Connector	Lot	1				
	ii	Nut-bolt	Lot	1				
	iv.	_Cable trench including fitting, fixing accessories	Lot	1				
9B10	Steel gantry & structure including all necessary accessories required for completing 145kV GIS Switchyard							
	a)	_Gantry Column including nut & bolts For Main & Jack Bus	lot	1				
	b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts	lot	1				
	c)	_Equipment support structures including nut & bolts						
	i)	LA	nos	6				
	ii)	PI	lot	1				
	d)	_Cable tray including fitting, fixing accessories	lot	1				
9C	**33kV AIS &GIS**		Deleted					
9D	**Power Transformer & Earthing/Auxiliary Transformer**		Deleted					
9E	**SCADA system for Telecontrol and Telemetering**							
9E1	Modification/Extension of SCADA hardware & software							
	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
9F	**Control, Protection, SAS and Metering**							
	132kV Circuits							
9F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
9F2	Modification / Extension of Busbar Protection		lot	1				
9F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
9F4	**Substation Automation System**		Deleted					
9G	**Digital Fault & Disturbance Recorder**		Deleted					
9H	**Power Cable**							
9H1		GIB & accessories for 132kV Switchyard						
	i)	GIB for Line bay, ckt meter	m	150				
	iii)	Bushing	set	6				
	iv)	Support structure & accessories	lot	1				
9H2		145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay						
	i)	Power Cable , ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
9I	**Multicore Cables**							
9I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
	ii) LV Power Cable	lot	1				
9J	**Earthing and Lightning Protection**						
9J1	_Extension of Earthing system for 132kV Switchyard	lot	1				
9J2	_Extension of Lightning Protection System for 132kV Switchyard	lot	1				
9K	**Batteries, chargers & DC distribution**						
9K1	110V Ni-cad Batteries with chargers & distribution board						
	a) for 132kV System						
	i) Extension of 110V DC Distribution panel and board	Lot	1				
9K2	48V Ni-cad Batteries with chargers & distribution board						
	i) Extension of 48V DC Distribution panel and board	Lot	1				
9L	**LVAC Distribution**						
9L1	_Extension of AC 415V or 240V distribution panels	lot	1				
9L2	_Tariff metering at LV side(Main & Check)	Deleted					
9M	**Civil Works, Building and Foundation**						
9M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
9M2	Complete civil works for Control Room, Operation & Panel Room	Refer to Schedule B4					
9M3	Testing of Foundation	Refer to Schedule B4					
9N	**Lighting, small power, air conditioning and Ventilation**						

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
9N1	Extension of indoor small power lighting, air conditioning for extension work	Lot	1				
9N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Lot	1				
9O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
9O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
9O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for Extension of Niyamatpur 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Niyamatpur 132kV SS)							

10. Extension of 132kV AIS bays at 132/33 kV Substation at Gopalganj

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	
				CIP	CIP		

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	
10A	**230 kV AIS &GIS**						
	Deleted						
10B	**132 kV air insulatedswitchgear, equipment connection and steel structures**						
10B1	145kV, 1600A, 50kA/1sec, 50Hz, 650kVp BIL, live tank type, single pole operation, SF6 gas circuit breakers with spring-stored energy operating mechanism with support structure.	set	2				
10B2	145kV, 1600A, 50kA/1sec, 50Hz, 650kVp BIL horizontal double break, post type, motor operated disconnectors with motor-operated earthing switch	set	2				
10B3	145kV, 1600A, 50kA/1sec, 50Hz, 650kVp BIL,horizontal double break, post type, motor operated disconnectors without earthing switch.	Set	4				
10B4	single-phase, 5-core, 145kV, 3150A, 50kA/1sec, 50Hz, 650kVp BIL, ,post type current transformer	No	6				
10B5	single-phase, 3-core, 145kV, 50Hz, 650kVp BIL inductive type voltage transformers.	No	6				
10B6	120kV rated voltage, 98kV(rms) continuous operating voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single	No	12				
10B7	One(1) lot of flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 145kV busbar and switchgear connection.	lot	1				
10B8	One(1) lot of insulators and fittings including all necessary accessories required to complete 145kV switchyard						
i)	_Insulator	lot	1				
ii)	_Fittings	lot	1				
10B9	Steel Structures for gantry and equipment supports						

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
a)	_Gantry Column including nut & bolts						
	i. _Gantry Column including nut & bolts For termination 230kv s	lot	1				
	ii. _Gantry Column including nut & bolts For Main & Jack Bus termination 132kv side	lot	1				
b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts						
	i. _Gantry beam including nut & bolts For termination 230kv side	lot	1				
	ii. _Gantry beam including nut & bolts For Main & Jack Bus termination 132kv side	lot	1				
c)	_Equipment support structures including nut & bolts						
i)	DS with ES	set	2				
ii)	DS without ES	set	4				
iii)	Bus ES	Deleted					
iv)	CT	No	6				
v)	IVT	No	6				
vi)	LA	No	12				
vii)	Wave Trap	Deleted					
viii)	PI	lot	1				
d)	_Cable tray including fitting, fixing accessories	lot	1				
10B10	Post insulator	lot	1				
10C	**33kV AIS &GIS**	Deleted					
10D	**Power Transformer & Earthing/Auxiliary Transformer**	Deleted					
10E	**SCADA system for Telecontrol and Telemetering**						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
10E1	Modification/Extension of SCADA hardware & software							
	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
10F	**Control, Protection, SAS and Metering**							
	132kV Circuits							
10F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				
10F2	Modification / Extension of Busbar Protection		lot	1				
10F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
10F4	**Extension of existing Substation Automation System**		Lot	1				
10G	**Digital Fault & Disturbance Recorder**							
10G.1	**Extension of existing Digital Fault & Disturbance Recorder**		Lot	1				
10H	**Power Cable**							
10H1		**GIL & accessories for 132kV Switchyard**	**Deleted**					
10H2		145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay						

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
	i) Power Cable , ckt meter	m	200				
	ii) AIS Cable Sealing end & accessories	No.	12				
10I	**Multicore Cables**						
10I1	Multicore Cables for control, protection, metering & power circuits						
	i) LV Control Cable	lot	1				
	ii) LV Power Cable	lot	1				
10J	**Earthing and Lightning Protection**						
10J1	_Extension of Earthing system for 132kV Switchyard	lot	1				
10J2	_Extension of Lightning Protection System for 132kV Switchyard	lot	1				
10K	**Batteries, chargers & DC distribution**						
10K1	110V Ni-cad Batteries with chargers & distribution board						
	a) for 132kV System						
	i) Extension of 110V DC Distribution panel and board	Lot	1				
10K2	48V Ni-cad Batteries with chargers & distribution board						
	i) Extension of 48V DC Distribution panel and board	Lot	1				
10L	**LVAC Distribution**						
10L1	_Extension of AC 415V or 240V distribution panels	lot	1				
10L2	_Tariff metering at LV side(Main & Check)	Deleted					
10M	**Civil Works, Building and Foundation**						

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
10M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
10M2	Complete civil works for Control Room, Operation & Panel Room	Refer to Schedule B4					
10M3	Testing of Foundation	Refer to Schedule B4					
10N	**Lighting, small power, air conditioning and Ventilation**						
10N1	Extension of indoor small power lighting, air conditioning for extension work	Lot	1				
10N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Lot	1				
10O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
10O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection &	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
10O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed,	Lot	1				
Total Price(for Extension of Gopalganj 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Gopalganj 132kV SS)							

11. Extension of 132kV GIS bays at 132/33 kV Substation at Purbasadipur

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	
				CIP	CIP		
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	
11A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
11B	**145 kV Indoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures**							
11B1	145kV GIS Line Feeder Bays		Set	2				
	132kV Air Insulated Switchgear							
11B7	120kV rated voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arrester		No.	6				
11B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 145kV GIS Switchyard		Lot	1				
11B9	insulator and fittings including all necessary clamps and connectors as required for completing 145kV GIS Switchyard							
	i	_Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	ii	Nut-bolt	Lot	1				
	iv.	_Cable trench including fitting, fixing accessories	Lot	1				
11B10	Steel Structures for gantry and equipment supports							
	a)	_Gantry Column including nut & bolts For Main & Jack Bus	lot	1				
	b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts	lot	1				
	c)	_Equipment support structures including nut & bolts						
	i)	LA	nos	6				
	ii)	PI	lot	1				
	d)	_Cable tray including fitting, fixing accessories	lot	1				
11C	**33kV AIS &GIS**		Deleted					
11D	**Power Transformer & Earthing/Auxiliary Transformer**		Deleted					
11E	**SCADA system for Telecontrol and Telemetering**							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
11E1	Modification/Extension of SCADA hardware & software							
	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
11F	**Control, Protection, SAS and Metering**							
	132kV Circuits							
11F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				
11F2	Modification / Extension of Busbar Protection		lot	1				
11F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
11F4	**Extension of existing Substation Automation System**		Lot	1				
11G	**Digital Fault & Disturbance Recorder**							
11G.1	**Extension of existing Digital Fault & Disturbance Recorder**		Lot	1				
11H	**Power Cable**							
11H1	**GIL & accessories for 132kV Switchyard**		**Deleted**					
11H2	145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay							
	i)	Power Cable , ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
	iii) GIS Cable Sealing end & accessories	No.	6				
11I	**Multicore Cables**						
11I1	Multicore Cables for control, protection, metering & power circuits						
	i) LV Control Cable	lot	1				
	ii) LV Power Cable	lot	1				
11J	**Earthing and Lightning Protection**						
11J1	_Extension of Earthing system for 132kV Switchyard	lot	1				
11J2	_Extension of Lightning Protection System for 132kV Switchyard	lot	1				
11K	**Batteries, chargers & DC distribution**						
11K1	110V Ni-cad Batteries with chargers & distribution board						
	a) for 132kV System						
	i) Extension of 110V DC Distribution panel and board	Lot	1				
11K2	48V Ni-cad Batteries with chargers & distribution board						
	i) Extension of 48V DC Distribution panel and board	Lot	1				
11L	**LVAC Distribution**						
11L1	_Extension of AC 415V or 240V distribution panels	lot	1				
11L2	_Tariff metering at LV side(Main & Check)	Deleted					
11M	**Civil Works, Building and Foundation**						

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
11M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
11M2	Complete civil works for Control Room, Operation & Panel Room	Refer to Schedule B4					
11M3	Testing of Foundation	Refer to Schedule B4					
11N	**Lighting, small power, air conditioning and Ventilation**						
11N1	Extension of indoor small power lighting, air conditioning for extension work	Lot	1				
11N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Lot	1				
11O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
11O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
11O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for Extension of Purbasadipur 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Purbasadipur 132kV SS)							

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				

12. Extension of 132kV GIS bays at 132/33 kV Substation at Bhandaria

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	
				CIP	CIP		
			(1)	(2)	(3) = (1) x (2)	(2)	
12A	230 kV switchgear, equipment connection and steel structures						
	Deleted						
12B	145 kV Outdoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures						
12B1	145kV GIS Line Feeder Bays	Set	2				
	132kV Air Insulated Switchgear						
12B7	120kV rated voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arrester	No.	6				
12B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 145kV GIS Switchyard	Lot	1				
12B9	insulator and fittings including all necessary clamps and connectors as required for completing 145kV GIS Switchyard						
	i _Insulator	Lot	1				
	ii Fittings & Clamps_Connector	Lot	1				
	ii Nut-bolt	Lot	1				
	iv. _Cable trench including fitting, fixing accessories	Lot	1				
12B10	Steel gantry & structure including all necessary accessories required for completing 145kV GIS Switchyard						
	a) _Gantry Column including nut & bolts For Main & Jack Bus	lot	1				
	b) _Gantry beam at Main Bus & Jack-Bus height including nut & bolts	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
	c)	_Equipment support structures including nut & bolts						
	i)	LA	nos	6				
	ii)	PI	lot	1				
	d)	_Cable tray including fitting, fixing accessories	lot	1				
12C	**33kV AIS &GIS**		Deleted					
12D	**Power Transformer & Earthing/Auxiliary Transformer**		Deleted					
12E	**SCADA system for Telecontrol and Telemetering**							
12E1	Modification/Extension of SCADA hardware & software							
	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Refer to Schedule B4					
12F	**Control, Protection, SAS and Metering**							
	132kV Circuits							
12F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				
12F2	Modification / Extension of Busbar Protection		Deleted					
12F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
12F4	**Substation Automation System**		Deleted					
12G	**Digital Fault & Disturbance Recorder**		Deleted					

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
12H	**Power Cable & GIB**							
12H1		GIB & accessories for 132kV Switchyard						
	i)	GIB , ckt meter	m	87				
	iii)	Bushing	set	6				
	iv)	Support structure & accessories	lot	1				
12H2		145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay						
	i)	Power Cable , ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
12I	**Multicore Cables**							
12I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				
	ii) LV Power Cable		lot	1				
12J	**Earthing and Lightning Protection**							
12J1	_Extension of Earthing system for 132kV Switchyard		lot	1				
12J2	_Extension of Lightning Protection System for 132kV Switchyard		lot	1				
12K	**Batteries, chargers & DC distribution**							
12K1	110V Ni-cad Batteries with chargers & distribution board							

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
	a) for 132kV System						
	ii) Extension of 110V DC Distribution panel and board	Lot	1				
	ii) Extension of battery	Lot	1				
	ii) Extension of charger	Lot	1				
12K2	48V Ni-cad Batteries with chargers & distribution board						
	i) Extension of 48V DC Distribution panel and board	Lot	1				
	ii) Extension of battery	Lot	1				
	ii) Extension of charger	Lot	1				
12L	**LVAC Distribution**						
12L1	_Extension of AC 415V or 240V distribution panels	lot	1				
12L2	_Tariff metering at LV side(Main & Check)	Deleted					
12M	**Civil Works, Building and Foundation**						
12M1	Complete civil items required for outdoor works including boundary wall and slope protection	Refer to Schedule B4					
12M2	Complete civil works for Control Room, Operation & Panel Room	Refer to Schedule B4					
12M3	Testing of Foundation	Refer to Schedule B4					
12N	**Lighting, small power, air conditioning and Ventilation**						
12N1	Extension of indoor small power lighting, air conditioning for extension work	Lot	1				
12N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
12O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
12O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
12O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for Extension of Bhandaria 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Bhandaria 132kV SS)							
Schedule B1:Mandatory Spare Parts supplied from within Employer's Country							
13. Mandatory Spare, Maintanence & Test Equipement							
		230KV 132KV Gas Insulated Switchgear					
1		Complete bay equipment module with necessary accessories	sets	1			
2		Each type of auxiliary contacts unit	sets	1			
3		surge arrester (AIS)	nos.	2			
4		Complete Voltage transformer module	nos.	1			
5		Closing coils	nos.	2			

Item No.		Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
6		Tripping coils	nos.	4				
7		Motor for circuit breaker operating mechanism	nos.	1				
8		Motor for disconnector drive	nos.	1				
9		Coils for Blocking magnet in disconnector drive	nos.	1				
10		Gas pressure monitor with gauge and pressure switch	No	3				
11		Pressure Relief Device	No	1				
12		Supporting insulator with barrier	No	1				
13		Rubber gaskets “O” rings and seals for SF6 gas	lot	1				
14		All types of control valves for SF6 gas	lot	1				
		132KV Gas Insulated Switchgear						
15		Complete bay equipment module with necessary accessories	sets	6				
16		Each type of auxiliary contacts unit	sets	6				
17		surge arrester (AIS)	nos.	14				
18		Complete Voltage transformer module	nos.	6				
19		Closing coils	nos.	12				
20		Tripping coils	nos.	18				
21		Motor for circuit breaker operating mechanism	nos.	6				
22		Motor for disconnector drive	nos.	6				
23		Coils for Blocking magnet in disconnector drive	nos.	6				
24		Gas pressure monitor with gauge and pressure switch	nos.	15				
25		Pressure Relief Device	nos.	15				
26		Supporting insulator with barrier	nos.	4				
27		Rubber gaskets “O” rings and seals for SF6 gas	lot/SS	1				
28		All types of control valves for SF6 gas	lot/SS	1				
		145KV Air Insulated Switchgear						
29		Complete SF6 gas, livetank type 145kV Circuit Breaker (single-pole operation type)	sets	2				
30		Complete 145kV disconnector switch	sets	1				
31		Complete 145kV Current Transformer	nos.	3				
32		Complete 145kV capacitive VoltageTransformer	nos.	3				
33		Surge arrester	nos.	5				

Item No.		Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
34		Closing coils for CB	nos.	10				
35		Tripping coils for CB	nos.	15				
36		Motor for 145kV circuit breaker operating mechanism	nos.	2				
37		Motor for disconnector drive	nos.	2				
38		SF6 gas (45 kg) cylinder	nos.	5				
39		Contactors, relays, selector switches, push buttons, counters, heaters, humidity sensors etc., in motor drive mechanism and control cubicle, one of each type	nos.	5				
		36kV Switchgears						
40		36kV Vacuum Circuit Breaker with structure	sets	3				
41		36kV Disconnector Switch	sets	3				
42		36kV Load Beak Switch with fuse	sets	2				
43		36kV IVT (same as offered type)	nos.	3				
44		36kV Current Transformer (same as offered type)	nos.	3				
45		30kV Surge Arrester	nos.	3				
46		Closing coils for CB	nos.	5				
47		Tripping coils for CB	nos.	10				
		230/33kV TRANSFORMERS						
48		245kV bushings (same as offered type)	nos.	1				
49		Neutral Bushing	nos.	1				
50		36kV Bushing	nos.	1				
51		WTI with gaskets	sets/ss	1				
52		OTI with gaskets	sets/ss	1				
53		Buchholz relay	nos.	1				
54		Gas pressure relief device	No	1				
55		Tap changer control mechanism motor	nos.	1				
56		Set of gaskets	sets/ss	1				
57		Sets of auxiliry transformer gaskets	sets/ss	1				
58		Sets of tap changer spares	sets/ss	1				
59		Set of special tools, gauges and spanners (Bidders to give details) for transformer and OLTC	sets/ss	1				

Item No.		Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
60		Spare transformer oil [200/210 litre barrel]	nos.	50				
61		Silica gel with breather 100% spare	lot	1				
62		Transformer oil treatment plant, 10000litre/hr	set	0				
63		Oil Insulation Tester	set	0				
		132/33kV TRANSFORMERS						
64		145kV bushings (same as offered type)	nos.	3				
65		Neutral Bushing	No	3				
66		36kV Bushing	no.	3				
67		WTI with gaskets	sets/ss	1				
68		OTI with gaskets	sets/ss	1				
69		Buchholz relay	nos.	3				
70		Gas pressure relief device	No	3				
71		Tap changer control mechanism motor	nos.	3				
72		Set of gaskets	sets/ss	1				
73		Sets of earthing transformer gaskets	sets/ss	1				
74		Sets of tap changer spares	sets/ss	1				
75		Set of special tools, gauges and spanners (Bidders to give details) for transformer and OLTC		1				
76		Spare transformer oil [200/210 litre barrel] (40 nos/ss)	nos.	240				
77		Silica gel with breather 100% spare	lot	1				
78		Transformer oil treatment plant, 10000litre/hr	set	0				
79		Oil Insulation Tester	set	0				
		Compressed Air Foam system						
80		Spare item for CAF [as per manufacturer standard]	lot	1				
		Miscellaneous						
81		XLPE termination kits	set	1				
82		All types of control valves for SF6 gas	lot/substation	1				
83		Rubber gaskets “O” rings and seals for SF6 gas	lot/substation	1				
		PROTECTION, CONTROL, METERING						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
84		Each type of protection relay for 230/33KV Bhola Substation (Bidder to list)	set	1				
85		Each type of protection relay for 132/33KV Hatibandhs Substation (Bidder to list)	set	1				
86		Each type of protection relay for 132/33KV Pirojpur Substation (Bidder to list)	set	1				
87		Each type of protection relay for 132/33KV Bhanga Substation (Bidder to list)	set	1				
88		Each type of protection relay for 132/33KV Jalokati Substation (Bidder to list)	set	1				
89		Each type of protection relay for 132/33KV Shibchar Substation (Bidder to list)	set	1				
90		Each type of protection relay for 132/33KV Domar Substation (Bidder to list)	set	1				
91		Each type of protection relay for 132/33KV Patnitola Substation (Bidder to list)	set	1				
92		Each type of protection relay for 132/33KV Niamatpur Substation (Bidder to list)	set	1				
93		Each type of protection relay for 400/132/KV Gopalganj Substation (Bidder to list)	set	1				
94		Each type of protection relay for 132/33KV Pubosadipur Substation (Bidder to list)	set	1				
95		Each type of protection relay for 132/33KV Bhandaria Substation (Bidder to list)	set	1				
96		Bus bar Differential Relay (Central Unit)	set	2				
97		Tripping relay (electrical reset)	nos.	12				
98		Each type of Auxiliary relays (Bidder to list)	sets	7				
99		Trip circuit supervision relays	nos.	12				
100		Bay Control Unit	nos.	7				
101		Relay Test Block & socket	nos.	7				
102		Heater	nos.	20				
103		Humidity Sensors	nos.	20				
104		Humidity stat and thermostat	nos.	20				
105		Annunciator bulbs	nos.	20				
106		Bulbs for discrepancy switches	nos.	20				
107		Multifunction Meter	nos.	14				
108		Tariff/Energy Meter	nos.	7				
		POWER & CONTROL CABLES						
109		Spare Multi-core Control cable comprising:						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price[1]		Total Price[1]	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	Foreign Currency [In ……..]	EXW	EXW
				(1)				
	i.	control cable [length 300m of each type cable supplied under present scope for each substation]	Lot	1				
110		Power Cable						
	i.	33kV, supplied size	meter	500				
	ii.	132kV, supplied size	meter	600				
111		LV cables, 500m of each type	Lot	1				
		Batteries, Chargers, & DC Distribution						
112		Battery MCB/MCCB	nos.	10				
113		DC board incoming MCCB	sets	15				
114		Outgoing MCBs	sets	20				
		LV AC SWITCHGEAR						
115		3-phase set LVAC board incoming ACB/MCCB	no.	15				
116		3-phase sets outgoing MCCBs	nos.	30				
117		1-phase sets outgoing MCBs	nos.	30				
		SKADA & Fiber Optic Multiplexer Equipment						
118		Set of spare modules of necessary function	lot	1				
119		Protocol Analyzer	set	1				
		Post Type Insulator						
120		For 245kV	nos.	3				
121		For 145kV	nos.	10				
122		For 33kV	nos.	0				
		Gas Insulated Line (GIL)						
123		230kV GIL (with necessary bellow & angle joint)	meter	50				
124		145kV GIL (with necessary bellow & angle joint)	meter	50				
		Disc Insulator						
125		Each type of set of Disc Insulator	Lot	0				
		Conductor						
126		Each type of Bus Conductor	meter	0				
127		Each size of Rigid Tubular Conductor	meter	0				
		Clamp and Fitting						
128		Each type of Clamps and Fittings (bidder to list) (1 set for 1 SS)	sets	12				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price[1]		Total Price[1]	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	Foreign Currency [In ……..]	EXW	EXW
			(1)				
		TEST and O&M EQUIPMENT					
129		SF6 Gas Treatment Plant For Gas Filling,Recovery,Evacuation,Filtering,Drying and Storage with necessary accessories	sets	7			
130		1 cylinder of SF6 gas with valve	sets	7			
131		SF6 gas leakage detector (Infrared type)	sets	7			
132		SF6 density monitoring device	sets	0			
133		SF6 pressure monitring device	sets	7			
134		Offline Partial Discharge monitoring Device for GIS	sets	7			
135		Portable vacuum pump suitable for SF6 circuit breaker	sets	2			
136		Contact resistance measurement test set (suitable for measurement down to 1 μ ohm at 10A d.c.)	set	7			
137		5 kV insulation resistance test set (range 0.5 –1.0 - 2.5 - 5 kV)	sets	7			
138		Earth resistance test set (range 10-100-1000 ohm: min scale division 0.1 ohm)	sets	7			
139		Earth Resistivity Tester (applicable for 4 point wenner method)	sets	1			
140		Clip-on mA meter (for spill current)	nos.	7			
141		Set of Tools for each substation (as per table of section II, schedule A of volume 03)	set	7			
142		Set of Tools for GIS at each substation	set	7			
143		Oxygen Analyzer	set	7			
144		SF6 Multi-Analyser for measurement of %SF6, Moister and SO2 concetration	set	7			
145		Dew point Meter	set	7			
146		Thermovision Camera (Flir System)	set	1			
147		Oil Insulation Tester	set	5			
148		Transformer oil treatment plant, 10000litre/hr	set	2			
Total Price(for Mandatory Spare, Maintenance & Test Equipment) carried to Summary of Price Schedule Schedule B5							
Total Price in words (for Mandatory Spare, Maintenance & Test Equipment)							

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8).

Schedule B3: Design Services

1. New 230/33 kV Substation at Bhola

Item No	Description of Required Services	Unit	Quantity	Unit Price		Total Price	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
			(1)	*(2)*	*(3) = (1) x (2)*	*(4)*	*(5)=(1) x (4)*
	Design and engineering services, local and foreign part	Lump sum	1				
New 230/132/33 kV Substation at Bhola							
Subtotal - to Schedule B5 - Grand Total							

2. New 132/33 kV Substation at Hatiabandha

Item No	Description of Required Services	Unit	Quantity	Unit Price		Total Price	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
			(1)	*(2)*	*(3) = (1) x (2)*	*(4)*	*(5)=(1) x (4)*
	Design and engineering services, local and foreign part	Lump sum	1				
New 132/33 kV Substation at Hatiabandha							
Subtotal - to Schedule B5 - Grand Total							

3. New 132/33 kV Substation at Pirojpur

				Unit Price		Total Price	

Item No	Description of Required Services	Unit	Quantity	Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In …….]
			(1)	*(2)*	*(3) = (1) x (2)*	*(4)*	*(5)=(1) x (4)*
	Design and engineering services, local and foreign part	Lump sum	1				
	New 132/33 kV Substation at Pirojpur						
	Subtotal - to Schedule B5 - Grand Total						

4. New 132/33 kV Substation at Bhanga

Item No	Description of Required Services	Unit	Quantity	Unit Price		Total Price	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In …….]
			(1)	*(2)*	*(3) = (1) x (2)*	*(4)*	*(5)=(1) x (4)*
	Design and engineering services, local and foreign part	Lump sum	1				
	New 132/33 kV Substation at Bhanga						
	Subtotal - to Schedule B5 - Grand Total						

5. New 132/33 kV Substation at Jhalkathi

Item No	Description of Required Services	Unit	Quantity	Unit Price		Total Price	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In …….]
			(1)	*(2)*	*(3) = (1) x (2)*	*(4)*	*(5)=(1) x (4)*
	Design and engineering services, local and foreign part	Lump sum	1				
	New 132/33 kV Substation at Jhalkathi						
	Subtotal - to Schedule B5 - Grand Total						

6. New 132/33 kV Substation at Shibchar

Item No	Description of Required Services	Unit	Quantity	Unit Price		Total Price	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
			(1)	*(2)*	*(3) = (1) x (2)*	*(4)*	*(5)=(1) x (4)*
	Design and engineering services, local and foreign part	Lump sum	1				
New 132/33 kV Substation at Shibchar							
Subtotal - to Schedule B5 - Grand Total							

7. New 132/33 kV Substation at Domar

Item No	Description of Required Services	Unit	Quantity	Unit Price		Total Price	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
			(1)	*(2)*	*(3) = (1) x (2)*	*(4)*	*(5)=(1) x (4)*
	Design and engineering services, local and foreign part	Lump sum	1				
New 132/33 kV Substation at Domar							
Subtotal - to Schedule B5 - Grand Total							

8. Extension of 132kV AIS bays at 132/33 kV Substation at Patnitola

Item No	Description of Required Services	Unit	Quantity	Unit Price		Total Price	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
			(1)	*(2)*	*(3) = (1) x (2)*	*(4)*	*(5)=(1) x (4)*
	Design and engineering services, local and foreign part	Lump sum	1				

Extension of AIS bays 132/33 kV Substation at Patnitola							
Subtotal - to Schedule B5 - Grand Total							

9. Extension of 132kV AIS bays at 132/33 kV Substation at Niyamatpur

Item No	Description of Required Services	Unit	Quantity	Unit Price		Total Price	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
			(1)	*(2)*	*(3) = (1) x (2)*	*(4)*	*(5)=(1) x (4)*
	Design and engineering services, local and foreign part	Lump sum	1				
Extension of AIS bays 132/33 kV Substation at Niyamatpur							
Subtotal - to Schedule B5 - Grand Total							

10. Extension of 132kV AIS bays at 132/33 kV Substation at Gopalganj

Item No	Description of Required Services	Unit	Quantity	Unit Price		Total Price	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
			(1)	*(2)*	*(3) = (1) x (2)*	*(4)*	*(5)=(1) x (4)*
	Design and engineering services, local and foreign part	Lump sum	1				
Extension of AIS bays 132/33 kV Substation at Gopalganj							
Subtotal - to Schedule B5 - Grand Total							

11. Extension of 132kV GIS bays at 132/33 kV Substation at Purbasadipur

Item No	Description of Required Services	Unit	Quantity	Unit Price		Total Price	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
			(1)	*(2)*	*(3) = (1) x (2)*	*(4)*	*(5)=(1) x (4)*

	Design and engineering services, local and foreign part	Lump sum	1				
Extension of GIS bays 132/33 kV Substation at Purbasadipur							
Subtotal - to Schedule B5 - Grand Total							
12. Extension of 132kV GIS bays at 132/33 kV Substation at Bhandaria							
Item No	**Description of Required Services**	**Unit**	**Quantity**	**Unit Price**		**Total Price**	
				Local Currency [In BDT]	**Foreign Currency [In ……..]**	**Local Currency [In BDT]**	**Foreign Currency [In …….]**
			(1)	***(2)***	***(3) = (1) x (2)***	***(4)***	***(5)=(1) x (4)***
	Design and engineering services, local and foreign part	Lump sum	1				
Extension of GIS bays 132/33 kV Substation at Bhandaria							
Subtotal - to Schedule B5 - Grand Total							

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8).

Schedule B4.1: Installation and Other Services

1. New 230/33 kV Substation at BHOLA

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
A	**230 kV switchgear, equipment connection and steel structures**							
1A1	245kV GIS Line Feeder Bays		Set	6				
1A2	245kV GIS Auto Transformer Feeder Bays		Set	2				
1A3	245kV Bus Coupler Bays		set	1				
1A4	245kV Bus Section Bays		Set	1				
1A5	245kV GIS Double Busbar VT		Set	3				
1A6	245kV GIS Busbar HSES		Set	3				
1A7	192kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters		No.	18				
1A8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 230kV GIS Switchyard		Lot	1				
1A9	Insulator and fittings including all necessary clamps and connectors as required for completing 230kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
	Steel gantry, having single/ double tier for each double circuit of 230kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 230kV GIS Switchyard							
	a)	Gantry Having double tier for line						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
1A10	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	6				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	Equipment Structure						
	i.	LA	No.	18				
1A11	post insulator		lot	1				
1B	**145 kV Indoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures**							
	Deleted							
1C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
1C1	**Two (2) sets of 36kV, 3150A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				
1C2	**Disconnector 36 kV, 3150A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
1C3	**36kV, 3150A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
1C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
1C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
1C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
1C7	**post insulator**		lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
1C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
1C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
1C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
1C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
1D		**Transformers & accessories**						
1D1		230/33kV, 120/140 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
1D2		33/0.415kV, 300kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings.	Set	2				
1D3		Complete CAF (Compressed Air Foam) Type fire fighting system for auto transformer	Set	1				
1E	**SCADA system for Telecontrol and Telemetering**							
1E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
1F	**Control, Protection, SAS and Metering**							
		245kV Circuits						
1F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
1F.2	**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**		set	2				
1F3	**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**		set	1				
1F4	**Control, Protection,monitoring & SAS Function for Bus section circuits**		set	1				
1F5	**Busbar protection system for complete substation**		lot	1				
1F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
1F7		**Control, Protection,monitoring & SAS for 33kV circuits**	**set**	2				
1F8		Tariff metering						
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
1F9	**Substation Automation system**		lot	1				
1G	**Digital Fault & Disturbance Recorder**		lot	1				
1H	**Power cable & GIL (paid at actual)**							
1H1		GIL & accessories for 230kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	400				
	iii)	Bushing	nos.	18				
	iv)	Support structure & accessories	lot	1				
1H2		245kV, 50 kA / 1 sec, 1000A cu cables XLPE power cable for connection						
	i)	Power Cable, ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	iii)	GIS Cable Sealing end & accessories	No.	6				
1I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
1J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
1J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
1J2	Portable(maintenance) earthing equipment device		set	2				
1K	**Batteries, chargers & DC distribution**							
1K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, not less than 600Ah or above	set	2				
	ii.	_Charger not less than 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
1K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,not less than 250Ah or above	set	2				
	ii.	_Charger not less than 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
1L	**LVAC Distribution**							
1L1	i.	_AC 415V or 240V distribution panels	lot	1				
	ii.	_Tariff metering at LV side(Main & Check)	No	4				
1M	**Civil Works, Building and Foundation**							
1M1	**Complete Compacted Land development with carried/dredged earthfilling and slope protection (paid at actual)**							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
1M1	Complete civil items required for outdoor works including boundary wall and slope protection							
	a)	Complete Compacted Land development with carried/dredged earth/sand filling	**Cubic meter**	Unit Price				
	b)	Slope protection						
	i)	Slpoe (1V:2H) protection with turfing	**Square meter**	1933.7				
	ii)	Slpoe (1V:2H) protection with CC blocks	**Square meter**	50				
	c)	**Complete outdoor civil works**						
	i)	_**Outdoor gantry foundation 230kV switchyard**						
	1)	Double tier Height	nos.	4				
	2)	Single tier Height	nos.	3				
	ii)	_Outdoor equipment foundation 230kV switchyard						
	a)	LA	nos.	18				
	b)	GIL	lot	1				
	c)	PI	lot	1				
	iii)	_Outdoor equipment foundation 33kV switchyard						
	a)	CB	nos.	2				
	b)	DS	nos.	4				
	c)	CT	nos.	6				
	d)	IVT	nos.	6				
	e)	LA	nos.	6				
	f)	PI	lot	1				
	vi)	_Outdoor gantry/tubular busbar foundation 33kV switchyard	lot	1				
	vii)	_Transformer foundation including rails, oilpit with gravels, carrage way with steel pipe & oil-water separator	lot	1				
	viii)	_Blast wall with foundation	nos.	3				
	ix)	Property Line Demarkation	meter	720				
	x)	_Security Boundary Wall						
	a)	Boundary Wall with RCC Retaining wall	meter	0				
	b)	Dismantling of one side of Existing boundary wall	meter	0				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	c)	Boundary Wall without Retaining wall	meter	692				
	xi)	_Substation Main gate	lot	1				
	xii)	_Chain linked Fencing	lot	1				
	xiii)	_Approach raod 6.0m width	lot	1				
	xiv)	**RCC Box Culvert**	lot	0				
	xv)	_Internal road						
	a)	6.0m width	meter	297.6				
	b)	4.5m width	meter	74.4				
	c)	3.0m width	meter	564				
	d)	1.5m width	Deleted			0		
	xvi)	_Surface drain	meter	635				
	xvii)	_Cable Trench/Tunnel with soakpit						
	a)	For control, communication, relay etc. cables	meter	187.2				
	b)	For power cables	meter	154.8				
	xviii)	_Whole substation surface finishing with drainage system	lot	1				
	xix)	_Gravelling in switchyard area	lot	1				
	xx)	_Septic tank, soak well	lot	1				
	xxi)	_Pump house including deep tubewell, motor, pump, water reservoir, water pipe line etc.	lot	1				
	xxii)	_Guard house	lot	1				
	xxiii)	sentry post	nos.	4				
	xxiv	car port, 4 car	lot	1				
	xxv	ansar barac	lot	1				
1M2	a)	Complete civil works for 1 (one) No 230kV GIS Hall and 1 (one) Nos three storied Operation & Panel Room						
	i)	_Foundation works	lot	1				
	ii)	_Super structures	lot	1				
	iii)	_All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
	iv) _8 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
1M3	Testing of Foundation						
	i) _Compression Test	lot	2				
	ii) _ Uplift Test	lot	1				
1M4	Civil Works related to CAF system	Lot	1				
1N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
1N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
1N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
1N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 230kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
1N4	Complete CCTV & with motion sensor	Lot	1				
1O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
1O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
1O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for New Bhola 230/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of BHOLA 230/33kV SS)							

2. New 132/33 kV Substation at Hatiabandha

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	Total Price
				CIP	CIP		
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
2A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
2B	**132 kV switchgear, equipment connection and steel structures**						
2B1	145kV GIS Line Feeder Bays	Set	4				
2B2	145kV GIS Auto Transformer Feeder Bays	Set	2				
2B3	145kV Bus Coupler Bays	set	1				
2B4	145kV Bus Section Bays	Set	1				
2B5	145kV GIS Double Busbar VT	Set	3				
2B6	145kV GIS Busbar HSES	Set	3				
2B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters	No.	12				
2B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
2B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
2B10	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	4				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	Equipment Structure						
	i.	LA	No.	18				
2B11	post insulator		LOT	1				
2C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
2C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism**		Set	2				
2C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
2C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
2C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
2C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
2C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
2C7	**post insulator**		lot	1				
2C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
2C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
2C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
2C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
2D		**Transformers & accessories**						
2D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				

Item No.		Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
2D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings.	Set	2				
2D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
2E	**SCADA system for Telecontrol and Telemetering**							
2E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
2F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
2F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	4				
2F.2	**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**		set	2				
2F3	**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**		set	1				
2F4	**Control, Protection,monitoring & SAS Function for Bus section circuits**		set	1				
2F5	**Busbar protection system for complete substation**		lot	1				
2F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	12				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
2F7	**Control, Protection,monitoring & SAS for 33kV circuits**		set	2				
2F8		**Tariff metering**						
	a)	Meters	No.	4				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	b)	Panel including wiring, lighting,humidity controller, heater , TTBs & other accessories (if required)	lot	1				
2F9	**Substation Automation system**		lot	1				
2G	**Digital Fault & Disturbance Recorder**		Deleted					
2H	**Power cable & GIL (paid at actual)**							
2H1		GIL & accessories for 145kV Switchyard						
	i)	GIL for Line bay,ckt meter	m	200				
	ii)	GIL for Transformer bay, ckt meter	m	80				
	iii)	Bushing	nos.	18				
	iv)	Support structure & accessories	lot	1				
2I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
2J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
2J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
2J2	Portable(maintenance) earthing equipment device		set	2				
2K	**Batteries, chargers & DC distribution**							
2K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, not less than 600Ah or above	set	2				
	ii.	_Charger not less than 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
2K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,not less than 250Ah or above	set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
2K2	ii.	_Charger not less than 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
2L	**LVAC Distribution**							
2L1	_AC 415V or 240V distribution panels		lot	1				
2L2	_Tariff metering at LV side(Main & Check)		No	4				
2M	**Civil Works, Building and Foundation**							
2M1	**Complete Compacted Land development with carried/dredged earthfilling and slope protection (paid at actual)**							
2M1	Complete civil items required for outdoor works including boundary wall and slope protection							
	a)	Complete Compacted Land development with carried/dredged earth/sand filling	cubic meter	36907.36				
	b)	Slope protection						
	i)	Slpoe (1V:2H) protection with turfing	sq meter	3609				
	ii)	Slpoe (1V:2H) protection with CC blocks	sq meter	50				
	c)	**Complete outdoor civil works**						
	i)	**_Outdoor gantry foundation 132kV switchyard**						
	1)	Double tier Height	nos.	3				
	2)	Single tier Height	nos.	3				
	ii)	_Outdoor equipment foundation 132kV switchyard						
	a)	LA	nos.	18				
	b)	GIL	lot	1				
	c)	PI	lot	1				
	iii)	_Outdoor equipment foundation 33kV switchyard						
	a)	CB	nos.	2				
	b)	DS	nos.	4				
	c)	CT	nos.	6				
	d)	IVT	nos.	6				
	e)	LA	nos.	6				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
	f) PI	lot	1				
	vi) _Outdoor gantry/tubular busbar foundation 33kV switchyard	lot	1				
	vii) _Transformer foundation including rails, oilpit with gravels, carrage way with steel pipe & oil-water separator	lot	1				
	viii) _Blast wall with foundation	nos.	3				
	ix) Property Line Demarkation	meter	538				
	x) _Security Boundary Wall						
	a) Boundary Wall with RCC Retaining wall	meter	0				
	b) Dismantling of one side of Existing boundary wall	meter	0				
	c) Boundary Wall without Retaining wall	meter	476				
	xi) _Substation Main gate	lot	1				
	xii) _Chain linked Fencing	lot	1				
	xiii) _Approach raod 6.0m width	lot	1				
	xiv) RCC Box Culvert	lot	1				
	xv) _Internal road						
	a) 6.0m width	meter	183				
	b) 4.5m width	meter	84				
	c) 3.0m width	meter	324				
	d) 1.5m width	Deleted					
	xvi) _Surface drain	meter	435				
	xvii) _Cable Trench/Tunnel with soakpit	lot	1				
	a) For control, communication, relay etc. cables	meter	162				
	b) For power cables	meter	36				
	xviii) _Whole substation surface finishing with drainage system	lot	1				
	xix) _Gravelling in switchyard area	lot	1				
	xx) _Septic tank, soak well	lot	1				
	xxi) _Pump house including deep tubewell, motor, pump, water	lot	1				
	xxii) _Guard house	lot	1				
	xxiii) sentry post	nos.	4				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
	xxiv car port, 4 car	lot	1				
	xxv ansar barac	lot	1				
2M2	a) Complete civil works for 1 (one) No 132kV GIS Hall and 1 (one) Nos three storied Operation & Panel Room						
	i) _Foundation works	lot	1				
	ii) _Super structures	lot	1				
	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	lot	1				
	iv) _5 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
2M3	Testing of Foundation						
	i) _Compression Test	lot	2				
	ii) _ Uplift Test	lot	1				
2M4	Civil Works related to CAF system	Lot	1				
2N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
2N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
2N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
2N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
2N4	Complete CCTV & with motion sensor	Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
2O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
2O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
2O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for New Hatibandha 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of Hatibandha 132/33kV SS)							

3. New 132/33 kV Substation at Pirojpur

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	Total Price
				CIP	CIP		
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
3A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
3B	**132 kV switchgear, equipment connection and steel structures**						
3B1	145kV GIS Line Feeder Bays	Set	6				
3B2	145kV GIS Auto Transformer Feeder Bays	Set	2				
3B3	145kV Bus Coupler Bays	set	1				
3B4	145kV Bus Section Bays	Set	1				
3B5	145kV GIS Double Busbar VT	Set	3				
3B6	145kV GIS Busbar HSES	Set	3				
3B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters	No.	18				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
3B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard		Lot	1				
3B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
3B10	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	Gantry Having double tier for Line						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	6				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	Equipment Structure						
	i.	LA	No.	24				
3B11	post insulator		lot	1				
3C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
3C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				
3C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				

Name of Bidder: Signature of Bidder:_____

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	ii)	**DS with ES**	set	2				
3C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
3C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
3C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
3C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
3C7	**post insulator**		lot	1				
3C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
3C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
3C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
3C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
3D		**Transformers & accessories**						
3D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
3D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings.	Set	2				
3D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
3E	**SCADA system for Telecontrol and Telemetering**							
3E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
3F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
3F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
3F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	2				
3F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
3F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
3F5	**Busbar protection system for complete substation**		lot	1				
3F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
3F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	2				
3F8		**Tariff metering**						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
3F9	**Substation Automation system**		lot	1				
3G	**Digital Fault & Disturbance Recorder**		Deleted					
3H	**Power cable & GIL(paid at actual)**							
3H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	344				
	ii)	GIL for Transformer bay,ckt meter	m	44				
	iii)	Bushing	nos.	24				
	iv)	Support structure & accessories	lot	1				
3I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
3J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
3J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
3J2	Portable(maintenance) earthing equipment device		set	2				
3K	**Batteries, chargers & DC distribution**							
3K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
3K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
3L	**LVAC Distribution**							
3L1	_AC 415V or 240V distribution panels		lot	1				
3L2	_Tariff metering at LV side(Main & Check)		No	4				
3M	**Civil Works, Building and Foundation**							
3M1	**Complete Compacted Land development with carried/dredged earthfilling and slope protection (paid at actual)**							
3M1	Complete civil items required for outdoor works including boundary wall and slope protection							
	a)	Complete Compacted Land development with carried/dredged earth/sand filling	**cubic meter**	24281.16				
	b)	Slope protection						
	i)	Slpoe (1V:2H) protection with turfing	**sq meter**	2458				
	ii)	Slpoe (1V:2H) protection with CC blocks	**sq meter**	50				
	c)	**Complete outdoor civil works**						
	i)	**_Outdoor gantry foundation 132kV switchyard**						
	1)	Double tier Height	nos.	4				
	2)	Single tier Height	nos.	3				
	ii)	_Outdoor equipment foundation 132kV switchyard						
	a)	LA	nos.	24				
	b)	GIL	lot	1				
	c)	PI	lot	1				
	iii)	_Outdoor equipment foundation 33kV switchyard						
	a)	CB	nos.	2				
	b)	DS	nos.	4				
	c)	CT	nos.	6				
	d)	IVT	nos.	6				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
	e) LA	nos.	6				
	f) PI	lot	1				
	vi) _Outdoor gantry/tubular busbar foundation 33kV switchyard	lot	1				
	vii) _Transformer foundation including rails, oilpit with gravels, carrage way with steel pipe & oil-water separator	lot	1				
	viii) _Blast wall with foundation	nos.	3				
	ix) Property Line Demarkation	**meter**	549				
	x) _Security Boundary Wall						
	a) Boundary Wall with RCC Retaining wall	**meter**	0				
	b) Dismantling of one side of Existing boundary wall	**meter**	0				
	c) Boundary Wall without Retaining wall	**meter**	506				
	xi) _Substation Main gate	lot	1				
	xii) _Chain linked Fencing	lot	1				
	xiii) _Approach raod 6.0m width	lot	1				
	xiv) RCC Box Culvert	lot	1				
	xv) _Internal road						
	a) 6.0m width	meter	126				
	b) 4.5m width	meter	98.4				
	c) 3.0m width	meter	372				
	d) 1.5m width	Deleted					
	xvi) _Surface drain	meter	464				
	xvii) _Cable Trench/Tunnel with soakpit	lot	1				
	a) For control, communication, relay etc. cables	meter	98.4				
	b) For power cables	meter	45.6				
	xviii) _Whole substation surface finishing with drainage system	lot	1				
	xix) _Gravelling in switchyard area	lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
	xx) _Septic tank, soak well	lot	1				
	xxi) _Pump house including deep tubewell, motor, pump, water	lot	1				
	xxii) _Guard house	lot	1				
	xxiii) sentry post	nos.	4				
	xxiv car port, 4car	lot	1				
	xxv ansar barac	lot	1				
3M2	a) Complete civil works for 1 (one) No 132kV GIS Hall and 1 (one) Nos three storied Operation & Panel Room						
	i) _Foundation works	lot	1				
	ii) _Super structures	lot	1				
	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	lot	1				
	iv) _5 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
3M3	Testing of Foundation						
	i) _Compression Test	lot	2				
	ii) _ Uplift Test	lot	1				
3M4	Civil Works related to CAF system	Lot	1				
3N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
3N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
3N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
3N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
3N4	Complete CCTV & with motion sensor	Lot	1				
3O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
3O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
3O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New PIROJPUR 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of PIROJPUR 132kV SS)							

4. New 132/33 kV Substation at Bhanga

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	Total Price
				CIP	CIP		
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
4A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
4B	**132 kV switchgear, equipment connection and steel structures**						
4B1	145kV GIS Line Feeder Bays	Set	6				
4B2	145kV GIS Auto Transformer Feeder Bays	Set	3				
4B3	145kV Bus Coupler Bays	set	1				
4B4	145kV Bus Section Bays	Set	1				
4B5	145kV GIS Double Busbar VT	Set	3				
4B6	145kV GIS Busbar HSES	Set	3				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
4B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters		No.	21				
4B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard		Lot	1				
4B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
4B10	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	6				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	3				
	b)	Equipment Structure						
	i.	LA	No.	27				
4B11	Post insulator		lot	1				
4C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
4C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	3				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
4C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	3				
	ii)	**DS with ES**	set	3				
4C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	2				
4C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	9				
4C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	9				
4C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	9				
4C7	**Post insulator**		lot	1				
4C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
4C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
4C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
4C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
4D		**Transformers & accessories**						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
4D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	3				
4D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings.	Set	2				
4D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
4E	**SCADA system for Telecontrol and Telemetering**							
4E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
4F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
4F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
4F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	3				
4F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
4F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
4F5	**Busbar protection system for complete substation**		lot	1				
4F6		Tarif metering						
	a)	Meters (Main & Check)	No.	18				
	b)	Panel including wiring, lighting,humidity controller, heater , TTBs & other accessories	lot	1				
	33kV Circuits							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
4F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	3				
4F8		**Tariff metering**						
	a)	Meters	No.	6				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
4F9	**Substation Automation system**		lot	1				
4G	**Digital Fault & Disturbance Recorder**		Deleted					
4H	**Power cable & GIL (paid at actual)**							
4H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	300				
	ii)	GIL for Transformer bay, ckt meter	m	84				
	iii)	Bushing	nos.	27				
	iv)	Support structure & accessories	lot	1				
4I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
4J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
4J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
4J2	Portable(maintenance) earthing equipment device		set	2				
4K	**Batteries, chargers & DC distribution**							
4K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
4K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
4L	**LVAC Distribution**							
4L1	_AC 415V or 240V distribution panels		lot	1				
4L2	_Tariff metering at LV side(Main & Check)		No	4				
4M	**Civil Works, Building and Foundation**							
4M1	**Complete Compacted Land development with carried/dredged earthfilling and slope protection (paid at actual)**							
4M1	Complete civil items required for outdoor works including boundary wall and slope protection							
	a)	Complete Compacted Land development with carried/dredged earth/sand filling	**cubic meter**	37789.58				
	b)	Slope protection						
	i)	Slpoe (1V:2H) protection with turfing	**sq meter**	5025				
	ii)	Slpoe (1V:2H) protection with CC blocks	**sq meter**	50				
	c)	**Complete outdoor civil works**						
	i)	**_Outdoor gantry foundation 132kV switchyard**						
	1)	Double tier Height	nos.	4				
	2)	Single tier Height	nos.	4				
	ii)	_Outdoor equipment foundation 132kV switchyard						
	a)	LA	nos.	27				
	b)	GIL	lot	1				
	c)	PI	lot	1				
	iii)	_Outdoor equipment foundation 33kV switchyard						
	a)	CB	nos.	3				
	b)	DS	nos.	6				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
	c) CT	nos.	9				
	d) IVT	nos.	9				
	e) LA	nos.	9				
	f) PI	lot	1				
	vi) _Outdoor gantry/tubular busbar foundation 33kV switchyard	lot	1				
	vii) _Transformer foundation including rails, oilpit with gravels, carrage way with steel pipe & oil-water separator	lot	1				
	viii) _Blast wall with foundation	nos.	4				
	ix) Property Line Demarkation	**meter**	488				
	x) _Security Boundary Wall						
	a) Boundary Wall with RCC Retaining wall	**meter**	395				
	b) Dismantling of one side of Existing boundary wall	**meter**	0				
	c) Boundary Wall without Retaining wall	**meter**	0				
	xi) _Substation Main gate	lot	1				
	xii) _Chain linked Fencing	lot	1				
	xiii) _Approach raod 6.0m width	lot	1				
	xiv) RCC Box Culvert	lot	1				
	xv) _Internal road						
	a) 6.0m width	meter	156				
	b) 4.5m width	meter	84				
	c) 3.0m width	meter	171.6				
	d) 1.5m width	Deleted					
	xvi) _Surface drain	meter	362				
	xvii) _Cable Trench/Tunnel with soakpit						
	a) For control, communication, relay etc. cables	meter	136.8				
	b) For power cables	meter	46.8				
	xviii) _Whole substation surface finishing with drainage system	lot	1				
	xix) _Gravelling in switchyard area	lot	1				
	xx) _Septic tank, soak well	lot	1				
	xxi) _Pump house including deep tubewell, motor, pump, water	lot	1				
	xxii) _Guard house	lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
	xxiii) sentry post	nos.	4				
	xxiv car port, 4car	lot	1				
	xxv ansar barac	lot	1				
4M2	a) Complete civil works for 1 (one) No 132kV GIS Hall and 1 (one) Nos three storied Operation & Panel Room						
	i) _Foundation works	lot	1				
	ii) _Super structures	lot	1				
	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	lot	1				
	iv) _5 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
4M3	Testing of Foundation						
	i) _Compression Test	lot	2				
	ii) _ Uplift Test	lot	1				
4M4	Civil Works related to CAF system	Lot	1				
4N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
4N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
4N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
4N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
4N4	Complete CCTV & with motion sensor	Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
4O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
4O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
4O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New Bhanga 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of Bhanga 132kV SS)							

5. New 132/33 kV Substation at Jhalkathi

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	Total Price
				CIP	CIP		
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
5A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
5B	**132 kV switchgear, equipment connection and steel structures**						
5B1	145kV GIS Line Feeder Bays	Set	6				
5B2	145kV GIS Auto Transformer Feeder Bays	Set	2				
5B3	145kV Bus Coupler Bays	set	1				
5B4	145kV Bus Section Bays	Set	1				
5B5	145kV GIS Double Busbar VT	Set	3				
5B6	145kV GIS Busbar HSES	Set	3				
5B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters	No.	18				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
5B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard		Lot	1				
5B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
5B10	Steel gantry, having single/ double tier for each double circuit of 132kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	6				
	b)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	Equipment Structure						
	i.	LA	No.	24				
5B11	Post insulator		LOT	1				
5C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
5C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				
5C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
5C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
5C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
5C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
5C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
5C7	**Post insulator**		lot	1				
5C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
5C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
5C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
5C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
5D		**Transformers & accessories**						
5D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
5D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings.	Set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
5D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
5E	**SCADA system for Telecontrol and Telemetering**							
5E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
5F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
5F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
5F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	2				
5F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
5F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
5F5	**Busbar protection system for complete substation**		lot	1				
5F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
5F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	2				
5F8		**Tariff metering**						
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
5F9	**Substation Automation system**		lot	1				
5G	**Digital Fault & Disturbance Recorder**		Deleted					
5H	**Power cable & GIL(paid at actual)**							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
5H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	340				
	ii)	GIL for Transformer bay, ckt meter	m	84				
	iii)	Bushing	nos.	24				
	iv)	Support structure & accessories	lot	1				
5I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
5J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
5J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
5J2	Portable(maintenance) earthing equipment device		set	2				
5K	**Batteries, chargers & DC distribution**							
5K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
5K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
5L	**LVAC Distribution**							
5L1	_AC 415V or 240V distribution panels		lot	1				
5L2	_Tariff metering at LV side(Main & Check)		No	4				
5M	**Civil Works, Building and Foundation**							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
5M1	**Complete Compacted Land development with carried/dredged earthfilling and slope protection (paid at actual)**							
5M1	Complete civil items required for outdoor works including boundary wall and slope protection							
	a)	Complete Compacted Land development with carried/dredged earth/sand filling	**cubic meter**	30351.45				
	b)	Slope protection						
	i)	Slpoe (1V:2H) protection with turfing	**sq meter**	1930.017				
	ii)	Slpoe (1V:2H) protection with CC blocks	**sq meter**	50				
	c)	**Complete outdoor civil works**						
	i)	_**Outdoor gantry foundation 132kV switchyard**						
	1)	Double tier Height	nos.	4				
	2)	Single tier Height	nos.	3				
	ii)	_Outdoor equipment foundation 132kV switchyard						
	a)	LA	nos.	24				
	b)	GIL	lot	1				
	c)	PI	lot	1				
	iii)	_Outdoor equipment foundation 33kV switchyard						
	a)	CB	nos.	2				
	b)	DS	nos.	4				
	c)	CT	nos.	6				
	d)	IVT	nos.	6				
	e)	LA	nos.	6				
	f)	PI	lot	1				
	vi)	_Outdoor gantry/tubular busbar foundation 33kV switchyard	lot	1				
	vii)	_Transformer foundation including rails, oilpit with gravels, carrage way with steel pipe & oil-water separator	lot	1				
	viii)	_Blast wall with foundation	nos.	3				
	ix)	Property Line Demarkation	**meter**	690				
	x)	_Security Boundary Wall						
	a)	Boundary Wall with RCC Retaining wall	**meter**	0				

Item No.		Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	b)	Dismantling of one side of Existing boundary wall	**meter**	0				
	c)	Boundary Wall without Retaining wall	**meter**	656				
	xi)	_Substation Main gate	lot	1				
	xii)	_Chain linked Fencing	lot	1				
	xiii)	_Approach raod 6.0m width	lot	1				
	xiv)	**RCC Box Culvert**	lot	0				
	xv)	_Internal road						
	a)	6.0m width	meter	150				
	b)	4.5m width	meter	180				
	c)	3.0m width	meter	489.6				
	d)	1.5m width	Deleted					
	xvi)	_Surface drain	meter	602				
	xvii)	_Cable Trench/Tunnel with soakpit	lot	1		0		
	a)	For control, communication, relay etc. cables	meter	168				
	b)	For power cables	meter	45.6				
	xviii)	_Whole substation surface finishing with drainage system	lot	1				
	xix)	_Gravelling in switchyard area	lot	1				
	xx)	_Septic tank, soak well	lot	1				
	xxi)	_Pump house including deep tubewell, motor, pump, water	lot	1				
	xxii)	_Guard house	lot	1				
	xxiii)	sentry post	nos.	4				
	xxiv	car port, 4car	lot	1				
	xxv	ansar barac	lot	1				
5M2	a)	Complete civil works for 1 (one) No 132kV GIS Hall and 1 (one) Nos three storied Operation & Panel Room						
	i)	_Foundation works	lot	1				
	ii)	_Super structures	lot	1				
	iii)	_All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	lot	1				
	iv)	_5 ton EOT Crane	lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	v) Passenger lift(4 person)	set	1				
5M3	Testing of Foundation						
	i) _Compression Test	lot	2				
	ii) _ Uplift Test	lot	1				
5M4	Civil Works related to CAF system	Lot	1				
5N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
5N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
5N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
5N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
5N4	Complete CCTV & with motion sensor	Lot	1				
5O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
5O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
5O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New JHALKATHI 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of JHALKATHI 132kV SS)							

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)

6. New 132/33 kV Substation at Shibchar

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	Total Price
				CIP	CIP		
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
6A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
6B	**132 kV switchgear, equipment connection and steel structures**						
6B1	145kV GIS Line Feeder Bays	Set	4				
6B2	145kV GIS Auto Transformer Feeder Bays	Set	3				
6B3	145kV Bus Coupler Bays	set	1				
6B4	145kV Bus Section Bays	Set	1				
6B5	145kV GIS Double Busbar VT	Set	3				
6B6	145kV GIS Busbar HSES	Set	3				
6B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters	No.	15				
6B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard	Lot	1				
6B9	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard						
	i Insulator	Lot	1				
	ii Fittings & Clamps_Connector	Lot	1				
	iii _Cable trench including fitting, fixing accessories	Lot	1				
	Steel gantry, having single/ double tier for each double circuit of 230kV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
6B10	a)	245KV Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	2				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	b)	145KV Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	2				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	c)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	4				
	ii.	Gantry beam including nut-bolts & accessories	No.	3				
	d)	Equipment Structure						
	i.	LA	No.	21				
6B11	Post insulator		lot	1				
6C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
6C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	3				
6C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	3				
	ii)	**DS with ES**	set	3				
6C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	2				
6C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	9				
6C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	9				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
6C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	9				
6C7	**Post insulator**		lot	1				
6C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
6C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
6C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
6C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
6D		**Transformers & accessories**						
6D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	3				
6D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings.	Set	2				
6D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
6E	**SCADA system for Telecontrol and Telemetering**							
6E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
6F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
6F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	4				
6F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	3				
6F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
6F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
6F5	**Busbar protection system for complete new substation**		lot	1				
6F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	14				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
6F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	3				
6F8		Tariff metering						
	a)	Meters	No.	6				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
6F9	**Substation Automation system**		lot	1				
6G	**Digital Fault & Disturbance Recorder**		**Deleted**					
6H	**Power cable & GIL (paid at actual)**							
6H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	120				
	ii)	GIL for Transformer bay, ckt meter	m	120				
	iii)	Bushing	nos.	15				
	iv)	Support structure & accessories	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
6H2		145KV XLPE cables with corresponding GIS connections and cable end terminals, with all required equipment; 145 kV, 1600 A, 40 kA / 1 sec, 50 Hz, for connection of one 145 kV bay.						
	i)	Power Cable , ckt meter	m	150				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
6I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
6J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
6J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				
6J2	Portable(maintenance) earthing equipment device		set	2				
6K	**Batteries, chargers & DC distribution**							
6K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
6K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
6L	**LVAC Distribution**							
6L1	_AC 415V or 240V distribution panels		lot	1				
6L2	_Tariff metering at LV side(Main & Check)		No	4				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
6M	**Civil Works, Building and Foundation**							
6M1	**Complete Compacted Land development with carried/dredged earthfilling and slope protection(paid at actual)**							
6M1	Complete civil items required for outdoor works including boundary wall and slope protection							
	a)	Complete Compacted Land development with carried/dredged earth/sand filling	**cubic meter**	60702.9				
	b)	Slope protection						
	i)	Slpoe (1V:2H) protection with turfing	**sq meter**	4462				
	ii)	Slpoe (1V:2H) protection with CC blocks	**sq meter**	50				
	c)	**Complete outdoor civil works**						
	i)	**_Outdoor gantry foundation**						
	1)	Double tier Height 245kV switchyard	nos	2				
	2)	Double tier Height 145kV switchyard	nos	2				
	3)	Single tier Height 132kV switchyard	nos	4				
	ii)	_Outdoor equipment foundation 132kV switchyard						
	a)	LA	nos	21				
	b)	GIL	lot	1				
	c)	PI	lot	1				
	iii)	_Outdoor equipment foundation 33kV switchyard						
	a)	CB	nos	3				
	b)	DS	nos	6				
	c)	CT	nos	9				
	d)	IVT	nos	9				
	e)	LA	nos	9				
	f)	PI	lot	1				
	vi)	_Outdoor gantry/tubular busbar foundation 33kV switchyard	lot	1				
	vii)	_Transformer foundation including rails, oilpit with gravels, carrage way with steel pipe & oil-water separator	lot	1				
	viii)	_Blast wall with foundation	nos	4				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	ix) Property Line Demarkation	**meter**	665				
	x) _Security Boundary Wall						
	a) Boundary Wall with RCC Retaining wall	**meter**	20				
	b) Dismantling of one side of Existing boundary wall	**meter**	0				
	c) Boundary Wall without Retaining wall	**meter**	602				
	xi) _Substation Main gate	lot	1				
	xii) _Chain linked Fencing	lot	1				
	xiii) _Approach raod 6.0m width	lot	1				
	xiv) RCC Box Culvert	lot	0				
	xv) _Internal road						
	a) 6.0m width	meter	238.8				
	b) 4.5m width	meter	116.4				
	c) 3.0m width	meter	411.6				
	d) 1.5m width	Deleted					
	xvi) _Surface drain	meter	552				
	xvii) _Cable Trench/Tunnel with soakpit						
	a) For control, communication, relay etc. cables	meter	219.6				
	b) For power cables	meter	49.2				
	xviii) _Whole substation surface finishing with drainage system	meter	1				
	xix) _Gravelling in switchyard area	lot	1				
	xx) _Septic tank, soak well	lot	1				
	xxi) _Pump house including deep tubewell, motor, pump, water	lot	1				
	xxii) _Guard house	lot	1				
	xxiii) sentry post	nos	4				
	xxiv car port, 4car	lot	1				
	xxv ansar barac	lot	1				
	a) Complete civil works for 1 (one) No 132kV GIS Hall and 1 (one) Nos three storied Operation & Panel Room						
	i) _Foundation works	lot	1				
6M2	ii) _Super structures	lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
6M2	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	lot	1				
	iv) _5 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
6M3	Testing of Foundation						
	i) _Compression Test	lot	2				
	ii) _ Uplift Test	lot	1				
6M4	Civil Works related to CAF system	Lot	1				
6N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
6N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				
6N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
6N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
6N4	Complete CCTV & with motion sensor	Lot	1				
6O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
6O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
6O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
Total Price (for New Shibchar 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of Shibchar 132kV SS)							

7. New 132/33 kV Substation at Domar

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	Total Price
				CIP	CIP		
				(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
7A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
7B	**132 kV switchgear, equipment connection and steel structures**						
7B1	145kV GIS Line Feeder Bays	Set	6				
7B2	145kV GIS Auto Transformer Feeder Bays	Set	2				
7B3	145kV Bus Coupler Bays	set	1				
7B4	145kV Bus Section Bays	Set	1				
7B5	145kV GIS Double Busbar VT	Set	3				
7B6	145kV GIS Busbar HSES	Set	3				
7B7	120kV rated voltage, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters	No.	18				
7B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 132kV GIS Switchyard	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
	Insulator and fittings including all necessary clamps and connectors as required for completing 132kV GIS Switchyard							
7B9	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
	Steel gantry, having single/ double tier for each double circuit of 132kV & 230KV Transmission Line & transformer, Equipment support Structure including all necessary accessories required for completing 132kV GIS Switchyard							
	a)	245KV Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	2				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
7B10	b)	145KV Gantry Having double tier for line						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	4				
	c)	Gantry Having single tier for Transformer						
	i.	Gantry Column including nut-bolts & accessories	No.	3				
	ii.	Gantry beam including nut-bolts & accessories	No.	2				
	d)	Equipment Structure						
	i.	LA	No.	24				
7B11	Post insulator		lot	1				
7C	**33 kV Switchgear, equipment connection and steel structures**							
	One (1) set of complete equipment for switchgear 33 kV shall be designed, supplied, delivered, installed, tested and commissioned, under this contract, comprise the following:							
7C1	**Two (2) sets of 36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, outdoor Vacuum/SF6 Circuit Breakers with spring-stored energy operating mechanism.**		Set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
7C2	**Disconnector 36 kV, 2500A, 31.5kA/1s, 50 Hz, 170/70 kV BIL, three pole, single vertical break, post type, motor operated**							
	i)	**DS without ES**	set	2				
	ii)	**DS with ES**	set	2				
7C3	**36kV, 2500A, 31.5kA/1sec, 50Hz, 170kVp BIL, Horizontal break gantry mounted type disconnector.**		set	1				
7C4	**Current transformer 36 kV, 31.5kA/1s, 50Hz, 170/70 kV BIL, single phase, 4-core, post type**		nos.	6				
7C5	**Voltage transformer** 36kV, 50Hz, 170/70 kV BIL, single phase, 2 secondary windings, inductive type		nos.	6				
7C6	**Surge arrester** 30 kV rated,10 kA nominal discharge current, 50 Hz, single phase, gapless, metal oxide type		nos.	6				
7C7	**Post insulator**		lot	1				
7C8	One(1) lot of rigid/ flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 33kV busbar and switchgear connection.		lot	1				
7C9	One(1) lot of insulators and fittings including all necessary accessories required to complete 33kV switchyard		lot	1				
	i	Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	iii	_Cable trench including fitting, fixing accessories	Lot	1				
7C10	Steel structures for completing 33 kV switchyard							
	1)	For 33kV Bus	Lot	1				
	2)	For Axuiliary Transformer	Lot	1				
	3)	For equipment supports	Lot	1				
7C11	DS with load break fuse etc. for Connection of 33/0.415kV Auxiliary transformer.		Set	2				
7D		**Transformers & accessories**						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
7D1		132/34.5kV, 120/80 MVA (ONAN/ONAF), three phase outdoor type power transformers with associated bushing CTs including all necessary connections, insulators & fittings.	Set	2				
7D2		33/0.415kV, 200kVA three phase outdoor type station auxiliary transformers with associated support steel structures including all necessary connections, insulators & fittings.	Set	2				
7D3		Complete CAF (Compressed Air Foam) Type fire fighting system for power transformer	Set	1				
7E	**SCADA system for Telecontrol and Telemetering**							
7E.1	a)	Equipment at Substation for Integration work with Master & Backup NLDC including Engineering & Commissioning	lot	1				
	b)	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
7F	**Control, Protection, SAS and Metering**							
		145kV Circuits						
7F.1	**Control, Protection,monitoring & SAS Function for overhead line circuits**		set	6				
7F.2		**Control, monitoring, Protection, monitoring & SAS Function for power transformer circuits**	set	2				
7F3		**Control, Protection,monitoring & SAS Function for Bus Coupler circuits**	set	1				
7F4		**Control, Protection,monitoring & SAS Function for Bus section circuits**	set	1				
7F5	**Busbar protection system for complete substation**		lot	1				
7F6		**Tarif metering**						
	a)	Meters (Main & Check)	No.	16				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories	lot	1				
	33kV Circuits							
7F7		**Control, Protection,monitoring & SAS for 33kV circuits**	set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
7F8		**Tariff metering**						
	a)	Meters	No.	4				
	b)	Panel including wiring, lighting,humidity controller, heater, TTBs & other accessories (if required)	lot	1				
7F9	**Substation Automation system**		lot	1				
7G	**Digital Fault & Disturbance Recorder**		**Deleted**					
7H	**Power Cable & GIL (paid at actual)**							
7H1		GIL & accessories for 132kV Switchyard						
	i)	GIL for Line bay, ckt meter	m	200				
	ii)	GIL for Transformer bay, ckt meter	m	80				
	iii)	Bushing	nos.	18				
	iv)	Support structure & accessories	lot	1				
7H2		145KV XLPE cables with corresponding GIS connections and cable end terminals, with all required equipment; 145 kV, 1600 A, 40 kA / 1 sec, 50 Hz, for connection of one 145 kV bay.						
	i)	Power Cable, ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
7I	**Multicore Cables**							
	Multicore Cables for control, protection, metering & power circuits							
	i.	_LV Control Cable	lot	1				
	ii.	_LV Power Cable	lot	1				
7J	**Earthing and Lightning Protection system and Portable Eathing Equipment**							
7J1	Earthing and Lightning Protection system							
	i.	_Earthing system for complete substation	lot	1				
	ii.	_Lighting Protection System for complete substation	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
7J2	Portable(maintenance) earthing equipment device		set	2				
7K	**Batteries, chargers & DC distribution**							
7K1	110V Ni-cad Batteries with chargers & distribution board including others							
	i.	_110V Battery Banks, 600Ah or above	set	2				
	ii.	_Charger 170A	set	2				
	iii.	_3kVA Inverter	set	2				
	iv.	_110V DC Distribution panel,	lot	1				
	v.	Insulation Monitoring system for complete DC system	lot	1				
7K2	48V Ni-cad Batteries with chargers & distribution board							
	i.	_48V battery Banks,250Ah or above	set	2				
	ii.	_Charger 70A	set	2				
	iii.	_48V DC Disatribution Panel	lot	1				
7L	**LVAC Distribution**							
7L1	_AC 415V or 240V distribution panels		lot	1				
7L2	_Tariff metering at LV side(Main & Check)		No	4				
7M	**Civil Works, Building and Foundation**							
7M1	**Complete Compacted Land development with carried/dredged earthfilling and slope protection (paid at actual)**							
7M1	Complete civil items required for outdoor works including boundary wall and slope protection							
	a)	Complete Compacted Land development with carried/dredged earth/sand filling	**cubic meter**	30351.45				
	b)	Slope protection						
	i)	Slpoe (1V:2H) protection with turfing	**sq meter**	2281				
	ii)	Slpoe (1V:2H) protection with CC blocks	**sq meter**	50				
	c)	**Complete outdoor civil works**						
	i)	**_Outdoor gantry foundation 230kV switchyard**						
	1)	Double tier Height 245kV switchyard	nos	2				
	2)	Double tier Height 132kV switchyard	nos	3				
	3)	Single tier Height 132kV switchyard	nos	3				

Name of Bidder: Signature of Bidder:_____

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	ii) _Outdoor equipment foundation 132kV switchyard						
	a) LA	nos	24				
	b) GIL	lot	1				
	c) PI	lot	1				
	iii) _Outdoor equipment foundation 33kV switchyard						
	a) CB	nos	2				
	b) DS	nos	4				
	c) CT	nos	6				
	d) IVT	nos	6				
	e) LA	nos	6				
	f) PI	lot	1				
	vi) _Outdoor gantry/tubular busbar foundation 33kV switchyard	lot	1				
	vii) _Transformer foundation including rails, oilpit with gravels, carrage way with steel pipe & oil-water separator	lot	1				
	viii) _Blast wall with foundation	nos	3				
	ix) Property Line Demarkation	**meter**	680				
	x) _Security Boundary Wall						
	a) Boundary Wall with RCC Retaining wall	**meter**	20				
	b) Dismantling of one side of Existing boundary wall	**meter**	0				
	c) Boundary Wall without Retaining wall	**meter**	646				
	xi) _Substation Main gate	lot	1				
	xii) _Chain linked Fencing	lot	1				
	xiii) _Approach raod 6.0m width	lot	1				
	xiv) RCC Box Culvert	lot	0				
	xv) _Internal road						
	a) 6.0m width	meter	194.4				
	b) 4.5m width	meter	122.4				
	c) 3.0m width	meter	490.8				
	d) 1.5m width	Deleted					
	xvi) _Surface drain	meter	592				
	xvii) _Cable Trench/Tunnel with soakpit						

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
	a) For control, communication, relay etc. cables	meter	180				
	b) For power cables	meter	86.4				
	xviii) _Whole substation surface finishing with drainage system	lot	1				
	xix) _Gravelling in switchyard area	lot	1				
	xx) _Septic tank, soak well	lot	1				
	xxi) _Pump house including deep tubewell, motor, pump, water reservoir, water pipe line etc.	lot	1				
	xxii) _Guard house	lot	1				
	xxiii) sentry post	nos	4				
	xxiv car port, 4car	lot	1				
	xxv ansar barac	lot	1				
7M2	a) Complete civil works for 1 (one) No 132kV GIS Hall and 1 (one) Nos three storied Operation & Panel Room						
	i) _Foundation works	lot	1				
	ii) _Super structures	lot	1				
	iii) _All finish works like rendering, painting, water supply, sanitary, floor finish, furniture, etc.	lot	1				
	iv) _5 ton EOT Crane	lot	1				
	v) Passenger lift(4 person)	set	1				
7M3	Testing of Foundation						
	i) _Compression Test	lot	2				
	ii) _ Uplift Test	lot	1				
7M4	Civil Works related to CAF system	Lot	1				
7N	**Lighting, small power, air conditioning, Ventilation, fire fighting & CCTV**						
7N1	One (1) lot of complete design, supply, installation and commissioning of equipment to provide indoor lighting (LED type) , LV power supply, air conditioning system, ventilation system and emergency DC lighting for the control building	Lot	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
7N2	One (1) lot of complete set of design, supply, installation and commissioning of equipment to provide lighting (flood light LED type) for security, roadway, switchyard and emergency DC lighting at strategic locations for equipment operations and inspections.	Lot	1				
7N3	Fire Fighting system for GIS Hall & Control Room	Lot	1				
	i) Fire Fighting system For 132kV GIS Hall & Panel Room	Lot	1				
	iii) Fire Fighting system For Control Room	Lot	1				
7N4	Complete CCTV & with motion sensor	Lot	1				
7O	**Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
7O1	One (1) lot of Fibre optic multiplexer equipment at local and remote end substation with necessary works to interface with with existing system	Lot	1				
7O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price (for New Domar 132/33kV SS) carried to Summary of Price Schedule							
Total Price in words (for new of Domar 132kV SS)							

8. Extension of 132kV AIS bays at 132/33 kV Substation at Patnitola

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	Total Price
				CIP	CIP		
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
8A	**230 kV AIS &GIS**						

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
	Deleted						
8B	**132 kV air insulatedswitchgear, equipment connection and steel structures**						
8B1	145kV, 1600A, 40kA/1sec, 50Hz, 650kVp BIL, live tank type, single pole operation, SF6 gas circuit breakers with spring-stored energy operating mechanism with support structure.	set	2				
8B2	145kV, 1600A, 40kA/1sec, 50Hz, 650kVp BIL horizontal double break, post type, motor operated disconnectors with motor-operated earthing switch	set	2				
8B3	145kV, 1600A, 40kA/1sec, 50Hz, 650kVp BIL,horizontal double break, post type, motor operated disconnectors without earthing switch.	Set	4				
8B4	single-phase, 5-core, 145kV, 40kA/1sec, 50Hz, 650kVp BIL, ,post type current transformer	No	6				
8B5	single-phase, 3-core, 145kV, 50Hz, 650kVp BIL inductive type voltage transformers.	No	6				
8B6	120kV rated voltage, 98kV(rms) continuous operating voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters.	No	6				
8B7	One(1) lot of flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 145kV busbar and switchgear connection.	lot	1				
8B8	One(1) lot of insulators and fittings including all necessary accessories required to complete 145kV switchyard						
i)	_Insulator	lot	1				
ii)	_Fittings	lot	1				
8B9	Steel Structures for gantry and equipment supports						
a)	_Gantry Column including nut & bolts For Main & Jack Bus	lot	1				
b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts	lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
c)	_Equipment support structures including nut & bolts							
i)	DS with ES		set	2				
ii)	DS without ES		set	4				
iii)	Bus ES		Deleted					
iv)	CT		No	6				
v)	IVT		No	6				
vi)	LA		No	6				
vii)	Wave Trap		Deleted					
viii)	PI		lot	1				
d)	_Cable tray including fitting, fixing accessories		lot	1				
8B10	Post insulator		lot	1				
8C	**33kV AIS &GIS**		Deleted					
8D	**Power Transformer & Earthing/Auxiliary Transformer**		Deleted					
8E	**SCADA system for Telecontrol and Telemetering**							
8E1	Modification/Extension of SCADA hardware & software							
	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
8F	**Control, Protection, SAS and Metering**							
	132kV Circuits							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
8F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				
8F2	Modification / Extension of Busbar Protection		lot	1				
8F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
8F4	**Modification / Extension of Substation Automation System**		Lot	1				
8G	**Digital Fault & Disturbance Recorder**		Deleted					
8H	**Power Cable**		Deleted					
8I	**Multicore Cables**							
8I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				
	ii) LV Power Cable		lot	1				
8J	**Earthing and Lightning Protection**							
8J1	_Extension of Earthing system for 132kV Switchyard		lot	1				
8J2	_Extension of Lightning Protection System for 132kV Switchyard		lot	1				
8K	**Batteries, chargers & DC distribution**							
8K1	110V Ni-cad Batteries with chargers & distribution board							
	a) for 132kV System							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	i) Extension of 110V DC Distribution panel and board		Lot	1				
8K2	48V Ni-cad Batteries with chargers & distribution board							
	i) Extension of 48V DC Distribution panel and board		Lot	1				
8L	**LVAC Distribution**							
8L1	_Extension of AC 415V or 240V distribution panels		lot	1				
8L2	_Tariff metering at LV side(Main & Check)		Deleted					
8M	**Civil Works, Building and Foundation**							
8M1	Complete civil items required for outdoor works including boundary wall and slope protection							
	i	Outdoor gantry foundation 230kV switchyard	Deleted					
	ii	Outdoor equipment foundation 230kV switchyard	Deleted					
	iii	Indoor equipment foundation 132kV switchyard	Deleted					
	iv	Outdoor gantry foundation 132kV switchyard	lot	1				
	v	Outdoor equipment foundation 132kV switchyard						
	a)	CB	set	2				
	b)	DS with ES	set	2				
	c)	DS without ES	set	4				
	d)	BUS ES	Deleted					
	e)	CT	No.	6				
	f)	IVT	No.	6				
	g)	LA	No.	6				
	h)	WaveTrap	Deleted					
	i)	PI	lot	1				
	vi	Indoor equipment foundation 132kV switchyard	Deleted					
	vii	Outdoor gantry foundation 33kV switchyard including 33kV Bus	Deleted					
	viii	Outdoor equipment foundation 33kV switchyard	Deleted					
	ix	Transformer foundation including oilpit & carrage way	Deleted					

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	x	Blast wall with foundation	Deleted					
	xi	Property Line Demarkation	Deleted					
	xii	Security Boundary Wall for overall plan	Deleted					
	xiii	Substation Main gate	Deleted					
	xiv	_Chainlink Fencing including three (3) personal gates	Deleted					
	xv	Approach road (6m width)	Deleted					
	xvi	Box Culvert	Deleted					
	xvii	Internal road	lot	1				
	xviii	_Surface drain	Deleted					
	xix	Cable Trench	lot	1				
	xx	_Whole scope area necessary land development, surface finishing with drainage system	lot	1				
	xxi	_Gravelling in switchyard area	lot	1				
	xxii	Septic tank, sowak way	Deleted					
	xxiii	Pump house including deep tubewell, motor, pump, water reservoir, water pipe line etc.	Deleted					
	xxiv	Guard house	Deleted					
	xxv	sentry post	Deleted					
	xxvi	car port	Deleted					
8M2	Complete civil works for Control Room, Operation & Panel Room							
	a)	Modification civil works for Control Room and local control houses	Lot	1				
8M3	Testing of Foundation							
	i)	_Compression Test	No.	0				
	ii)	_ Uplift Test	No.	1				
8N	**Lighting, small power, air conditioning and Ventilation**							
8N1	Extension of indoor small power lighting, air conditioning for extension work		Lot	1				
8N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting		Lot	1				
8O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**							

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
8O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
8O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for Extension of Patnitola 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Patnitola 132kV SS)							

9. Extension of 132kV GIS bays at 132/33 kV Substation at Niyamatpur

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	Total Price
				CIP	CIP		
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
9A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
9B	**145 kV Outdoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures**						
9B1	145kV GIS Line Feeder Bays	Set	2				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	132kV Air Insulated Switchgear							
9B7	120kV rated voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arrester		No.	6				
9B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 145kV GIS Switchyard		Lot	1				
9B9	insulator and fittings including all necessary clamps and connectors as required for completing 145kV GIS Switchyard							
	i	_Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	ii	Nut-bolt	Lot	1				
	iv.	_Cable trench including fitting, fixing accessories	Lot	1				
9B10	Steel gantry & structure including all necessary accessories required for completing 145kV GIS Switchyard							
	a)	_Gantry Column including nut & bolts For Main & Jack Bus	lot	1				
	b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts	lot	1				
	c)	_Equipment support structures including nut & bolts						
	i)	LA	nos	6				
	ii)	PI	lot	1				
	d)	_Cable tray including fitting, fixing accessories	lot	1				
9B11	Post insulator		lot	1				
9C	**33kV AIS &GIS**		Deleted					
9D	**Power Transformer & Earthing/Auxiliary Transformer**		Deleted					
9E	**SCADA system for Telecontrol and Telemetering**							
	Modification/Extension of SCADA hardware & software							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
9E1	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
9F	**Control, Protection, SAS and Metering**							
	132kV Circuits							
9F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				
9F2	Modification / Extension of Busbar Protection		set	1				
9F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
9F4	**Substation Automation System**		Deleted					
9G	**Digital Fault & Disturbance Recorder**		Deleted					
9H	**Power Cable**							
9H1		GIB & accessories for 132kV Switchyard						
	i)	GIB for Line bay, ckt meter	m	150				
	iii)	Bushing	set	6				
	iv)	Support structure & accessories	lot	1				
9H2		145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	i)	Power Cable , ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
9I	**Multicore Cables**							
9I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				
	ii) LV Power Cable		lot	1				
9J	**Earthing and Lightning Protection**							
9J1	_Extension of Earthing system for 132kV Switchyard		lot	1				
9J2	_Extension of Lightning Protection System for 132kV Switchyard		lot	1				
9K	**Batteries, chargers & DC distribution**							
9K1	110V Ni-cad Batteries with chargers & distribution board							
	a) for 132kV System							
	i) Extension of 110V DC Distribution panel and board		Lot	1				
9K2	48V Ni-cad Batteries with chargers & distribution board							
	i) Extension of 48V DC Distribution panel and board		Lot	1				
9L	**LVAC Distribution**							
9L1	_Extension of AC 415V or 240V distribution panels		lot	1				

Item No.		Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
9L2		_Tariff metering at LV side(Main & Check)	Deleted					
9M		**Civil Works, Building and Foundation**						
9M1		Complete civil items required for outdoor works including boundary wall and slope protection						
	i	Outdoor gantry foundation 230kV switchyard	Deleted					
	ii	Outdoor equipment foundation 230kV switchyard	Deleted					
	iii	Indoor equipment foundation 132kV switchyard	Deleted					
	iv	Outdoor gantry foundation 132kV switchyard	lot	1				
	v	Outdoor equipment foundation 132kV switchyard						
	a)	CB	Deleted					
	b)	DS with ES	Deleted					
	c)	DS without ES	Deleted					
	d)	BUS ES	Deleted					
	e)	CT	Deleted					
	f)	CVT	Deleted					
	g)	LA	nos	6				
	h)	WaveTrap	Deleted					
	i)	PI	lot	1				
	vi	Indoor equipment foundation 132kV switchyard	Deleted					

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	vii	Outdoor gantry foundation 33kV switchyard including 33kV Bus	Deleted					
	viii	Outdoor equipment foundation 33kV switchyard	Deleted					
	ix	Transformer foundation including oilpit & carrage way	Deleted					
	x	Blast wall with foundation	Deleted					
	xi	Property Line Demarkation	Deleted					
	xii	Security Boundary Wall for overall plan	Deleted					
	xiii	Substation Main gate	Deleted					
	xiv	_Chainlink Fencing including three (3) personal gates	Deleted					
	xv	Approach road (6m width)	Deleted					
	xvi	Box Culvert	Deleted					
	xvii	Internal road	lot	1				
	xviii	_Surface drain	Deleted					
	xix	Cable Trench	lot	1				
	xx	_Whole scope area necessary land development, surface finishing with drainage system	lot	1				
	xxi	_Gravelling in switchyard area	lot	1				
	xxii	Septic tank, sowak way	Deleted					
	xxiii	Pump house including deep tubewell, motor, pump, water reservoir, water pipe line etc.	Deleted					
	xxiv	Gurd house	Deleted					

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	xxv sentry post	Deleted					
	xxvi car port	Deleted					
9M2	Complete civil works for Control Room, Operation & Panel Room						
	a) Modification civil works for GIS hall and control room and other control houses	Lot	1				
9M3	Testing of Foundation						
	i) _Compression Test	No.	0				
	ii) _ Uplift Test	No.	1				
9N	**Lighting, small power, air conditioning and Ventilation**						
9N1	Extension of indoor small power lighting, air conditioning for extension work	Lot	1				
9N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Lot	1				
9O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
9O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
9O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for Extension of Niyamatpur 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Niyamatpur 132kV SS)							

10. Extension of 132kV AIS bays at 132/33 kV Substation at Gopalganj

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	Total Price
				CIP	CIP		
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
10A	**230 kV AIS &GIS**						
	Deleted						
10B	**132 kV air insulatedswitchgear, equipment connection and steel structures**						
10B1	145kV, 1600A, 50kA/1sec, 50Hz, 650kVp BIL, live tank type, single pole operation, SF6 gas circuit breakers with spring-stored energy operating mechanism with support structure.	set	2				
10B2	145kV, 1600A, 50kA/1sec, 50Hz, 650kVp BIL horizontal double break, post type, motor operated disconnectors with motor-operated earthing switch	set	2				
10B3	145kV, 1600A, 50kA/1sec, 50Hz, 650kVp BIL,horizontal double break, post type, motor operated disconnectors without earthing switch.	Set	4				
10B4	single-phase, 5-core, 145kV, 3150A, 50kA/1sec, 50Hz, 650kVp BIL, ,post type current transformer	No	6				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
10B5	single-phase, 3-core, 145kV, 50Hz, 650kVp BIL inductive type voltage transformers.	No	6				
10B6	120kV rated voltage, 98kV(rms) continuous operating voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arresters.	No	12				
10B7	One(1) lot of flexible conductors for busbar, jackbus, jumper, equipment connections[ACSR], including all necessary clamps & connectors required for completing 145kV busbar and switchgear connection.	lot	1				
10B8	One(1) lot of insulators and fittings including all necessary accessories required to complete 145kV switchyard						
i)	_Insulator	lot	1				
ii)	_Fittings	lot	1				
10B9	Steel Structures for gantry and equipment supports						
a)	_Gantry Column including nut & bolts						
	i. _Gantry Column including nut & bolts For termination 230kv side	lot	1				
	ii. _Gantry Column including nut & bolts For Main & Jack Bus termination 132kv side	lot	1				
b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts						
	i. _Gantry beam including nut & bolts For termination 230kv side	lot	1				
	ii. _Gantry beam including nut & bolts For Main & Jack Bus termination 132kv side	lot	1				
c)	_Equipment support structures including nut & bolts						
i)	DS with ES	set	2				
ii)	DS without ES	set	4				
iii)	Bus ES	Deleted					

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
iv)	CT	No	6				
v)	IVT	No	6				
vi)	LA	No	12				
vii)	Wave Trap	Deleted					
viii)	PI	lot	1				
d)	_Cable tray including fitting, fixing accessories	lot	1				
10B10	Post insulator	lot	1				
10C	**33kV AIS &GIS**	Deleted					
10D	**Power Transformer & Earthing/Auxiliary Transformer**	Deleted					
10E	**SCADA system for Telecontrol and Telemetering**						
10E1	Modification/Extension of SCADA hardware & software						
	Each Comprising						
	a) Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
10F	**Control, Protection, SAS and Metering**						
	132kV Circuits						
10F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays	set	2				
10F2	Modification / Extension of Busbar Protection	lot	1				
	Each Comprising						
10F3	**Tarif metering**						

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
10F4	**Extension of existing Substation Automation System**		Lot	1				
10G	**Digital Fault & Disturbance Recorder**							
10G.1	**Extension of existing Digital Fault & Disturbance Recorder**		Lot	1				
10H	**Power Cable**							
10H1		**GIL & accessories for 132kV Switchyard**	**Deleted**					
10H2		145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay						
	i)	Power Cable , ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	12				
10I	**Multicore Cables**							
10I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				
	ii) LV Power Cable		lot	1				
10J	**Earthing and Lightning Protection**							
10J1	_Extension of Earthing system for 132kV Switchyard		lot	1				
10J2	_Extension of Lightning Protection System for 132kV Switchyard		lot	1				
10K	**Batteries, chargers & DC distribution**							

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
10K1	110V Ni-cad Batteries with chargers & distribution board							
	a) for 132kV System							
	i) Extension of 110V DC Distribution panel and board		Lot	1				
10K2	48V Ni-cad Batteries with chargers & distribution board							
	i) Extension of 48V DC Distribution panel and board		Lot	1				
10L	**LVAC Distribution**							
10L1	_Extension of AC 415V or 240V distribution panels		lot	1				
10L2	_Tariff metering at LV side(Main & Check)		Deleted					
10M	**Civil Works, Building and Foundation**							
10M1	Complete civil items required for outdoor works including boundary wall and slope protection							
	i	Outdoor gantry foundation 230kV switchyard	lot	1				
	ii	Outdoor equipment foundation 230kV switchyard	lot	1				
	iii	Indoor equipment foundation 132kV switchyard	Deleted					
	iv	Outdoor gantry foundation 132kV switchyard	lot	1				
	v	Outdoor equipment foundation 132kV switchyard						
	a)	CB	set	2				
	b)	DS with ES	set	2				
	c)	DS without ES	set	4				
	d)	BUS ES	Deleted					
	e)	CT	No.	6				
	f)	IVT	No.	6				
	g)	LA	No.	12				
	h)	WaveTrap	Deleted					
	i)	PI	lot	1				
	vi	Indoor equipment foundation 132kV switchyard	Deleted					

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	vii	Outdoor gantry foundation 33kV switchyard including 33kV Bus	Deleted					
	viii	Outdoor equipment foundation 33kV switchyard	Deleted					
	ix	Transformer foundation including oilpit & carrage way	Deleted					
	x	Blast wall with foundation	Deleted					
	xi	Property Line Demarkation	Deleted					
	xii	Security Boundary Wall for overall plan	Deleted					
	xiii	Substation Main gate	Deleted					
	xiv	_Chainlink Fencing including three (3) personal gates	Deleted					
	xv	Approach road (6m width)						
		a)Road	lot	1				
		b) Dismantling of road	lot	1				
	xvi	Box Culvert	Deleted					
	xvii	Internal road	lot	1				
	xviii	_Surface drain	Deleted					
	xix	Cable Trench						
		a) LV cable	lot	1				
		b) Power cable	lot	1				
	xx	_Whole scope area necessary land development, surface finishing with drainage system	lot	1				
	xxi	_Gravelling in switchyard area	lot	1				
	xxii	Septic tank, sowak way	Deleted					
	xxiii	Pump house including deep tubewell, motor, pump, water reservoir, water pipe line etc.	Deleted					
	xxiv	Guard house	Deleted					
	xxv	sentry post	Deleted					
	xxvi	car port	Deleted					
10M2	Complete civil works for Control Room, Operation & Panel Room							
	a)	Modification civil works for Control Room and local control houses	Lot	1				
10M3	Testing of Foundation							
	i)	_Compression Test	No.	0				
	ii)	_ Uplift Test	No.	1				

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*
10N	**Lighting, small power, air conditioning and Ventilation**						
10N1	Extension of indoor small power lighting, air conditioning for extension work	Lot	1				
10N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Lot	1				
10O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
10O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
10O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for Extension of Gopalganj 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Gopalganj 132kV SS)							

11. Extension of 132kV GIS bays at 132/33 kV Substation at Purbasadipur

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	Total Price
				CIP	CIP		
			(1)	*(2)*	*(3) = (1) x (2)*	*(2)*	*(3) = (1) x (2)*

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
11A	**230 kV switchgear, equipment connection and steel structures**							
	Deleted							
11B	**145 kV Indoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures**							
11B1	145kV GIS Line Feeder Bays		Set	2				
	132kV Air Insulated Switchgear							
11B7	120kV rated voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arrester		No.	6				
11B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 145kV GIS Switchyard		Lot	1				
11B9	insulator and fittings including all necessary clamps and connectors as required for completing 145kV GIS Switchyard							
	i	_Insulator	Lot	1				
	ii	Fittings & Clamps_Connector	Lot	1				
	ii	Nut-bolt	Lot	1				
	iv.	_Cable trench including fitting, fixing accessories	Lot	1				
11B10	Steel Structures for gantry and equipment supports							
	a)	_Gantry Column including nut & bolts For Main & Jack Bus	lot	1				
	b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts	lot	1				
	c)	_Equipment support structures including nut & bolts						
	i)	LA	nos	6				
	ii)	PI	lot	1				
	d)	_Cable tray including fitting, fixing accessories	lot	1				
11C	**33kV AIS &GIS**		Deleted					

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
11D	**Power Transformer & Earthing/Auxiliary Transformer**		Deleted					
11E	**SCADA system for Telecontrol and Telemetering**							
11E1	Modification/Extension of SCADA hardware & software							
	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
11F	**Control, Protection, SAS and Metering**							
	132kV Circuits							
11F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				
11F2	Modification / Extension of Busbar Protection		lot	1				
11F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
11F4	**Extension of existing Substation Automation System**		Lot	1				
11G	**Digital Fault & Disturbance Recorder**							
11G.1	**Extension of existing Digital Fault & Disturbance Recorder**		Lot	1				
11H	**Power Cable**							
11H1	**GIL & accessories for 132kV Switchyard**		**Deleted**					

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
11H2		145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay						
	i)	Power Cable , ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
11I	**Multicore Cables**							
11I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				
	ii) LV Power Cable		lot	1				
11J	**Earthing and Lightning Protection**							
11J1	_Extension of Earthing system for 132kV Switchyard		lot	1				
11J2	_Extension of Lightning Protection System for 132kV Switchyard		lot	1				
11K	**Batteries, chargers & DC distribution**							
11K1	110V Ni-cad Batteries with chargers & distribution board							
	a) for 132kV System							
	i) Extension of 110V DC Distribution panel and board		Lot	1				
11K2	48V Ni-cad Batteries with chargers & distribution board							
	i) Extension of 48V DC Distribution panel and board		Lot	1				
11L	**LVAC Distribution**							
11L1	_Extension of AC 415V or 240V distribution panels		lot	1				

Item No.		Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
11L2		_Tariff metering at LV side(Main & Check)	Deleted					
11M		**Civil Works, Building and Foundation**						
11M1		Complete civil items required for outdoor works including boundary wall and slope protection						
	i	Outdoor gantry foundation 230kV switchyard	lot	1				
	ii	Outdoor equipment foundation 230kV switchyard	Deleted					
	iii	Indoor equipment foundation 132kV switchyard	Deleted					
	iv	Outdoor gantry foundation 132kV switchyard	Deleted					
	v	Outdoor equipment foundation 132kV switchyard						
	a)	CB	Deleted					
	b)	DS with ES	Deleted					
	c)	DS without ES	Deleted					
	d)	BUS ES	Deleted					
	e)	CT	Deleted					
	f)	CVT	Deleted					
	g)	LA	nos	6				
	h)	WaveTrap	Deleted					
	i)	PI	lot	1				
	vi	Indoor equipment foundation 132kV switchyard	Deleted					

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	vii	Outdoor gantry foundation 33kV switchyard including 33kV Bus	Deleted					
	viii	Outdoor equipment foundation 33kV switchyard	Deleted					
	ix	Transformer foundation including oilpit & carrage way	Deleted					
	x	Blast wall with foundation	Deleted					
	xi	Property Line Demarkation	Deleted					
	xii	Security Boundary Wall for overall plan	Deleted					
	xiii	Substation Main gate	Deleted					
	xiv	_Chainlink Fencing including three (3) personal gates	Deleted					
	xv	Approach road (6m width)						
		a)Road	lot	1				
		b) Dismantling of road	lot	1				
	xvi	Box Culvert	Deleted					
	xvii	Internal road	lot	1				
	xviii	_Surface drain	Deleted					
	xix	Cable Trench						
		a) LV cable	lot	1				
		b) Power cable	lot	1				
	xx	_Whole scope area necessary land development, surface finishing with drainage system	lot	1				
	xxi	_Gravelling in switchyard area	lot	1				
	xxii	Septic tank, sowak way	Deleted					

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	xxiii Pump house including deep tubewell, motor, pump, water reservoir, water pipe line etc.	Deleted					
	xxiv Guard house	Deleted					
	xxv sentry post	Deleted					
	xxvi car port	Deleted					
11M2	Complete civil works for Control Room, Operation & Panel Room						
	a) Modification civil works for GIS hall and control room and other control houses	Lot	1				
11M3	Testing of Foundation						
	i) _Compression Test	No.	0				
	ii) _ Uplift Test	No.	1				
11N	**Lighting, small power, air conditioning and Ventilation**						
11N1	Extension of indoor small power lighting, air conditioning for extension work	Lot	1				
11N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Lot	1				
11O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
11O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores or backup PLC)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
11O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for Extension of Purbasadipur 132kV SS) carried to Summary of Price Schedule							
Total Price in words (for Extension of Purbasadipur 132kV SS)							

12. Extension of 132kV GIS bays at 132/33 kV Substation at Bhandaria

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in…….)		Local Currency (BDT)	
				Unit Price	Total Price	Unit Price	Total Price
				CIP	CIP		
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
12A	**230 kV switchgear, equipment connection and steel structures**						
	Deleted						
12B	**145 kV Outdoor Type Gas Insulated Switchgear (GIS), equipment connection and steel structures**						
12B1	145kV GIS Line Feeder Bays	Set	2				
	132kV Air Insulated Switchgear						
12B7	120kV rated voltage at 50oC, 10kA nominal discharge current, 50Hz, gapless metal oxide type, single phase surge arrester	No.	6				
12B8	Rigid tubular conductor and/or stranded conductors including accessories for each connection as required for completing 145kV GIS Switchyard	Lot	1				
12B9	insulator and fittings including all necessary clamps and connectors as required for completing 145kV GIS Switchyard						
	i _Insulator	Lot	1				
	ii Fittings & Clamps_Connector	Lot	1				

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	ii	Nut-bolt	Lot	1				
	iv.	_Cable trench including fitting, fixing accessories	Lot	1				
12B10	Steel gantry & structure including all necessary accessories required for completing 145kV GIS Switchyard							
	a)	_Gantry Column including nut & bolts For Main & Jack Bus	lot	1				
	b)	_Gantry beam at Main Bus & Jack-Bus height including nut & bolts	lot	1				
	c)	_Equipment support structures including nut & bolts						
	i)	LA	nos	6				
	ii)	PI	lot	1				
	d)	_Cable tray including fitting, fixing accessories	lot	1				
12C	**33kV AIS &GIS**		Deleted					
12D	**Power Transformer & Earthing/Auxiliary Transformer**		Deleted					
12E	**SCADA system for Telecontrol and Telemetering**							
12E1	Modification/Extension of SCADA hardware & software							
	Each Comprising							
	a)	Equipment at Substation for modification / extension of SCADA system	Lot	1				
	b	Integration work with Master & Backup NLDC including Engineering & Commissioning	Lot	1				
12F	**Control, Protection, SAS and Metering**							
	132kV Circuits							
12F1	Control, Monitoring, Protection & Substation Automation Facility including event recording function for 132KV overhead line circuits bays		set	2				
12F2	Modification / Extension of Busbar Protection		Deleted					

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
12F3	**Tarif metering**							
	a	Meters (Main & Check)	Set	4				
	b	Complete Panel including wiring, lighting, heater, humidity controller & other accessories (if required)	set	1				
12F4	**Substation Automation System**		Deleted					
12G	**Digital Fault & Disturbance Recorder**		Deleted					
12H	**Power Cable & GIB**							
12H1		GIB & accessories for 132kV Switchyard						
	i)	GIB , ckt meter	m	87				
	iii)	Bushing	set	6				
	iv)	Support structure & accessories	lot	1				
12H2		145kV, 40 kA / 1 sec, 1600A XLPE power cable for connection between 145 line bay						
	i)	Power Cable , ckt meter	m	200				
	ii)	AIS Cable Sealing end & accessories	No.	6				
	iii)	GIS Cable Sealing end & accessories	No.	6				
12I	**Multicore Cables**							
12I1	Multicore Cables for control, protection, metering & power circuits							
	i) LV Control Cable		lot	1				
	ii) LV Power Cable		lot	1				
12J	**Earthing and Lightning Protection**							

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
12J1	_Extension of Earthing system for 132kV Switchyard	lot	1				
12J2	_Extension of Lightning Protection System for 132kV Switchyard	lot	1				
12K	**Batteries, chargers & DC distribution**						
12K1	110V Ni-cad Batteries with chargers & distribution board						
	a) for 132kV System						
	ii) Extension of 110V DC Distribution panel and board	Lot	1				
	ii) Extension of battery	Lot	1				
	ii) Extension of charger	Lot	1				
12K2	48V Ni-cad Batteries with chargers & distribution board						
	i) Extension of 48V DC Distribution panel and board	Lot	1				
	ii) Extension of battery	Lot	1				
	ii) Extension of charger	Lot	1				
12L	**LVAC Distribution**						
12L1	_Extension of AC 415V or 240V distribution panels	lot	1				
12L2	_Tariff metering at LV side(Main & Check)	Deleted					
12M	**Civil Works, Building and Foundation**						
12M1	Complete civil items required for outdoor works including boundary wall and slope protection						
	i Outdoor gantry foundation 230kV switchyard	Deleted					

Item No.		Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	ii	Outdoor equipment foundation 230kV switchyard	Deleted					
	iii	Indoor equipment foundation 132kV switchyard	Deleted					
	iv	Outdoor gantry foundation 132kV switchyard	lot	1				
	v	Outdoor equipment foundation 132kV switchyard						
	a)	CB	Deleted					
	b)	DS with ES	Deleted					
	c)	DS without ES	Deleted					
	d)	BUS ES	Deleted					
	e)	CT	Deleted					
	f)	CVT	Deleted					
	g)	LA	nos	6				
	h)	WaveTrap	Deleted					
	i)	PI	lot	1				
	vi	Indoor equipment foundation 132kV switchyard	Deleted					
	vii	Outdoor gantry foundation 33kV switchyard including 33kV Bus	Deleted					
	viii	Outdoor equipment foundation 33kV switchyard	Deleted					
	ix	Transformer foundation including oilpit & carrage way	Deleted					
	x	Blast wall with foundation	Deleted					

Item No.	Description of Equipment Requirement		Unit	Quantity	Unit Price		Total Price1	
					Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
					EXW	EXW	EXW	EXW
				(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
	xi	Property Line Demarkation	Deleted					
	xii	Security Boundary Wall for overall plan	Deleted					
	xiii	Substation Main gate	Deleted					
	xiv	_Chainlink Fencing including three (3) personal gates	Deleted					
	xv	Approach road (6m width)	Deleted					
	xvi	Box Culvert	Deleted					
	xvii	Internal road	lot	1				
	xviii	_Surface drain	Deleted					
	xix	Cable Trench	lot	1				
		a) LV cable	lot	1				
		b) Power cable	lot	1				
		c) 33KV cable relocation & reconnection	lot	1				
	xx	_Whole scope area necessary land development, surface finishing with drainage system	lot	1				
	xxi	_Gravelling in switchyard area	lot	1				
	xxii	Septic tank, sowak way	Deleted					
	xxiii	Pump house including deep tubewell, motor, pump, water reservoir, water pipe line etc.	Deleted					
	xxiv	Gurd house	Deleted					
	xxv	sentry post	Deleted					
	xxvi	car port	Deleted					

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
12M2	Complete civil works for Control Room, Operation & Panel Room						
	a) Modification civil works for GIS hall and control room and other control houses	Lot	1				
12M3	Testing of Foundation						
	i) _Compression Test	No.	0				
	ii) _ Uplift Test	No.	1				
12N	**Lighting, small power, air conditioning and Ventilation**						
12N1	Extension of indoor small power lighting, air conditioning for extension work	Lot	1				
12N2	Extension of Lighting for ouside building for security, roadway, switchyard and emergency DC lighting	Lot	1				
12O	**Extension of Fibre Optic Multiplexer Equipment and PLC Equipment for Communication and Protection**						
12O1	One (01) complete lot of equipment for extension of existing fibre optic multiplexer equipment at local and remote end Substation for protection & communication, for required part of substation, shall be designed, supplied, delivered, installed, tested and commissioned and integrated into the existing system, under this contract. Fibre optic multiplexer equipment is to be provided for -	Lot	1				
	21 (or 87 with built-in 21) relay carrier signal for each transmission line protection (through fibre cores)						
	SCADA data from switchgear and control system through SAS						
	Hot-line telephone system						
12O2	One lot of underground optical fibre (48 cores) cables from terminal box at gantry structure to MDF (Main distribution Frame) shall be designed, supplied, delivered, installed, tested and commissioned, including supply and installation of MDF and digital cables	Lot	1				
Total Price(for Extension of Bhandaria 132kV SS) carried to Summary of Price Schedule							

Item No.	Description of Equipment Requirement	Unit	Quantity	Unit Price		Total Price1	
				Local Currency [In BDT]	Foreign Currency [In ……..]	Local Currency [In BDT]	Foreign Currency [In ……..]
				EXW	EXW	EXW	EXW
			(1)	(2)	(3) = (1) x (2)	(2)	(3) = (1) x (2)
Total Price in words (for Extension of Bhandaria 132kV SS)							

Schedule B4.2: Additional Services

Item No.	Description of Equipment Requirement	Unit	Quantity	Foreign Currency (in USD)		Local Currency (in BDT)	
				Unit Price	Total Price	Unit Price	Total Price
			(1)	(2)	(3) = (1) x (2)		
13	**Additional Services (Provisional Sum)***						
13.0A	Employer's Factory Acceptance Tests Witness (refer to Sec 1.7 (b), Schedule A, Volume 3)	Lot	1	123000	123000		
13.0B	International Training (refer to Sec 1.7 (a) & 1.7.1, Schedule A, Volume 3)	Lot	1	NIL	NIL		
13.0C	Local O&M Training (refer to Sec 1.7 (c), Schedule A, Volume 3)	Lot	1	35000	35000		
Total Price for Additional Services							
(carried to Schedule-5 : Grand Summary)							

**These costs are fixed ceiling and will be included in total price. But the payment shall be at actual.*

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8).

Schedule B5: Grand Summary

	Total price	
	Total Price[1]	
	Local Currency [In BDT]	Foreign Currency [In ……..]
1. New 230/33 kV Substation at Bhola		
Schedule No. B1: Plant & Equipment Supplied from Abroad		
Schedule No.B2: Plant & Equipment Supplied from within the Employer's Country		
Schedule No. B3: Design Services		
Schedule No. B4.1: Installation and Other Services		
New 230/132/33 kV Substation at Bhola Grand Total		
2. New 132/33 kV Substation at Hatiabandha		
Schedule No. B1: Plant & Equipment Supplied from Abroad		
Schedule No.B2: Plant & Equipment Supplied from within the Employer's Country		
Schedule No. B3: Design Services		
Schedule No. B4.1: Installation and Other Services		
New 132/33 kV Substation at Hatiabandha Grand Total		
3. New 132/33 kV Substation at Pirojpur		
Schedule No. B1: Plant & Equipment Supplied from Abroad		
Schedule No.B2: Plant & Equipment Supplied from within the Employer's Country		
Schedule No. B3: Design Services		
Schedule No. B4.1: Installation and Other Services		
New 132/33 kV Substation at Pirojpur Grand Total		

Name of Bidder: Signature of Bidder:_____

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8).

Schedule B5: Grand Summary

	Total price	
	Total Price[1]	
	Local Currency [In BDT]	Foreign Currency [In ……..]
4. New 132/33 kV Substation at Bhanga		
Schedule No. B1: Plant & Equipment Supplied from Abroad		
Schedule No.B2: Plant & Equipment Supplied from within the Employer's Country		
Schedule No. B3: Design Services		
Schedule No. B4.1: Installation and Other Services		
New 132/33 kV Substation at Bhanga Grand Total		
5. New 132/33 kV Substation at Jhalkathi		
Schedule No. B1: Plant & Equipment Supplied from Abroad		
Schedule No.B2: Plant & Equipment Supplied from within the Employer's Country		
Schedule No. B3: Design Services		
Schedule No. B4.1: Installation and Other Services		
New 132/33 kV Substation at Jhalkathi **Grand Total**		
6. New 132/33 kV Substation at Shibchar		
Schedule No. B1: Plant & Equipment Supplied from Abroad		
Schedule No.B2: Plant & Equipment Supplied from within the Employer's Country		
Schedule No. B3: Design Services		
Schedule No. B4.1: Installation and Other Services		
New 132/33 kV Substation at Shibchar		

Name of Bidder: Signature of Bidder:_____

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8).

Schedule B5: Grand Summary

		Total price	
		Total Price[1]	
		Local Currency [In BDT]	Foreign Currency [In ……..]
Grand Total			
7. New 132/33 kV Substation at Domar			
Schedule No. B1:	Plant & Equipment Supplied from Abroad		
Schedule No.B2:	Plant & Equipment Supplied from within the Employer's Country		
Schedule No. B3:	Design Services		
Schedule No. B4.1:	Installation and Other Services		
New 132/33 kV Substation at Domar **Grand Total**			
8. Extension of 132kV AIS bays at 132/33 kV Substation at Patnitola			
Schedule No. B1:	Plant & Equipment Supplied from Abroad		
Schedule No.B2:	Plant & Equipment Supplied from within the Employer's Country		
Schedule No. B3:	Design Services		
Schedule No. B4.1:	Installation and Other Services		
Extension of AIS bays 132/33 kV Substation at Patnitola			
Subtotal - to Schedule 5 - Grand Total			
9. Extension of 132kV GIS bays at 132/33 kV Substation at Niyamatpur			
Schedule No. B1:	Plant & Equipment Supplied from Abroad		
Schedule No.B2:	Plant & Equipment Supplied from within the Employer's Country		
Schedule No. B3:	Design Services		
Schedule No. B4.1:	Installation and Other Services		
Extension of AIS bays 132/33 kV Substation at Niyamatpur			
Subtotal - to Schedule 5 - Grand Total			

Name of Bidder: Signature of Bidder:_____

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8).

Schedule B5: Grand Summary

	Total price	
	Total Price[1]	
	Local Currency [In BDT]	Foreign Currency [In ……..]

10. Extension of 132kV AIS bays at 132/33 kV Substation at Gopalganj			
Schedule No. B1:	Plant & Equipment Supplied from Abroad		
Schedule No.B2:	Plant & Equipment Supplied from within the Employer's Country		
Schedule No. B3:	Design Services		
Schedule No. B4.1:	Installation and Other Services		
Extension of AIS bays 132/33 kV Substation at Gopalganj			
Subtotal - to Schedule 5 - Grand Total			
11. Extension of 132kV GIS bays at 132/33 kV Substation at Purbasadipur			
Schedule No. B1:	Plant & Equipment Supplied from Abroad		
Schedule No.B2:	Plant & Equipment Supplied from within the Employer's Country		
Schedule No. B3:	Design Services		
Schedule No. B4.1:	Installation and Other Services		
Extension of GIS bays 132/33 kV Substation at Purbasadipur			
Subtotal - to Schedule 5 - Grand Total			
12. Extension of 132kV GIS bays at 132/33 kV Substation at Bhandaria			
Schedule No. B1:	Plant & Equipment Supplied from Abroad		
Schedule No.B2:	Plant & Equipment (including Mandatory Spare Parts) Supplied from within the Employer's Country		
Schedule No. B3:	Design Services		
Schedule No. B4.1:	Installation and Other Services		
Extension of GIS bays 132/33 kV Substation at Bhandaria			
Subtotal - to Schedule 5 - Grand Total			
13. Mandatory Spare, Maintanence & Test Equipement			
Schedule No. B1:	Mandatory Spare Parts supplied from abroad		

Name of Bidder: Signature of Bidder:_____

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8).

Schedule B5: Grand Summary

		Total price	
		Total Price[1]	
		Local Currency [In BDT]	Foreign Currency [In ……..]
Schedule No.B2:	Mandatory Spare Parts supplied from within Employer's Country	Unit Price	
14. Additional Services			
Schedule No. B4.2:	Installation and Other Services (Total Price for Additional Services)		
Subtotal - to Schedule 5 - Grand Total			
GRAND Total			

Name of Bidder: Signature of Bidder:_____

Schedule B6: Recommended Spare Parts

No	Description	Unit	Quantity	Foreign Currency (in…….)		Local Currency (in BDT)	
				Unit Price	Total Price	Unit Price	Total Price
			(1)	*(2)*	*(3)=(1)x(2)*	*(4)*	*(5)=(1)x(4)*

Name of Bidder: Signature of Bidder:

_____

Tables of Adjustment Data

Table A - Local Currency

To be entered by the bidder

Index Code	Index Description	Source of Index	Base Value and Date	Bidder's Local Currency Amount	Bidder's Proposed Weighting
	Nonadjustable	---	---	---	a: 0.15 b: c: d: e:
			Total		**1.00**

Table B - Foreign Currency

Name of Currency: _____

[Insert name of currency. If the Bidder wishes to quote in more than one foreign currency, this table should be repeated for each foreign currency.]

To be entered by the bidder

Index Code	Index Description	Source of Index	Base Value and Date	Bidder's Currency in Type/Amount	Equivalent in FC1	Bidder's Proposed Weighting
	Nonadjustable	---	---	---		a: 0.15 b: c: d: e:
				Total		**1.00**

- Note -

The base date shall be the date 28 days prior to the deadline for submission of the bid.

Please refer to Appendix-2 of Section-9 for weighting data to be entered into the table.

Tables of Adjustment Data shall only be included if prices are to be quoted as adjustable prices in accordance with ITB 18.6.

Bid Security

Bank Guarantee

[*Bank's name, and address of issuing branch or office*][4]

Beneficiary: ..... [*Name and address of the Employer*].....

Date:.....

Bid Security No.: .....

We have been informed that [*name of the Bidder*] (hereinafter called "the Bidder") has submitted to you its bid dated [*insert date*] (hereinafter called "the Bid") for the execution of [*name of contract*] under Invitation for Bids No. [*insert IFB number*] ("the IFB").

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

At the request of the Bidder, we [*name of Bank*] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of [*amount in words*] [*amount in figures*]upon receipt by us of your first demand in writing accompanied by a written statement stating that the Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

(a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Letters of Technical and Price Bid; or

(b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB"); or

(c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Agreement, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

This guarantee will expire (a) if the Bidder is the successful Bidder, upon our receipt of copies of the Contract Agreement signed by the Bidder and the Performance Security issued to you upon the instruction of the Bidder; or (b) if the Bidder is not the successful Bidder, upon the earlier of (i) our receipt of a copy of your notification to the Bidder of the name of the successful Bidder, or (ii) 28 days after the expiration of the Bidder's bid.

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, ICC Publication No. 458.[5]

[*Authorized signature(s) and bank's seal (where appropriate)*]

---

[4] All italicized text is for use in preparing this form and shall be deleted from the final document.

[5] Or 758 as applicable.

Bid-Securing Declaration

Date: *[insert date (as day, month and year)]*
Bid No.: *[insert number of bidding process]*
Alternative No.: *[insert identification No if this is a bid for an alternative]*

To: *[insert complete name of the Employer]*

We, the undersigned, declare that:

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

We accept that we will automatically be suspended from being eligible for bidding in any contract with the Borrower for the period of time of *[insert number of years as indicated in ITB 21.2 of the BDS]* starting on the date that we receive a notification from the Employer, if we are in breach of our obligation(s) under the bid conditions, because we

(a) have withdrawn our Bid during the period of bid validity specified in the Letters of Technical and Price Bid; or

(b) do not accept the correction of errors in accordance with the Instruction to Bidders (hereinafter "the ITB"); or

(c) having been notified of the acceptance of our Bid by the Employer during the period of bid validity, (i) fail or refuse to execute the Contract; if required, or (ii) fail or refuse to furnish the Performance Security, in accordance with the ITB.

We understand that this Bid-Securing Declaration shall expire if we are not the successful Bidder, upon the earlier of (i) our receipt of your notification to us of the name of the successful Bidder; or (ii) 28 days after the expiration of our Bid.

Signed: [*insert signature of person whose name and capacity are shown*]

In the capacity of[*insert legal capacity of person signing the Bid-Securing Declaration*]

Name: [*insert complete name of person signing the Bid-Securing Declaration*]

Duly authorized to sign the bid for and on behalf of [*insert complete name of the Bidder*]

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

Corporate Seal (*where appropriate*)

Technical Proposal

Site Organization

Method Statement

Mobilization Schedule

Construction Schedule

Plant

Personnel

Equipment

Proposed Subcontractors for Major Items of Plant and Services

Manufacturer's Authorization

Affiliate Company Guarantee

Time Schedule

Functional Guarantee of the Proposed Facilities

Health and Safety Management Plan

Site Organization

The Bidder shall provide detail proposal for the Site Organization.

Method Statement

The Bidder shall provide detail proposal for the Method Statement, following the detail proposal of the Site Organization and Health and Safety Management Plan.

Mobilization Schedule

The Bidder shall propose a detailed mobilization schedule, following the detailed proposal for site organization, method statement, construction and time schedules provided in Section 9: Contract Forms, Appendix 4.

Construction Schedule

The Bidder shall propose a detailed construction schedule, following the detailed site organization proposal, the method statement, and the detailed proposed mobilization schedule, along with the time schedule provided in Section 9: Contract Forms, Appendix 4.

Plant

The Bidder shall provide **detailed plant proposal** with as many technical details, drawings, diagrams, descriptions etc. as possible.

Personnel

Form PER – 1: Proposed Personnel

Bidders should provide the details of proposed personnel and their experience record in the relevant Information Forms below for each of the candidate.

1.	**Title of position**
	Name
2.	**Title of position**
	Name
3.	**Title of position**
	Name
4.	**Title of position**
	Name
etc.	**Title of position**
	Name

-- Note --

All titles of positions will be as listed in Section 6 (Employer's Requirements).

Form PER – 2: Resume of Proposed Personnel

The Bidder shall provide all the information requested below. Use one form for each position.

Position		
Personnel information	**Name**	**Date of birth**
	Professional qualifications	
Present employment	**Name of employer**	
	Address of employer	
	Telephone	**Contact (manager/personnel officer)**
	Fax	**E-mail**
	Job title	**Years with present employer**

Summarize professional experience in reverse chronological order. Indicate particular technical and managerial experience relevant to the project.

From	To	Company/Project/Position/Relevant Technical and Management Experience

Equipment

Form EQU: Equipment

The Bidder shall provide adequate information and details to demonstrate clearly that it has the capability to meet the equipment requirements indicated in Section 6 (Employer's Requirements), using the Forms below. A separate Form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Item of Equipment		
Equipment Information	**Name of manufacturer**	**Model and power rating**
	Capacity	**Year of manufacture**
Current Status	**Current location**	
	Details of current commitments	
Source	**Indicate source of the equipment** ☐ **Owned** ☐ **Rented** ☐ **Leased** ☐ **Specially manufactured**	

Omit the following information for equipment owned by the Bidder.

Owner	**Name of owner**	
	Address of owner	
	Telephone	**Contact name and title**
	Fax	**Telex**
Agreements	**Details of rental/lease/manufacture agreements specific to the project**	

Proposed Subcontractors and/or Manufacturers for Major Items of Plant and Services

The following Subcontractors and/or Manufacturers are proposed for carrying out the item of the facilities indicated. Bidders are free to propose more than one for each item.

Major Items of Plant and Services	Proposed Subcontractors or Manufacturers	Nationality
Gas Insulated Switchgear (GIS)		
230kV Power Transformer		
132kV Power Transformer		
AIS Circuit Breaker		
AIS Disconnector Switch		
AIS Current Transformer		
AIS Voltage transformer		
AIS Surge Arrester		
Post and Disc Insulator		
Battery & Charger		
Substation Automation System & Protective Relays		
Communication Equipment (Fiber Optic Multiplexer)		
DFDR		

Manufacturer's Authorization

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

OCB No.: **PGCB/AIIB/L8374/DWZTGEP/GIS/P8(Re-tender)**

To:
The Company Secretary
Power Grid Company of Bangladesh Limited
PGCB, Head Office, 2nd Floor
Avenue-03, Jahurul Islam City, Aftabnagar, Badda, Dhaka-1212, Bangladesh

WHEREAS

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

We hereby extend our full guarantee and warranty in accordance with Clause 27 of the General Conditions of Contract, with respect to the goods offered by the above firm.

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

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

Title: *[insert title]*

Duly authorized to sign this Authorization on behalf of *[insert complete name of the manufacturer]*

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

-- Note --

The bidder shall require the manufacturer to fill out this form in accordance with the instructions indicated. This letter of authorization should be signed by a person with the proper authority to sign documents that are binding on the manufacturer. The bidder shall include it in its bid, if so indicated in the BDS.

Affiliate Company Guarantee

Name of Contract/Contract No.: _____

Name and address of Employer: _____

_____

[*together with successors and assigns*].

We have been informed that [*name of Contractor*] (hereinafter called the "Contractor") is submitting an offer for the above-referenced Contract in response to your invitation, and that the conditions of your invitation require its offer to be supported by an affiliate company guarantee.

In consideration of you, the Employer, awarding the Contract to the Contractor, we [*name of affiliated company*] irrevocably and unconditionally guarantee to you, as a primary obligation, that (i) throughout the duration of the Contract, we will make available to the Contractor our financial, technical capacity, expertise and resources required for the Contractor's satisfactory performance of the Contract; and (ii) we are fully committed, along with the Contractor, to ensuring a satisfactory performance of the Contract.

If the Contractor fails to so perform its obligations and liabilities and comply with the Contract, we will indemnify the Employer against and from all damages, losses and expenses (including legal fees and expenses) which arise from any such failure for which the Contractor is liable to the Employer under the Contract.

This guarantee shall come into full force and effect when the Contract comes into full force and effect. If the Contract does not come into full force and effect within a year of the date of this guarantee, or if you demonstrate that you do not intend to enter into the Contract with the Contractor, this guarantee shall be void and ineffective. This guarantee shall continue in full force and effect until all the Contractor's obligations and liabilities under the Contract have been discharged, when this guarantee shall expire and shall be returned to us, and our liability hereunder shall be discharged absolutely.

This guarantee shall apply and be supplemental to the Contract as amended or varied by the Employer and the Contractor from time to time. We hereby authorize them to agree on any such amendment or variation, the due performance of which and compliance with which by the Contractor are likewise guaranteed hereunder. Our obligations and liabilities under this guarantee shall not be discharged by any allowance of time or other indulgence whatsoever by the Employer to the Contractor, or by any variation or suspension of the works to be executed under the Contract, or by any amendments to the Contract or to the constitution of the Contractor or the Employer, or by any other matters, whether with or without our knowledge or consent.

This guarantee shall be governed by the law of the same country (or other jurisdiction) that governs the Contract and any dispute under this guarantee shall be finally settled under the [*Rules or Arbitration provided in the Contract*]. We confirm that the benefit of this guarantee may be assigned subject only to the provisions for assignment of the Contract.

Signed by:…… Signed by: ……

[*signature*] [*signature*]

…… ……

[*name*] [*name*]

[*position in parent/subsidiary company*] [*position in parent/subsidiary company*]

Date:……

-- Note -- *If permitted in accordance with ITB 35.2 of the BDS, the Bidder shall fill out the Affiliate Company Guarantee Form for each subsidiary, parent entity, affiliate, subcontractor, etc. that the Bidder submits for consideration of the Employer in determining its qualifications.*

Time Schedule

To be used by Bidder when alternative Time for Completion is invited in ITB 13.2.

Functional Guarantee of the Proposed Facilities

Not Applicable

Bidder's Qualification

To establish its qualifications to perform the contract in accordance with Section 3 (Evaluation and Qualification Criteria) the Bidder shall provide the following information requested in the corresponding Information Sheets.

Form ELI - 1: Bidder's Information Sheet

Bidder's Information	
Bidder's legal name	
In case of a Joint Venture, legal name of each partner	
Bidder's country of constitution	
Bidder's year of constitution	
Bidder's legal address in country of constitution	
Bidder's authorized representative (name, address, telephone number(s), fax number(s), e-mail address)	

Attached are copies of the following documents:

- ❑ 1. In case of a single entity, articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and ITB 4.2
- ❑ 2. Authorization to represent the firm or Joint Venture named above, in accordance with ITB 22.2
- ❑ 3. In case of a Joint Venture, a letter of intent to form a Joint Venture or Joint Venture agreement, in accordance with ITB 4.1
- ❑ 4. In case of a government-owned enterprise, any additional documents not covered under 1 above required to comply with ITB 4.5

Form ELI - 2: Joint Venture Information Sheet

Each member of the Joint Venture must fill out this form separately. Subcontractor must fill out this form.

Joint Venture/Subcontractor Information	
Bidder's legal name	
Joint Venture Partner's or Subcontractor's legal name	
Joint Venture Partner's or Subcontractor's country of constitution	
Joint Venture Partner's or Subcontractor's year of constitution	
Joint Venture Partner's or Subcontractor's legal address in country of constitution	
Joint Venture Partner's or Subcontractor's authorized representative information (name, address, telephone number(s), fax number(s), e-mail address)	
Attached are copies of the following documents: ❑ 1. Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and ITB 4.2 ❑ 2. Authorization to represent the firm named above, in accordance with ITB 22.2 ❑ 3. In the case of a government-owned enterprise, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB 4.5	

Subcontractors are those listed in Technical Proposal – Proposed Subcontractors and/or Manufacturers for Major Items of Plant and Services.

Form CON– 1: Historical Contract Nonperformance

Each Bidder must fill out this form in accordance with Criteria 2.2.1 and 2.2.3 of Section 3 (Evaluation and Qualification Criteria) to describe any history of nonperforming contracts and pending litigation or arbitration formally commenced against it.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name:

Joint Venture Partner: _____

Table 1: History of Nonperforming Contracts

Choose one of the following:

❑ No nonperforming contracts.

❑ Below is a description of nonperforming contracts involving the Bidder (or each Joint Venture member if Bidder is a Joint Venture).

Year	Description	Amount of Non-performed Portion of Contract ($ equivalent)	Total Contract Amount ($ equivalent)
[insert year]	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Reason(s) for nonperformance: *[indicate main reason(s)]*	*[insert amount]*	*[insert amount]*

Table 2: Pending Litigation and Arbitration

Choose one of the following:

❑ No pending litigation and arbitration.

❑ Below is a description of all pending litigation and arbitration against the Bidder (or each Joint Venture member if Bidder is a Joint Venture).

Year	Matter in Dispute	Value of Pending Claim in $ Equivalent	Value of Pending Claim as a Percentage of Net Worth
[insert year]	Contract Identification: *[indicate complete contract name/ number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Matter of Dispute: *[indicate full description of dispute]* Party who initiated the dispute: *[indicate "Employer" or "Contractor"]* Status: *[indicate status of dispute]*	*[insert amount]*	*[insert amount]*

- Note -

Table 2 of this form shall only be included if Criterion 2.2.3 of Section 3 (Evaluation and Qualification Criteria) is applicable.

Form FIN - 1: Historical Financial Performance

Each Bidder must fill out this form.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name:

Joint Venture Partner: _____

Financial Data for Previous _____ Years [$ Equivalent]		
Year 1:	**Year 2:**	**Year __:**

Information from Balance Sheet

Total Assets (TA)			
Total Liabilities (TL)			
Net Worth = TA-TL			
Current Assets (CA)			
Current Liabilities (CL)			
Working Capital = CA - CL			

Most Recent Working Capital		To be obtained for most recent year and carried forward to FIN-3 Line 1; in case of Joint Ventures, to the corresponding Joint Venture Partner's FIN – 3.

Information from Income Statement

Total Revenues			
Profits Before Taxes			
Profits After Taxes			

❑ Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the last _____ years, as indicated above, complying with the following conditions.

- Unless otherwise required by Section 3 of the Bidding Documents, all such documents reflect the financial situation of the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries or affiliates.
- Historical financial statements must be audited by a certified accountant.
- Historical financial statements must be complete, including all notes to the financial statements.
- Historical financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Form FIN - 2: Average Annual Turnover

Each Bidder must fill out this form.

The information supplied should be the Annual Turnover of the Bidder or each member of a Joint Venture in terms of the amounts billed to clients for each year for work in progress or completed, converted to US dollars at the rate of exchange at the end of the period reported.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name:

Joint Venture Partner: _____

Annual Turnover Data for the Last _____ Years			
Year	**Amount Currency**	**Exchange Rate**	**$ Equivalent**
		Average Annual Turnover	

Form FIN – 3: Availability of Financial Resources

Bidders must demonstrate sufficient financial resources, usually comprising of Working Capital supplemented by credit line statements or overdraft facilities and others to meet the Bidder's financial requirements for

(a) its current contract commitments, and

(b) the subject contract.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name:

Joint Venture Partner: _____

Financial Resources		
No.	**Source of financing**	**Amount ($ equivalent)**
1	Working Capital (to be taken from FIN-1)	
2	Credit Line[a]	
3	Other Financial Resources	
	Total Available Financial Resources	

[a] *To be substantiated by a letter from the bank issuing the line of credit.*

Form FIN- 4: Financial Requirements for Current Contract Commitments

Bidders (or each Joint Venture partner) 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.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name:

Joint Venture Partner: _____

Current Contract Commitments						
No.	**Name of Contract**	**Employer's Contact (Address, Tel, Fax)**	**Contract Completion Date**	**Outstanding Contract Value (X) [a]**	**Remaining Contract Period in months (Y) [b]**	**Monthly Financial Resources Requirement (X / Y)**
1						
2						
3						
4						
Total Monthly Financial Requirement for Current Contract Commitments						**$** . . . . .

a *Remaining outstanding contract values to be calculated from 28 days prior to the bid submission deadline ($ equivalent based on the foreign exchange rate as of the same date).*

b *Remaining contract period to be calculated from 28 days prior to bid submission deadline.*

Form FIN - 5: Self-Assessment Tool for Bidder's Compliance to Financial Resources (Criterion 2.3.3 of Section 3)

This form requires the same information submitted in Forms FIN - 3 and FIN - 4. All conditions of "Available Financial Resources Net of CCC ≥ Requirement for the Subject Contract" must be satisfied to qualify.

Form FIN-5A: For Single Entities

For Single Entities: (A)	Total Available Financial Resources from FIN – 3 (B)	Total Monthly Financial Requirement for Current Contract Commitments (CCC) from FIN – 4 (C)	Available Financial Resources Net of CCC D = (B - C)	Requirement for the Subject Contract (E)	Results: Yes or No [*D must be greater than or equal to E*] (F)
_____ (Name of Bidder)				. . . . .	

Form FIN-5B: For Joint Ventures

For Joint Ventures: (A)	Total Available Financial Resources from FIN – 3 (B)	Total Monthly Financial Requirement for Current Contract Commitments (CCC) from FIN – 4 (C)	Available Financial Resources Net of CCC D = (B - C)	Requirement for the Subject Contract (E)	Results: Yes or No [*D must be greater than or equal to E*] (F)
One Partner:					
_____ (Name of Partner)				. . . . .	
Each Partner:					
_____ (Name of Partner 1)				. . . . .	
_____ (Name of Partner 2)				. . . . .	
_____ (Name of Partner 3)				. . . . .	
All partners combined	∑ D = Sum of available financial resources net of current contract commitments for all partners		∑ D = _____	. . . . .	

- Note -

Form FIN – 5 is made available for use by the bidder as a self-assessment tool, and by the Employer as an evaluation work sheet, to determine compliance with the financial resources requirement as stated in 2.3.3. Failure to submit Form FIN - 5 by the Bidder shall not lead to bid rejection.

Form EXP – 1: Contracts of Similar Size and Nature

Fill out one (1) form per contract.

The exchange rate to be used to calculate the value of the contract for conversion to a specific currency shall be the selling rate of the Borrower's national bank on the date of the contract.

Contract of Similar Size and Nature			
Contract No . . . . . **of**	**Contract Identification**		
Award Date		**Completion Date**	
Role in Contract	❑ **Contractor**	❑ **Management Contractor**	❑ **Subcontractor**
Total Contract Amount	**$**		
If partner in a Joint Venture or Subcontractor, specify participation of total contract amount	**Percent of Total**	**Amount**	
Employer's name **Address** **Telephone number** **Fax number** **E-mail**			
Description of the Similarity in Accordance with Criterion 2.4.1 of Section 3 (Evaluation and Qualification Criteria)			

Form EXP - 2: Experience in Key Activities

Fill out one (1) form per contract.

Each Bidder must fill out this form.

If complied by Specialist Subcontractor, each Specialist Subcontractor must fill out this form and provide the Specialist Subcontractor's name:

Specialist Subcontractor: _____

Contract with Similar Key Activities			
Contract No . . . . . **of**	**Contract Identification**		
Award Date		**Completion Date**	
Role in Contract	❑ **Contractor**	❑ **Management Contractor**	❑ **Subcontractor**
Total Contract Amount	**$**		
If partner in a Joint Venture or Subcontractor, specify participation of total contract amount	**Percent of Total**	**Amount**	
Employer's name **Address** **Telephone number** **Fax number** **E-mail**			
Description of the Key Activities in Accordance with Criterion 2.4.2 of Section 3 (Evaluation and Qualification Criteria)			

Form EXP - 3: Subcontractors

Fill out one (1) form per contract.

Contract for the Major Items			
Contract No . . . . . .of.	**Contract Identification**		
Award Date		**Completion Date**	
Role in Contract	❑ **Contractor**	❑ **Management Contractor**	❑ **Subcontractor**
Total Contract Amount	**$**		
If partner in a Joint Venture or Subcontractor, specify participation of total contract amount	**Percent of Total**	**Amount**	
Employer's name **Address** **Telephone number** **Fax number** **E-mail**			

Section 5

Eligible Countries

Eligible Countries

No nationality restrictions apply, other than any restrictions arising from ITB 4.8.

Part II: Employer's Requirements

Section 6 – Employer Requirements (ERQ)

PART 2

REQUIREMENTS

Section 6

Requirements

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SCOPE OF SUPPLY

1. Scope of Supply of Plant and Services

1.1 General Brief Description of the Scope

The number of the Invitation for Bids is:	**27.21.0000.101.07.321.24.**3990
The Employer is:	Power Grid Company of Bangladesh Limited
The name of the OCB is:	Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8)_Re-tender.
The identification number of the OCB is:	**PGCB/AIIB/L0272A/DWZTGEP/GIS/P8(Re-tender)**
The number of lots (contracts) comprising this OCB is:	1 (One)

1.2 Brief Description of the Scope of Works

Please refer to Volume 2 and 3 of the Bidding Document.

1.3 Type Test Requirements

Following type test certificates of the equipment of similar or higher specifications (voltage & capacity) required by the bid shall be submitted as per relevant IEC and shall be from any independent testing laboratory except Power transformer, GIS, Circuit Breaker and Lightning Arrester.

Type test certificates of Power Transformer (including Short circuit withstand test certificates of Power Transformer), GIS, Circuit Breaker and Lightning Arrester shall be issued by STL member testing laboratories or from manufacturer's own testing laboratory or independent testing laboratory. Test carried out at manufacturer's own testing laboratory or independent testing laboratory must have been witnessed and certified by a representative from STL member testing laboratory.

(i) Power Transformer (230kV & 132kV)

(a) Temperature rise test.

(b) Dielectric tests (Induced over voltage test, Lightning impulse voltage withstand test, Separate source voltage withstand test / Applied voltage test (AV)).

(c) Short circuit withstand test (special test) *.

For 230kV Transformer
*Short circuit test certificates/reports shall be of minimum 220kV, 120MVA three phase Power Transformer.

For 132kV Transformer
*Short circuit test certificates/reports shall be of minimum 132kV, 80MVA three phase Power Transformer.

For the above tests, the transformer must be a Grid transformer, generator step-up transformer shall not be acceptable.

(ii) GIS Switchgear

(a) On one Complete Switchgear (for 230 kV & 132kV)

Sl No	IEC 62271-203 Clause	Test Name
i.	6.2	Dielectric tests:
		- Lightning impulse voltage tests
		- Power-frequency voltage tests
ii.	6.4	Measurement of the resistance of circuits
iii.	6.5	Temperature-rise tests
iv.	6.6	Short-time and peak withstand current tests
v.	6.104	Pressure test on partitions
vi.	6.105	Test under conditions of arcing due to an internal fault
vii.	6.106	Insulator tests

(b) Circuit Breaker (for 230 kV & 132kV)

Sl No	IEC 62271-203 Clause	Test Name
i.	6.101	Mechanical and environmental tests
ii.	6.103	Test circuits for short circuit making and breaking tests
iii.	6.109	Short-line fault tests
iv.	6.110	Out-of-phase making and breaking tests

(c) Disconnector & Earthing Switch (for 230 kV & 132kV)

Sl No	IEC 62271-203 Clause	Test Name

i.	6.101	Tests to prove the short-circuit making performance of earthing switches
ii.	6.102	Operating and mechanical endurance tests
iii.	6.106	Bus-transfer current switching tests
iv.	6.107	Induced current switching tests

(d) Gas leakage rate (Per year)

(iii) Circuit Breaker (AIS)

(a) Lightning impulse voltage withstand dry test.
(b) Temperature rise test.
(c) Power frequency withstand test
(d) Short time withstand& Peak withstand current test.
(e) Mechanical operation tests.
(f) Short circuit current making & breaking test.
(g) Out of phase making & breaking test.

(iv) Disconnector Switch (AIS)

(a) Lightning Impulse voltage withstand dry test.
(b) Power frequency voltage withstand dry test.
(c) Short time withstand current test.
(d) Temperature rise test.

(v) Current Transformer (AIS)

(a) Short time current test.
(b) Impulse voltages withstand tests for current transformers for service in exposed installation.
(c) Power frequency voltage withstand test.
(d) Temperature rise test.
(e) Measurement of Errors

(vi) Voltage Transformer (AIS)

(a) Temperature rise test.
(b) Impulse voltages withstand tests for voltage transformers for service in exposed installation.
(c) Short circuit test
(d) Short time over voltage/Power frequency voltage withstand test
(e) Measurement of errors
(f) Measurements of partial Discharge level.

(vii) Lightning Arrester (AIS)

(a) Power frequency voltage withstands and lightning impulse voltage withstand tests on complete arrester housing.
(b) Operating duty test.
(c) Long duration current impulse withstands test.
(d) Residual voltage test.
(e) Pressure relief test/Short Circuit Test

(viii) XLPE Power Cable

(a) Bending test followed by partial discharge test
(b) Tan Delta measurement
(c) Heating cycle voltage test
(d) Partial discharge tests: At ambient temperature, and At high temperature.
(e) Switching impulse voltage test
(f) Lightning impulse voltage test
(g) Short Circuit Capability Test

(ix) Insulator

(a) **Post Insulator**
(i) Dry lightning-impulse withstand voltage test
(ii) Dry or wet switching-impulse withstand voltage tests
(iii) Dry power-frequency withstand voltage test (Indoor PI)
(iv) Wet power-frequency withstand voltage test (Outdoor PI)

(b) **Disc/String Insulator(On insulator unit)**
(i) Dry lightning impulse voltage withstand test;
(ii) Wet power frequency voltage withstand test;
(iii) Electro-mechanical failing load test;
(iv) Thermal mechanical performance test;
(v) Impulse voltage puncture test;
(vi) Power arc test.

(x) For Protective relays:

Type test certificates from independent reputed testing laboratory for Protective relays as per IEC 61850.

2. Technical Specifications

Please refer to Volume 2 of the Bidding Document.

3. Technical Data Schedules and Guarantees

Please refer to Volume 3 of the Bidding Document.

4. Drawings

Please refer to Volume 2 of the Bidding Document.

5. Supplementary Information

5.1 Project Country

The works will be performed in Bangladesh.

5.2 Contract Site

The project spreads over several following regions of Bangladesh:
Bhola, Nilphamari, Lalmonirhat, Madaripur, Faridpur, Jhalokathi, Pirojpur, Naogaon, Gopalganj and Dinajpur District.

5.3 Port Facilities and Transport to Site

Chattagram, Dhaka, Narayanganj, Benapole and Mongla are the ports of entry for material to Bangladesh by sea and road. Inland transport from Chittagong, Narayanganj, Benapole and Mongla to the site can be by barge or road.

The Contractor is responsible for performing all dispatch, shipment, delivery, unloading, inland transportation and obtaining all approvals and consents etc. necessary for the movement of plant and contractors equipment from the port to the site.

Where heavy loads are to be moved, the Contractor shall be responsible for performing surveys of the roads to ensure that all portions have adequate load bearing capacity.

A comprehensive method statement shall be submitted to the Engineer/Employer detailing the proposed transport route(s) and requirements. Plans indicating all bridges, ducts, culverts, railway crossings, overhead lines, water mains etc., and their load bearing capacity or clearances as appropriate shall be given together with proposed means of achieving the transportation requirements. Any reinforcement, strengthening, modifications or temporary works required to obtain the necessary capacity shall be the responsibility of the contractor. The cost of the above is to be included in the Bid price.

No plant is to be consigned to Bangladesh by air freight without the prior written approval of the Employer.

6. Certificates

6.1 Form of Completion Certificate

Contract: _____ (*insert name of contract and contract identification details]*

Date: _____
Certificate No.: _____

To: _____ *[insert name and address of contractor]*

Dear Ladies and/or Gentlemen,

Pursuant to GCC Clause 24 (Completion of the Facilities) of the General Conditions of the Contract entered into between yourselves and the Employer dated ____ [*insert date*], relating to the _____ [*brief description of the Facilities*], we hereby notify you that the following part(s) of the Facilities was (were) complete on the date specified below, and that, in accordance with the terms of the Contract, the Employer hereby takes over the said part(s) of the Facilities, together with the responsibility for care and custody and the risk of loss thereof on the date mentioned below.

1. Description of the Facilities or part thereof: _____ [*description*]
2. Date of Completion: _____ [*date*]

However, you are required to complete the outstanding items listed in the attachment hereto as soon as practicable.

This letter does not relieve you of your obligation to complete the execution of the Facilities in accordance with the Contract nor of your obligations during the Defect Liability Period.

Very truly yours,

_____
[*Signature*]
Project Manager

6.2 Form of Operational Acceptance Certificate

Contract: _____ (*insert name of contract and contract identification details]*

Date: _____
Certificate No.: _____

To: _____ *[insert name and address of contractor]*

Pursuant to GCC Subclause 25.3 (Operational Acceptance) of the General Conditions of the Contract entered into between yourselves and the Employer dated ____ [*date]*, relating to the ____ [*brief description of the facilities*], we hereby notify you that the Functional Guarantees of the following part(s) of the Facilities were satisfactorily attained on the date specified below

1. Description of the Facilities or part thereof: _____ [*description]*
2. Date of Operational Acceptance: ____ [*date*]

This letter does not relieve you of your obligation to complete the execution of the Facilities in accordance with the Contract nor of your obligations during the Defect Liability Period.

Very truly yours,

_____
[Signature]
Project Manager

7. Change Orders

7.1 Change Order Procedure

7.1.1 General

This section provides samples of procedures and forms for implementing changes in the Facilities during the performance of the Contract in accordance with GCC Clause 39 (Change in the Facilities) of the General Conditions.

7.1.2 Change Order Log

The Contractor shall keep an up-to-date Change Order Log to show the current status of Requests for Change and Changes authorized or pending. Entries of the Changes in the Change Order Log shall be made to ensure that the log is up-to-date. The Contractor shall attach a copy of the current Change Order Log in the monthly progress report to be submitted to the Employer.

7.1.3 References for Changes

(1) Request for Change as referred to in GCC Clause 39 shall be serially numbered CR-X-nnn.
(2) Estimate for Change Proposal as referred to in GCC Clause 39 shall be serially numbered CN-X-nnn.
(3) Acceptance of Estimate as referred to in GCC Clause 39 shall be serially numbered CA-X-nnn.
(4) Change Proposal as referred to in GCC Clause 39 shall be serially numbered CP-X-nnn.
(5) Change Order as referred to in GCC Clause 39 shall be serially numbered CO-X-nnn.

Note:
(a) Requests for Change issued from the Employer's Home Office and the Site representatives of the Employer shall have the following respective references:

Home Office	CR-H-nnn
Site	CR-S-nnn

(b) The above number "nnn" is the same for Request for Change, Estimate for Change Proposal, Acceptance of Estimate, Change Proposal and Change Order.

7.2 Change Order Forms

7.2.1 Request for Change Proposal Form

[Employer's letterhead]

Date:

To: [*Contractor's name and address*]
Attention: [*Name and title*]

Contract Name: _____ [*Contract name*]
Contract Number: _____ [*Contract number*]

Dear Ladies and/or Gentlemen:

With reference to the captioned Contract, you are requested to prepare and submit a Change Proposal for the Change noted below in accordance with the following instructions within ____ [*number*] days of the date of this letter [*or on or before ____ (date*)].

1. Title of Change: ____ [*Title*]
2. Change Request No. / Rev.: ____ [*Number*]
3. Originator of Change:
   Employer: ____ [*Name*]
   Contractor ____ (by Application for Change Proposal No. ____ [*Number Refer to Annex 6.2.7*])
4. Brief Description of Change____ [*Description*]
5. Facilities and/or Item No. of equipment related to the requested Change: ____ [*Description*]
6. Reference drawings and/or technical documents for the request of Change:
   (Drawing No. / Document No. Description
7. Detailed conditions or special requirements on the requested Change: ____ [*Description*]
8. General Terms and Conditions:
   (a) Please submit your estimate showing what effect the requested Change will have on the Contract Price.
   (b) Your estimate shall include your claim for the additional time, if any, for completing the requested Change.
   (c) If you have any opinion that is critical to the adoption of the requested Change in connection with the conformability to the other provisions of the Contract or the safety of the Plant or Facilities, please inform us in your proposal of revised provisions.
   (d) Any increase or decrease in the work of the Contractor relating to the services of its personnel shall be calculated.
   (e) You shall not proceed with the execution of the work for the requested Change until we have accepted and confirmed the amount and nature in writing.

[*Employer's name]*
[Signature]
[Name of signatory]
[Title of signatory]

7.2.2 Estimate for Change Proposal Form

[Contractor's letterhead]

Date:

To: ____ [*Employer's name and address*]
Attention: ____ [*Name and title*]

Contract Name: ____ [*Contract name*]
Contract Number: ____ [*Contract number*]

Dear Ladies and/or Gentlemen:

With reference to your Request for Change Proposal, we are pleased to notify you of the approximate cost to prepare the below-referenced Change Proposal in accordance with GCC Subclause 39.2.1 of the General Conditions We acknowledge that your agreement to the cost of preparing the Change Proposal, in accordance with GCC Subclause 39.2.2, is required before estimating the cost for change work.

1. Title of Change: ____ [*Title*]
2. Change Request No. / Rev.: ____ [*Number*]
3. Brief Description of Change: ____ [*Description*]
4. Scheduled Impact of Change: ____ [*Description*]
5. Cost for Preparation of Change Proposal: ____ [*insert costs, which shall be in the currencies of the contract]*

(a)	Engineering		(Amount)
	(i) Engineer	_____ hours (hrs) x _ rate/hr =	_____
	(ii) Draftsperson	_____hrs x _____ rate/hr =	_____
	Sub-total	_____hrs	_____
	Total Engineering Cost		_____
(b)	Other Cost		_____
	Total Cost (a) + (b)		_____

[Contractor's name]
[Signature]
[Name of signatory]
[Title of signatory]

7.2.3 Acceptance of Estimate Form

[*Employer's letterhead*]

Date: ____

To: ____ [*Contractor's name and address*]
Attention: ____ [*Name and title*]

Contract Name: ____ [*Contract name*]
Contract Number: ____ [*Contract number*]

Dear Ladies and/or Gentlemen:

We hereby accept your Estimate for Change Proposal and agree that you should proceed with the preparation of the Change Proposal.

1. Title of Change: ____ [*Title*]

2. Change Request No. / Rev.: _____ [*Request number/revision*]

3. Estimate for Change Proposal No. / Rev.: _____ [*Proposal number/revision*]

4. Acceptance of Estimate No. / Rev.: _____ [*Estimate number/revision*]

5. Brief Description of Change: _____ [*Description*]

6. Other Terms and Conditions: In the event that we decide not to order the Change accepted, you shall be entitled to compensation for the cost of preparing the Change Proposal described in your Estimate for Change Proposal mentioned in para3 above in accordance with GCC Clause 39 of the General Conditions.

[Employer's name]
[Signature]
[Name of signatory]
[Title of signatory]

7.2.4 Change Proposal Form

[*Contractor's letterhead*]

Date: ____

To: ____ [*Employer's name and address*]
Attention: ____ [*Name and title*]

Contract Name: ____ [*Contract name*]
Contract Number: ____ [*Contract number*]

Dear Ladies and/or Gentlemen:

In response to your Request for Change Proposal No. ____ [*Number*], we hereby submit our proposal as follows:

1. Title of Change: ____ [*Name*]

2. Change Proposal No. / Rev.: ____ [*Proposal number / revision*]

3. Originator of Change: Employer: ____ [*Name*] / Contractor: ____ [*Name*]

4. Brief Description of Change: ____ [*Description*]

5. Reasons for Change: ____ [*Reason*]

6. Facilities and/or Item No. of Equipment related to the requested Change: ____ [*Facilities*]

7. Reference drawings and/or technical documents for the requested Change:
[Drawing/Document No. / Description]

8. Estimate of increase/decrease to the Contract Price resulting from the Change Proposal:

8. Estimate of increase/decrease to the Contract Price resulting from Change Proposal:

		Amount (Insert amounts in the currencies of the contract)
(a)	Direct material	
(b)	Major construction equipment	
(c)	Direct field labour (total ___ hrs)	
(d)	Subcontracts	
(e)	Indirect material and labour	
(f)	Site supervision	
(g)	Head office technical staff salaries	
	Process engineer: __ hrs @ ____ rate/hr	
	Project engineer: __ hrs @ ____ rate/hr	
	Equipment engineer: __ hrs @ ____ rate/hr	

		Amount (Insert amounts in the currencies of the contract)
	Procurement: __ hrs @ ____ rate/hr	
	Draftsperson: __ hrs @ ____ rate/hr	
	Total	
(h)	Extraordinary costs (computer, travel, etc.)	
(i)	Fee for general administration, __ % of Items	
(j)	Taxes and customs duties	
	Total lump sum cost of change proposal [Sum of items (a) to (j)]	
	Cost to prepare estimate for change proposal [Amount payable if change is not accepted]	

9. Additional time for Completion required due to Change Proposal

10. Effect on the Functional Guarantees

11. Effect on the other terms and conditions of the Contract

12. Validity of this Proposal: within ____ [*Number*] days after receipt of this Proposal by the Employer

13. Other terms and conditions of this Change Proposal:
    (a) You are requested to notify us of your acceptance, comments or rejection of this detailed Change Proposal within ____ [*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.
    (c) Contractor's cost for preparation of this Change Proposal: ____[*insert amount*]. This cost shall be reimbursed by the employer in case of employer's withdrawal or rejection of this Change Proposal without default of the contractor in accordance with GCC Clause 39 of the General Conditions]

[Contractor's name]
[Signature]
[Name of signatory]
[Title of signatory]

7.2.5 Change Order Form

[*Employer's letterhead*]

Date: ____

To: ____ [*Contractor's name and address*]
Attention: ____ [Name and title]

Contract Name: ____ [*Contract name*]
Contract Number: ____ [*Contract number*]

Dear Ladies and/or Gentlemen:

We approve the Change Order for the work specified in the Change Proposal (No. ____ [*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 General Conditions.

1. Title of Change: ____[*Name*]

2. Change Request No. / Rev.: ____[*Request number / revision*]

3. Change Order No. / Rev.: ____ [*Order number / revision*]

4. Originator of Change: Employer: ____ [*Name*] / Contractor: ____ [*Name*]

5. Authorized Price:
   Ref. No.: ____ [*Number*], Date: ____ [*Date*]
   Foreign currency portion ____ [*Amount*] plus Local currency portion ____ [*Amount*]

6. Adjustment of Time for Completion
   None Increase ____ [*Number*] days Decrease ____ [*Number*] days

7. Other effects, if any

Authorized by: _____
Employer Date:

Accepted by: _____
Contractor Date:

7.2.6 Pending Agreement Change Order Form

[*Employer's letterhead*]

Date: ____

To: ____ [*Contractor's name and address*]
Attention: ____ [*Name and title*]

Contract Name: ____ [*Contract name*]
Contract Number: ____ [*Contract number*]

Dear Ladies and/or Gentlemen:

We instruct you to carry out the work in the Change Order detailed below in accordance with GCC Clause 39 of the General Conditions.

1. Title of Change: ____ [*Name*]

2. Employer's Request for Change Proposal No./Rev.: ____ [*number/revision*], dated: ____ [*date*]

3. Contractor's Change Proposal No./Rev.: ____ [*number / revision*], dated: ____ [*date*]

4. Brief Description of Change: ____ [Description]

5. Facilities and/or Item No. of equipment related to the requested Change: ____ [Facilities]

6. Reference Drawings and/or technical documents for the requested Change:
[Drawing / Document No/ Description]

7. Adjustment of Time for Completion:

8. Other change in the Contract terms:

9. Other terms and conditions:

[Employer's name]
[Signature]
[Name of signatory]
[Title of signatory]

7.2.7 Application for Change Proposal Form

[*Contractor's letterhead*]

Date:

To: _____ [*Employer's name and address*]
Attention: ____ [*Name and title*]

Contract Name: ____ [*Contract name*]
Contract Number: ____ [*Contract number*]

Dear Ladies and/or Gentlemen:

We hereby propose that the work mentioned below be treated as a Change in the Facilities.

1. Title of Change: ____ [*Name*]

2. Application for Change Proposal No./Rev.: ____ [*Number / revision*], dated: ____ [*Date*]

3. Brief Description of Change: ____ [*Description*]

4. Reasons for Change:

5. Order of Magnitude Estimation (amount in the currencies of the Contract): ____ [*Amount*]

6. Scheduled Impact of Change:

7. Effect on Functional Guarantees, if any:

8. Appendix:

[Contractor's name]
[Signature]
[Name of signatory]
[Title of signatory]

8. Personnel

The Bidder must demonstrate that it has the personnel for the key positions that meet the following requirements:

No.	Position	Total Work Experience [years]	Experience In Similar Work [years]
1	Contractor's Representative (In case of Joint Venture or Consortium, the Representative must come from the majority shareholder of the JV or consortium)	15	10
2	Construction Manager	10	5
3	Design Engineer for GIS substation	10	5
4	Control and protection Engineer	10	5
5	Chief supervisor for GIS/AIS substation	10	5
6	Civil Engineer	10	5
7	Health & Safety (Accident Prevention) Officer	5	3
8	Environmental & Social Specialist	5	3

The Bidder shall provide details of the proposed personnel and their experience records in the relevant Information Forms included in Section 4 (Bidding Forms).

9. Equipment

The Bidder must demonstrate that it has the key equipment listed hereafter:

No.	Equipment Type and Characteristics	Min. Number Required
1	Mobile Crane	1
2	Dump truck	1
3	Concrete mixer	2
4	CT analyzer	1
5	Dissolve Gas Analyzer	1
6	5kV Digital Insulation Resistance Tester	1
7	Digital Micro Ohm Meter 0-600 A DC for contact resistance measurement.	1
8	1 Phase AC Primary injection test set 0- 500A	1
9	Secondary Injection equipment	1
10	Protection relay testing equipment	1
11	Ten delta test equipment	1
12	SF6 Gas Leak Detector	1
13	AC Hipot Tester for 132kV XLPE cable and 230 kV GIS	1
14	Partial Discharges test equipment	1

The Bidder shall provide further details of proposed items of equipment using the relevant Form in Section 4 (Bidding Forms)

The Contractor must arrange additional (in quantity and capacity) and/or special equipment that is not mentioned in the above list but is technically required for the timely completion of the works without any extra cost to the Employer.

Equipment of the sub-contractors can also be considered as the Contractor's equipment.

Part III: **Conditions of Contract and Contract Forms**

Section 7 - General Conditions of Contract (GCC)
Section 8 - Special Conditions of Contract (SCC)
Section 9 - Contract Forms (CF)

Section 7: General Conditions of Contract

These General Conditions of Contract (GCC) are based on the Model Form of International Contract for Process Plant Construction published by the Engineering Advancement Association of Japan (ENAA). The Multilateral Development Banks (MDBs) participating in the procurement harmonization process gratefully acknowledge the contribution of ENAA to the advancement of good contracting practices by its borrowers. The GCC contain general clauses to be applied on all contracts. The GCC in this section, read in conjunction with the Special Conditions of Contract in Section 8 and other documents listed therein, should be a complete document expressing all the rights and obligations of the contracting parties. The General Conditions herein shall not be altered.

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A. Contract and Interpretation

1. Definitions

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

(a) "Contract" means the Contract Agreement entered into between the Employer and the Contractor, together with the Contract Documents referred to therein; they shall constitute the Contract, and the term "the Contract" shall in all such documents be construed accordingly.

(b) "Contract Documents" means the documents listed in Article 1.1 (Contract Documents) of the Contract Agreement (including any amendments thereto).

(c) "GCC" means the General Conditions of Contract.

(d) "SCC" means the Special Conditions of Contract.

(e) "day" means calendar day.

(f) "year" means 365 days.

(g) "month" means calendar month.

(h) "Party" means the Employer or the Contractor, as the context requires.

(i) "Employer" means the person named as such in the SCC and includes the legal successors or permitted assigns of the Employer.

(j) "Project Manager" means the person appointed by the Employer in the manner provided in GCC Subclause 17.1 (Project Manager) hereof and named as such in the SCC to perform the duties delegated by the Employer.

(k) "Contractor" means the person(s) named as Contractor in the Contract Agreement, and includes the legal successors or permitted assigns of the Contractor.

(l) "Contractor's Representative" means any person nominated by the Contractor and approved by the Employer in the manner provided in GCC Subclause 17.2 (Contractor's Representative and Construction Manager) hereof to perform the duties delegated by the Contractor.

(m) "Construction Manager" means the person appointed by the Contractor's Representative in the manner provided in GCC Subclause 17.2.4.

(n) "Subcontractor," including manufacturers, means any person to whom execution of any part of the Facilities, including preparation of any design or supply of any Plant, is sub-contracted directly or indirectly by the Contractor, and includes its legal successors or permitted assigns.

(o) "Dispute Board" means the person or persons named as such in the SCC appointed by agreement between the Employer and the Contractor to make a decision on or to settle any dispute or

difference between the Employer and the Contractor referred to him or her by the parties pursuant to GCC Subclause 45.1 (Dispute Board) hereof.

(p) "The Bank" means the financing institution named in the SCC.

(q) "Contract Price" means the sum specified in Article 2.1 (Contract Price) of the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.

(r) "Facilities" means the Plant to be supplied and installed, as well as all the Installation Services to be carried out by the Contractor under the Contract.

(s) "Plant" means permanent plant, equipment, machinery, apparatus, articles and things of all kinds to be provided and incorporated in the Facilities by the Contractor under the Contract (including the spare parts to be supplied by the Contractor under GCC Subclause 7.3 hereof), but does not include Contractor's Equipment.

(t) "Installation Services" means all those services ancillary to the supply of the Plant for the Facilities, to be provided by the Contractor under the Contract, such as transportation and provision of marine or other similar insurance, inspection, expediting, site preparation works (including the provision and use of Contractor's Equipment and the supply of all construction materials required), installation, testing, Pre-commissioning, commissioning, operations, maintenance, the provision of operations and maintenance manuals, training, etc. as the case may require.

(u) "Contractor's Equipment" means all facilities, equipment, machinery, tools, apparatus, appliances, or things of every kind required in or for installation, completion and maintenance of Facilities that are to be provided by the Contractor, but does not include Plant, or other things intended to form or forming part of the Facilities.

(v) "Country of Origin" means the countries and territories eligible under the rules of the Bank as further elaborated in the SCC.

(w) "Site" means the land and other places upon which the Facilities are to be installed, and such other land or places as may be specified in the Contract as forming part of the Site.

(x) "Effective Date" means the date of fulfillment of all conditions stated in Article 3 (Effective Date) of the Contract Agreement, upon which the period until the Time for Completion shall be counted from.

(y) "Time for Completion" means the time within which Completion of the Facilities as a whole (or of a part of the Facilities where a separate Time for Completion of such part has been prescribed) is to be attained, as referred to in GCC Clause 8 and in accordance with the relevant provisions of the Contract.

(z) "Completion" means that the Facilities (or a specific part thereof where specific parts are specified in the Contract) have been completed operationally and structurally and put in a tight and

clean condition, that all work in respect of Pre-commissioning of the Facilities or such specific part thereof has been completed, and that the Facilities or specific part thereof are ready for Commissioning as provided in GCC Clause 24 (Completion) hereof.

(aa) "Pre-commissioning" means the testing, checking and other requirements specified in the Employer's Requirements that are to be carried out by the Contractor in preparation for Commissioning as provided in GCC Clause 24 (Completion) hereof.

(bb) "Commissioning" means operation of the Facilities or any part thereof by the Contractor following Completion, which operation is to be carried out by the Contractor as provided in GCC Subclause 25.1 (Commissioning) hereof, for the purpose of carrying out Guarantee Test(s).

(cc) "Guarantee Test(s)" means the test(s) specified in the Employer's Requirements to be carried out to ascertain whether the Facilities or a specified part thereof is able to attain the Functional Guarantees specified in the Appendix (Functional Guarantees) to the Contract Agreement in accordance with the provisions of GCC Subclause 25.2 (Guarantee Test) hereof.

(dd) "Operational Acceptance" means the acceptance by the Employer of the Facilities (or any part of the Facilities where the Contract provides for acceptance of the Facilities in parts), which certifies the Contractor's fulfillment of the Contract in respect of Functional Guarantees of the Facilities (or the relevant part thereof) in accordance with the provisions of GCC Clause 28 (Functional Guarantees) hereof and shall include deemed acceptance in accordance with GCC Clause 25 (Commissioning and Operational Acceptance) hereof.

(ee) "Defect Liability Period" means the period of validity of the warranties given by the Contractor commencing at Completion of the Facilities or a part thereof, during which the Contractor is responsible for defects with respect to the Facilities (or the relevant part thereof) as provided in GCC Clause 27 (Defect Liability) hereof.

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 thereof) are intended to be correlative, complementary and mutually explanatory. The Contract shall be read as a whole.

3. Interpretation

3.1 In the Contract, except where the context requires otherwise,

(a) words indicating one gender include all genders;

(b) words indicating the singular also include the plural and words indicating the plural also include the singular;

(c) provisions including the word "agree," "agreed," or "agreement" require the agreement to be record in writing;

(d) the word "tender" is synonymous with "bid," "tenderer" with "Bidder," and "tender documents" with "Bidding Documents;"

and

(e) "written" or "in writing" means handwritten, typewritten, printed or electronically made, and resulting in a permanent record.

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

3.2 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 Incoterms.

"Incoterms" means international rules for interpreting trade terms published by the International Chamber of Commerce (latest edition), 38 Cours Albert 1er, 75008 Paris, France.

3.3 Entire Agreement

Subject to GCC Subclause 16.4 hereof, the Contract constitutes the entire agreement between the Employer and Contractor with respect to the subject matter of Contract and supersedes all communications, negotiations, and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract.

3.4 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 hereto.

3.5 Independent Contractor

The Contractor 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 hereto. Subject to the provisions of the Contract, the Contractor shall be solely responsible for the manner in which the Contract is performed. All employees, representatives, or Subcontractors engaged by the Contractor in connection with the performance of the Contract shall be under the complete control of the Contractor and shall not be deemed to be employees of the Employer, and nothing contained in the Contract or in any subcontract awarded by the Contractor shall be construed to create any contractual relationship between any such employees, representatives, or Subcontractors and the Employer.

3.6 Non-Waiver

3.6.1 Subject to GCC Subclause 3.6.2 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.

3.6.2 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.

3.7 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.

3.8 Country of Origin

"Origin" means the place where the plant and component parts thereof are mined, grown, produced, or manufactured, and from which the services are provided. Plant components are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that is substantially in its basic characteristics or in purpose or utility from its components.

4.Communications

4.1 Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices, requests, and discharges, these communications shall be

(a) in writing and delivered against receipt; and

(b) delivered, sent, or transmitted to the address for the recipient's communications as stated in the Contract Agreement.

When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Project Manager, a copy shall be sent to the Project Manager or the other Party, as the case may be.

5. Law and Language

5.1 The Contract shall be governed by and interpreted in accordance with laws of the country specified in the SCC.

5.2 The ruling language of the Contract shall be that stated in the SCC.

5.3 The language for communications shall be the ruling language unless otherwise stated in the SCC.

6. Fraud and Corruption

6.1 ADB's Anticorruption Policy (1998, as amended to date) requires Borrowers (including beneficiaries of ADB-financed activity), as well as Contractors, Subcontractors, manufacturers, and Consultants under ADB-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, ADB

(a) defines, for the purposes of this provision, the terms set forth below as follows:

(i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;

(ii) "fraudulent practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other

benefit or to avoid an obligation;

(iii) "coercive practice" means 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;

(iv) "collusive practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;

(v) "abuse" means theft, waste, or improper use of assets related to ADB-related activity, either committed intentionally or through reckless disregard;

(vi) "conflict of interest" means any situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations;

(vii) "obstructive practice" means (a) deliberately destroying, falsifying, altering, or concealing of evidence material to an ADB investigation, or deliberately making false statements to investigators, with the intent to impede an ADB investigation; (b) threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to a Bank investigation or from pursuing the investigation; or (c) deliberate acts intended to impede the exercise of ADB's contractual rights of audit or inspection or access to information; and

(viii) "integrity violation" is any act, as defined under ADB's Integrity Principles and Guidelines(2015, as amended from time to time), which violates ADB's Anticorruption Policy, including (i) to (vii) above and the following: violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB's Anticorruption Policy, including failure to adhere to the highest ethical standard.

(b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;

(c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the borrower or of a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation;

(d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB's Anticorruption Policy and Integrity Principles and Guidelines, including declaring ineligible,

either indefinitely or for a stated period of time, to participate[1] in ADB-financed, -administered, or -supported activities or to benefit from an ADB-financed, -administered, or -supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations; and

(e) will have the right to require suppliers and contractors to permit ADB or its representative to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB.

6.2 All Bidders, consultants, contractors, suppliers and other third parties engaged or involved in ADB-related activities have a duty to cooperate fully in any screening or investigation when requested by ADB to do so. Such cooperation includes, but is not limited to, the following:

(a) being available to be interviewed and replying fully and truthfully to all questions asked;

(b) providing ADB with any items requested that are within the party's control including, but not limited to, documents and other physical objects;

(c) upon written request by ADB, authorizing other related entities to release directly to ADB such information that is specifically and materially related, directly or indirectly, to the said entities or issues which are the subject of the investigation;

(d) cooperating with all reasonable requests to search or physically inspect their person and/or work areas, including files, electronic databases, and personal property used on ADB activities, or that utilizes ADB's Information and Communications Technology (ICT) resources or systems (including mobile phones, personal electronic devices, and electronic storage devices such as external disk drives);

(e) cooperating in any testing requested by ADB, including but not limited to, fingerprint identification, handwriting analysis, and physical examination and analysis; and

(f) preserving and protecting confidentiality of all information discussed with, and as required by, ADB.

6.3 All Bidders, consultants, contractors and suppliers shall ensure that, in its contract with its sub-consultants, subcontractors, and other third parties engaged or involved in ADB-related activities, such sub-consultants, subcontractors, and other third parties similarly undertake the foregoing duty to cooperate fully in any screening or investigation when requested by ADB to do so.

[1] Whether as a Contractor, Subcontractor, Consultant, Manufacturer or Supplier, or Service Provider; or in any other capacity (different names are used depending on the particular Bidding Document).

B. Subject Matter of Contract

7. Scope of Facilities

7.1 Unless otherwise expressly limited in the Employer's Requirements, the Contractor's obligations cover the provision of all Plant and the performance of all Installation Services required for the design, the manufacture (including procurement, quality assurance, construction, installation, associated civil works, pre-commissioning and delivery) of the Plant and the installation, completion, and commissioning of the Facilities in accordance with the plans, procedures, specifications, drawings, codes, and any other documents as specified in the section Employer's Requirements. Such specifications include, but are not limited to, the provision of supervision and engineering services; the supply of labor, materials, equipment, spare parts (as specified in GCC Subclause 7.3 below) and accessories; Contractor's Equipment; construction utilities and supplies; temporary materials, structures, and facilities; transportation (including, without limitation, unloading and hauling to, from and at the Site); and storage, except for those supplies, works, and services that will be provided or performed by the Employer, as set forth in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement.

7.2 The Contractor 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 Completion of the Facilities as if such work and/or items and materials were expressly mentioned in the Contract.

7.3 In addition to the supply of Mandatory Spare Parts included in the Contract, the Contractor agrees to supply spare parts required for the operation and maintenance of the Facilities for the period specified in the SCC and the provisions, if any, specified in the SCC. However, the identity, specifications, and quantities of such spare parts and the terms and conditions relating to the supply thereof are to be agreed between the Employer and the Contractor, and the price of such spare parts shall be that given in Price Schedule No. 6, which shall be added to the Contract Price. The price of such spare parts shall include the purchase price therefore and other costs and expenses (including the Contractor's fees) relating to the supply of spare parts.

8. Time for Commencement and Completion

8.1 The Contractor shall commence work on the Facilities within the period specified in the SCC and without prejudice to GCC Subclause 26.2 hereof, the Contractor shall thereafter proceed with the Facilities in accordance with the time schedule specified in the Appendix 4 (Time Schedule) to the Contract Agreement.

8.2 The Contractor shall attain Completion of the Facilities or of a part where a separate time for Completion of such part is specified in the Contract, within the time stated in the SCC or within such extended time to which the Contractor shall be entitled under GCC Clause 40 hereof.

9. Contractor's Responsibilities

9.1 The Contractor shall design, manufacture, including associated purchases and/or subcontracting, install, and complete the Facilities in accordance with the Contract. When completed, the Facilities should be fit for the purposes for which they are intended as defined in the

Contract.

9.2 The Contractor confirms that it has entered into this Contract on the basis of a proper examination of the data relating to the Facilities, including any data as to boring tests provided by the Employer, and on the basis of information that the Contractor could have obtained from a visual inspection of the Site if access thereto was available and of other data readily available to it relating to the Facilities as of the date 28 days prior to bid submission. The Contractor 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 Facilities.

9.3 The Contractor shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government authorities or public service undertakings in the country where the Site is located, which such authorities or undertakings require the Contractor to obtain in its name and which are necessary for the performance of the Contract, including, without limitation, visas for the Contractor's and Subcontractor's personnel and entry permits for all imported Contractor's Equipment. The Contractor shall acquire all other permits, approvals, and/or licenses that are not the responsibility of the Employer under GCC Subclause 10.3 hereof and that are necessary for the performance of the Contract.

9.4 The Contractor shall comply with all laws in force in the country where the Facilities are to be implemented. The laws will include all local, state, national, or other laws that affect the performance of the Contract and bind upon the Contractor. The Contractor shall indemnify and hold harmless the Employer 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 Contractor or its personnel, including the Subcontractors and their personnel, but without prejudice to GCC Subclause 10.1 hereof.

9.5 Any plant and services that will be incorporated in or be required for the Facilities and other supplies shall have their origin as specified under GCC Clause 1 (Country of Origin). Any Subcontractors retained by the Contractor shall be from a country as specified in GCC Clause 1 (Country of Origin).

9.6 The Contractor shall permit ADB to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by ADB, if so required by ADB.

9.7 If the Contractor is a joint venture or consortium of two or more persons, all such persons shall be jointly and severally bound to the Employer for the fulfillment of the provisions of the Contract and shall designate one of such persons to act as a leader with authority to bind the joint venture or consortium. The composition or the constitution of the joint venture or consortium shall not be altered without the prior consent of the Employer.

9.8 Protection of the Environment

(a) The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise, and other results of his operations.

(b) The Contractor shall ensure that emissions, surface discharges, and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.

10. Employer's Responsibilities

10.1 All information and/or data to be supplied by the Employer as described in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement shall be deemed to be accurate, except when the Employer expressly states otherwise.

10.2 The Employer shall be responsible for acquiring and providing legal and physical possession of the Site and access thereto, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract, including all requisite rights of way, as specified in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement. The Employer shall give full possession of and accord all rights of access thereto on or before the date(s) specified in that Appendix.

10.3 The Employer shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government authorities, or public service undertakings in the country where the Site is located which (a) such authorities or undertakings require the Employer to obtain in the Employer's name, (b) are necessary for the execution of the Contract, including those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract, and (c) are specified in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement.

10.4 If requested by the Contractor, the Employer shall use its best endeavors to assist the Contractor 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 Contractor or Subcontractors or the personnel of the Contractor or Subcontractors, as the case may be, to obtain.

10.5 Unless otherwise specified in the Contract or agreed upon by the Employer and the Contractor, the Employer shall provide sufficient, properly qualified operating and maintenance personnel; shall supply and make available all raw materials, utilities, lubricants, chemicals, catalysts, other materials and facilities; and shall perform all work and services of whatsoever nature, including those required by the Contractor to properly carry out Pre-commissioning, Commissioning, and Guarantee Tests, all in accordance with the provisions of the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement at or before the time specified in the program furnished by the Contractor under GCC Subclause 18.2 hereof and in the manner thereupon specified or as otherwise agreed upon by the

Employer and the Contractor.

10.6 The Employer shall be responsible for the continued operation of the Facilities after Completion, in accordance with GCC Subclause 24.8, and shall be responsible for facilitating the Guarantee Test(s) for the Facilities, in accordance with GCC Subclause 25.2.

10.7 All costs and expenses involved in the performance of the obligations under this GCC Clause 10 shall be the responsibility of the Employer, except those incurred by the Contractor with respect to the performance of Guarantee Tests, in accordance with GCC Subclause 25.2.

10.8 In the event that the Employer shall be in breach of any of his obligations imposed by the Contract, then the additional cost reasonably incurred by the Contractor in consequence thereof shall be added to the Contract Price.

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 Facilities or as otherwise provided in the Contract.

11.3 Subject to GCC Subclauses 9.2, 10.1, and 35 hereof, the Contractor 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 Contract Price shall be paid as specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement and in the Appendix (Terms and Procedures of Payment) to the Contract Agreement, which also outlines the procedures to be followed in making application for and processing payments.

12.2 No payment made by the Employer herein shall be deemed to constitute acceptance by the Employer of the Facilities or any part(s) thereof.

12.3 In the event that the Employer fails to make any payment by its respective due date or within the period set forth in the Contract, the Employer shall pay to the Contractor interest on the amount of such delayed payment at the rate(s) shown in the Appendix (Terms and Procedures of Payment) to the Contract Agreement for the period of delay until payment has been made in full, whether before or after judgment or arbitrage award.

12.4 The currency or currencies in which payments are made to the Contractor under this Contract shall be specified in the Appendix (Terms and Procedures of Payment) to the Contract Agreement, subject to the general principle that payments will be made in the

currency or currencies in which the Contract Price has been stated in the Contractor's bid.

13. Securities

13.1 Issuance of Securities

The Contractor shall provide the securities specified below in favor of the Employer at the times, and in the amount, manner, and form specified below.

13.2 Advance Payment Security

13.2.1 The Contractor shall, within 28 days of the notification of contract award, provide a security in an amount equal to the advance payment calculated in accordance with the Appendix (Terms and Procedures of Payment) to the Contract Agreement, and in the same currency or currencies.

13.2.2 The security shall be in the form provided in the Bidding Documents or in another form acceptable to the Employer. The amount of the security shall be reduced in proportion to the value of the Facilities executed by and paid to the Contractor from time to time, and shall automatically become null and void when the full amount of the advance payment has been recovered by the Employer. The security shall be returned to the Contractor immediately after its expiration.

13.3 Performance Security

13.3.1 The Contractor shall, within 28 days of the notification of contract award, provide a security for the due performance of the Contract in the amount specified in the SCC.

13.3.2 The security shall be denominated in the currency or currencies of the Contract, or in a freely convertible currency acceptable to the Employer, and shall be in one of the forms of bank guarantees provided in the Bidding Documents, as stipulated by the Employer in the SCC, or in another form acceptable to the Employer.

13.3.3 Unless otherwise specified in the SCC, the security shall be reduced by half on the date of the Operational Acceptance. The Security shall become null and void, or shall be reduced pro rata to the Contract Price of a part of the Facilities for which a separate Time for Completion is provided, 540 days after Completion of the Facilities or 365 days after Operational Acceptance of the Facilities, whichever occurs first; provided, however, that if the Defects Liability Period has been extended on any part of the Facilities pursuant to GCC Subclause 27.8 hereof, the Contractor shall issue an additional security in an amount proportionate to the Contract Price of that part. The security shall be returned to the Contractor immediately after its expiration, provided, however, that if the Contractor, pursuant to GCC Subclause 27.10, is liable for an extended defect liability obligation, the performance security shall be extended for the period and up to the amount specified in the SCC.

14. Taxes and Duties

14.1 Except as otherwise specifically provided in the Contract, the Contractor shall bear and pay all taxes, duties, levies, and charges assessed on the Contractor, its Subcontractors, or their employees by all municipal, state, or national government authorities in connection

with the Facilities in and outside of the country where the Site is located.

14.2 Notwithstanding GCC Subclause 14.1 above, the Employer shall bear and promptly pay all customs and import duties as well as other local taxes like, e.g., a value-added tax (VAT), imposed by the law of the country where the Site is located on the Plant specified in Price Schedule No. 1 and that are to be incorporated into the Facilities.

14.3 If any tax exemptions, reductions, allowances, or privileges may be available to the Contractor in the country where the Site is located, the Employer shall use its best endeavors to enable the Contractor 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 28 days prior to the date of bid submission in the country where the Site is located (hereinafter called "Tax" in this GCC Subclause 14.4). If any rates of Tax 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 Contract, which was or will be assessed on the Contractor, Subcontractors, or their employees in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction therefrom, as the case may be, in accordance with GCC Clause 36 hereof.

D. Intellectual Property

15. License/Use of Technical Information

15.1 For the operation and maintenance of the Plant, the Contractor hereby grants a non-exclusive and nontransferable license (without the right to sublicense) to the Employer under the patents, utility models, or other industrial property rights owned by the Contractor or by a third party from whom the Contractor has received the right to grant licenses thereunder, and shall also grant to the Employer a nonexclusive and nontransferable right (without the right to sublicense) to use the know-how and other technical information disclosed to the Employer under the Contract. Nothing contained herein shall be construed as transferring ownership of any patent, utility model, trademark, design, copyright, know-how, or other intellectual property right from the Contractor or any third party to the Employer.

15.2 The copyright in all drawings, documents, and other materials containing data and information furnished to the Employer by the Contractor herein shall remain vested in the Contractor or, if they are furnished to the Employer directly or through the Contractor by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

16. Confidential

16.1 The Employer and the Contractor shall keep confidential and shall not, without the written consent of the other party hereto, divulge to any

Information

third party any documents, data or other information furnished directly or indirectly by the other party hereto in connection with the Contract, whether such information has been furnished prior to, during, or following termination of the Contract. Notwithstanding the above, the Contractor may furnish to its Subcontractor(s) such documents, data, and other information it receives from the Employer to the extent required for the Subcontractor(s) to perform its work under the Contract, in which event the Contractor shall obtain from such Subcontractor(s) an undertaking of confidentiality similar to that imposed on the Contractor under this GCC Clause 16.

16.2 The Employer shall not use such documents, data, and other information received from the Contractor for any purpose other than the operation and maintenance of the Facilities. Similarly, the Contractor shall not use such documents, data, and other information received from the Employer for any purpose other than the design, procurement of Plant, construction, or such other work and services as are required for the performance of the Contract.

16.3 The obligation of a party under GCC Subclauses 16.1 and 16.2 above, however, shall not apply to that information, which

(a) now or hereafter enters the public domain through no fault of that party;

(b) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party hereto; and

(c) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

16.4 The above provisions of this GCC Clause 16 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Facilities or any part thereof.

16.5 The provisions of this GCC Clause 16 shall survive termination, for whatever reason, of the Contract.

E. Execution of the Facilities

17. Representatives

17.1 Project Manager

If the Project Manager is not named in the Contract, then within 14 days of the Effective Date, the Employer shall appoint and notify the Contractor in writing of the name of the Project Manager. The Employer may from time to time appoint some other person as the Project Manager in place of the person previously so appointed, and shall give notice of the name of such other person to the Contractor 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 Facilities. Such appointment shall only take effect upon receipt of such notice by the Contractor. The Project Manager shall represent and act for the Employer at all times during the performance of the Contract. All

notices, instructions, orders, certificates, approvals, and all other communications under the Contract shall be given by the Project Manager, except as herein otherwise provided.

All notices, instructions, information, and other communications given by the Contractor to the Employer under the Contract shall be given to the Project Manager, except as herein otherwise provided.

17.2 Contractor's Representative and Construction Manager

17.2.1 If the Contractor's Representative is not named in the Contract, then within 14 days of the Effective Date, the Contractor shall appoint the Contractor's Representative and shall request the Employer in writing to approve the person so appointed. If the Employer makes no objection to the appointment within 14 days, the Contractor's Representative shall be deemed to have been approved. If the Employer objects to the appointment within 14 days giving the reason therefor, then the Contractor shall appoint a replacement within 14 days of such objection, and the foregoing provisions of this GCC Subclause 17.2.1 shall apply thereto.

17.2.2 The Contractor's Representative shall represent and act for the Contractor at all times during the performance of the Contract and shall give to the Project Manager all the Contractor's notices, instructions, information, and all other communications under the Contract.

All notices, instructions, information, and all other communications given by the Employer or the Project Manager to the Contractor under the Contract shall be given to the Contractor's Representative or, in its absence, its deputy, except as herein otherwise provided.
The Contractor shall not revoke the appointment of the Contractor's Representative without the Employer's prior written consent, which shall not be unreasonably withheld. If the Employer consents thereto, the Contractor shall appoint some other person as the Contractor's Representative, pursuant to the procedure set out in GCC Subclause 17.2.1.

17.2.3 The Contractor's Representative may, subject to the approval of the Employer 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 Contractor'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 a copy thereof has been delivered to the Employer and the Project Manager.

Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with this GCC Subclause 17.2.3 shall be deemed to be an act or exercise by the Contractor's Representative.

17.2.4 From the commencement of installation of the Facilities at the

Site until Completion, the Contractor's Representative shall appoint a suitable person as the Construction Manager. The Construction Manager shall supervise all work done at the Site by the Contractor and shall be present at the Site throughout normal working hours except when on leave, sick, or absent for reasons connected with the proper performance of the Contract. Whenever the Construction Manager is absent from the Site, the Contractor's Representative or the Construction Manager shall appoint a suitable person to act as the Construction Manager's deputy.

17.2.5 The Employer may by notice to the Contractor object to any representative or person employed by the Contractor in the execution of the Contract who, in the reasonable opinion of the Employer, may behave inappropriately, may be incompetent or negligent, or may commit a serious breach of the Site regulations provided under GCC Subclause 22.4. The Employer shall provide evidence of the same, whereupon the Contractor shall remove such person from the Facilities.

17.2.6 If any representative or person employed by the Contractor is removed in accordance with GCC Subclause 17.2.5, the Contractor shall, where required, promptly appoint a replacement.

18. Work Program

18.1 Contractor's Organization

The Contractor shall supply to the Employer and the Project Manager a chart showing the proposed organization to be established by the Contractor for carrying out work on the Facilities within 21 days of the Effective Date. The chart shall include the identities of the key personnel, and the curricula vitae of such key personnel to be employed shall be supplied together with the chart. The Contractor shall promptly inform the Employer and the Project Manager in writing of any revision or alteration of such an organization chart.

18.2 Program of Performance

Within 28 days after the Effective Date, the Contractor shall submit to the Project Manager a detailed program of performance of the Contract, made in a form acceptable to the Project Manager and showing the sequence in which it proposes to design, manufacture, transport, assemble, install, and pre-commission the Facilities, as well as the date by which the Contractor reasonably requires that the Employer shall have fulfilled its obligations under the Contract so as to enable the Contractor to execute the Contract in accordance with the program and to achieve Completion, Commissioning, and Acceptance of the Facilities in accordance with the Contract. The program so submitted by the Contractor shall accord with the Time Schedule included in the Appendix (Time Schedule) to the Contract Agreement and any other dates and periods specified in the Contract. The Contractor shall update and revise the program as and when appropriate or when required by the Project Manager, but without modification in the Times for Completion given in the SCC and any extension granted in accordance with GCC Clause 40, and shall submit all such revisions to the Project Manager.

18.3 Progress Report

The Contractor shall monitor progress of all the activities specified in the program referred to in GCC Subclause 18.2 above, and supply a progress report to the Project Manager every month.

The progress report shall be in a form acceptable to the Project Manager and shall indicate: (a) percentage completion achieved compared with the planned percentage completion for each activity; and (b) where any activity is behind the program, giving comments and likely consequences and stating the corrective action being taken.

18.4 Progress of Performance

If at any time the Contractor's actual progress falls behind the program referred to in GCC Subclause 18.2, or it becomes apparent that it will so fall behind, the Contractor shall, at the request of the Employer or the Project Manager, prepare and submit to the Project Manager a revised program, taking into account the prevailing circumstances, and shall notify the Project Manager of the steps being taken to expedite progress so as to attain Completion of the Facilities within the Time for Completion under GCC Subclause 8.2, any extension thereof entitled under GCC Subclause 40.1, or any extended period as may otherwise be agreed upon between the Employer and the Contractor.

18.5 Procedures

The Contract shall be executed in accordance with the Contract Documents including the procedures given in the Forms and Procedures of the Employer's Requirements.

The Contractor may execute the Contract in accordance with its own standard project execution plans and procedures to the extent that they do not conflict with the provisions contained in the Contract.

19.Subcontracting

19.1 The Appendix 5 (List of Major Items of Plant and Services and List of Approved Subcontractors) to the Contract Agreement specifies major items of plant and services and a list of approved Subcontractors against each item, including manufacturers. Insofar as no Subcontractors are listed against any such item, the Contractor shall prepare a list of Subcontractors for such item for inclusion in such list. The Contractor may from time to time propose any addition to or deletion from any such list. The Contractor shall submit any such list or any modification thereto to the Employer for its approval in sufficient time so as not to impede the progress of work on the Facilities. Such approval by the Employer for any of the Subcontractors shall not relieve the Contractor from any of its obligations, duties, or responsibilities under the Contract.

19.2 The Contractor shall select and employ its Subcontractors for such major items from those listed in the lists referred to in GCC Subclause 19.1.

19.3 For items or parts of the Facilities not specified in the Appendix (List of Major Items of Plant and Services and List of Approved Subcontractors for Major Items) to the Contract Agreement, the Contractor may employ such Subcontractors as it may select, at its discretion.

19.4 Each subcontract shall include provisions which would entitle the Employer to require the sub-contract to be assigned to the Employer under GCC 19.5 (if and when applicable), or in event of termination by the Employer under GCC 42.2.

19.5 If a Sub-contractor's obligations extend beyond the expiry date of the relevant Defects Liability Period and the Project Manager, prior to that date, instructs the Contractor to assign the benefits of such obligations to the Employer, then the Contractor shall do so.

20. Design and Engineering

20.1 Specifications and Drawings

20.1.1 The Contractor shall execute the basic and detailed design and the engineering work in compliance with the provisions of the Contract, or where not so specified, in accordance with good engineering practice.

The Contractor 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 Contractor by or on behalf of the Employer.

20.1.2 The Contractor shall be entitled to disclaim responsibility for any design, data, drawing, specification, or other document, or any modification thereof provided or designated by or on behalf of the Employer, by giving a notice of such disclaimer to the Project Manager.

20.2 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 28 days prior to date of bid submission shall apply unless otherwise specified. During Contract execution, any changes in such codes and standards shall be applied subject to approval by the Employer and shall be treated in accordance with GCC Clause 39.

20.3 Approval/Review of Technical Documents by Project Manager

20.3.1 The Contractor shall prepare or cause its Subcontractors to prepare, and furnish to the Project Manager the documents listed in the Appendix (List of Documents for Approval or Review) to the Contract Agreement for its approval or review as specified and in accordance with the requirements of GCC Subclause 18.2 (Program of Performance).

Any part of the Facilities covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval thereof.

GCC Subclauses 20.3.2 through 20.3.7 shall apply to those documents requiring the Project Manager's approval, but not to those furnished to the Project Manager for its review only.

20.3.2 Within 14 days after receipt by the Project Manager of any document requiring the Project Manager's approval in

accordance with GCC Subclause 20.3.1, the Project Manager shall either return one copy thereof to the Contractor with its approval endorsed thereon or shall notify the Contractor in writing of its disapproval thereof and the reasons therefor and the modifications that the Project Manager proposes.

If the Project Manager fails to take such action within the said 14 days, then the said document shall be deemed to have been approved by the Project Manager.

20.3.3 The Project Manager shall not disapprove any document, except on the grounds that the document does not comply with the Contract or that it is contrary to good engineering practice. If the Project Manager disapproves a document, he shall specify the reasons for his decision.

20.3.4 If the Project Manager disapproves the document, the Contractor shall modify the document and resubmit it for the Project Manager's approval in accordance with GCC Subclause 20.3.2. If the Project Manager approves the document subject to modification(s), the Contractor shall make the required modification(s), whereupon the document shall be deemed to have been approved.

20.3.5 If any dispute or difference occurs between the Employer and the Contractor in connection with or arising out of the disapproval by the Project Manager of any document and/or any modification(s) thereto that cannot be settled between the parties within a reasonable period, then such dispute or difference may be referred to a Dispute Board for determination in accordance with GCC Subclause45.3 hereof. If such dispute or difference is referred to a Dispute Board, the Project Manager shall give instructions as to whether and, if so, how, performance of the Contract is to proceed. The Contractor shall proceed with the Contract in accordance with the Project Manager's instructions, provided that if the Dispute Board upholds the Contractor's view on the dispute and if the Employer has not given notice under Subclause45.3 hereof, then the Contractor shall be reimbursed by the Employer 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 Dispute Board shall decide, and the Time for Completion shall be extended accordingly.

20.3.6 The Project Manager's approval, with or without modification of the document furnished by the Contractor, shall not relieve the Contractor 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.

20.3.7 The Contractor shall not depart from any approved document unless the Contractor has first submitted to the Project Manager an amended document and obtained the Project Manager's approval thereof, pursuant to the provisions of this GCC

Subclause 20.3.

If the Project Manager requests any change in any already approved document and/or in any document based thereon, the provisions of GCC Clause 39 shall apply to such request.

21. Procurement

21.1 Materials

Subject to GCC Subclause 14.2, the Contractor shall procure and transport all materials in an expeditious and orderly manner to the Site.

21.2 Employer-Supplied Materials

If the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement provides that the Employer shall furnish any specific items to the Contractor, the following provisions shall apply:

21.2.1 The Employer shall, at its own risk and expense, transport each item to the place on or near the Site as agreed upon by the parties and make such item available to the Contractor at the time specified in the program furnished by the Contractor, pursuant to GCC Subclause 18.2, unless otherwise mutually agreed.

21.2.2 Upon receipt of such item, the Contractor shall inspect the same visually and notify the Project Manager of any detected shortage, defect, or default. The Employer shall immediately remedy any shortage, defect, or default, or the Contractor shall, if practicable and possible, at the request of the Employer, remedy such shortage, defect, or default at the Employer's cost and expense. After inspection, such item shall fall under the care, custody, and control of the Contractor. The provision of this GCC Subclause 21.2.2 shall apply to any item supplied to remedy any such shortage or default or to substitute for any defective item, or shall apply to defective items that have been repaired.

21.2.3 The foregoing responsibilities of the Contractor and its obligations of care, custody, and control shall not relieve the Employer of liability for any undetected shortage, defect, or default, nor place the Contractor under any liability for any such shortage, defect or default whether under GCC Clause 27 or under any other provision of Contract.

21.3 Transportation

21.3.1 The Contractor shall at its own risk and expense transport all the materials and the Contractor's Equipment to the Site by the mode of transport that the Contractor judges most suitable under all the circumstances.

21.3.2 Unless otherwise provided in the Contract, the Contractor shall be entitled to select any safe mode of transport operated by any person to carry the materials and the Contractor's Equipment.

21.3.3 Upon dispatch of each shipment of materials and the Contractor's Equipment, the Contractor shall notify the Employer by telex, cable, facsimile, or electronic means, of the description of the materials and of the Contractor's Equipment, the point and means of dispatch, and the estimated time and point of arrival in the country where the Site is located, if applicable, and

at the Site. The Contractor shall furnish the Employer with relevant shipping documents to be agreed upon between the parties.

21.3.4 The Contractor shall be responsible for obtaining, if necessary, approvals from the authorities for transportation of the materials and the Contractor's Equipment to the Site. The Employer shall use its best endeavors in a timely and expeditious manner to assist the Contractor in obtaining such approvals, if requested by the Contractor. The Contractor shall indemnify and hold harmless the Employer from and against any claim for damage to roads, bridges, or any other traffic facilities that may be caused by the transport of the materials and the Contractor's Equipment to the Site.

21.4 Customs Clearance

The Contractor shall, at its own expense, handle all imported materials and Contractor's Equipment at the point(s) of import and shall handle any formalities for customs clearance, subject to the Employer's obligations under GCC Subclause 14.2, provided that if applicable laws or regulations require any application or act to be made by or in the name of the Employer, the Employer shall take all necessary steps to comply with such laws or regulations. In the event of delays in customs clearance that are not the fault of the Contractor, the Contractor shall be entitled to an extension in the Time for Completion, pursuant to GCC Clause 40.

22. Installation

22.1 Setting Out/Supervision

22.1.1 Benchmark

(a) The Contractor shall be responsible for the true and proper setting-out of the Facilities in relation to bench marks, reference marks, and lines provided to it in writing by or on behalf of the Employer.

(b) If, at any time during the progress of installation of the Facilities, any error shall appear in the position, level, or alignment of the Facilities, the Contractor shall forthwith notify the Project Manager of such error and, at its own expense, immediately rectify such error to the reasonable satisfaction of the Project Manager. If such error is based on incorrect data provided in writing by or on behalf of the Employer, the expense of rectifying the same shall be borne by the Employer.

22.1.2 Contractor's Supervision

The Contractor shall give or provide all necessary superintendence during the installation of the Facilities, and the Construction Manager or its deputy shall be constantly on the Site to provide full-time superintendence of the installation. The Contractor 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.

22.2 Labor

22.2.1 Engagement of Staff and Labor

(a) Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labor, local or otherwise, and for their payment, housing, feeding, and transport.

(b) The Contractor shall provide and employ on the Site in the installation of the Facilities such skilled, semi-skilled, and unskilled labor as is necessary for the proper and timely execution of the Contract. The Contractor is encouraged to use local labor that has the necessary skills.

(c) The Contractor shall be responsible for obtaining all necessary permit(s) and/or visa(s) from the appropriate authorities for the entry of all labor and personnel to be employed on the Site into the country where the Site is located. The Employer will, if requested by the Contractor, use his best endeavors in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government permission required for bringing in the Contractor's personnel.

(d) The Contractor shall at its own expense provide the means of repatriation to all of its and its Subcontractor's personnel employed on the Contract at the Site to the place where they were recruited or to their domicile. It shall also provide suitable temporary maintenance of all such persons from the cessation of their employment on the Contract to the date programmed for their departure. In the event that the Contractor defaults in providing such means of transportation and temporary maintenance, the Employer may provide the same to such personnel and recover the cost of doing so from the Contractor.

22.2.2 Persons in the Service of Employer

The Contractor shall not recruit, or attempt to recruit, staff and labor from amongst the Employer's Personnel.

22.2.3 Labor Laws

(a) The Contractor shall comply with all the relevant labor Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration, and emigration, and shall allow them all their legal rights.

(b) The Contractor shall at all times during the progress of the Contract use its best endeavors to prevent any unlawful, riotous, or disorderly conduct or behavior by or amongst its employees and the labor of its Subcontractors.

(c) The Contractor 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.

22.2.4 Rates of Wages and Conditions of Labor

(a) The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.

(b) The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, and allowances as are chargeable under the Laws for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.

22.2.5 Working Hours

(a) No work shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours stated in the SCC, unless

(i) otherwise stated in the Contract;

(ii) the Project Manager gives consent; or

(iii the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Project Manager.

(b) If and when the Contractor considers it necessary to carry out work at night or on public holidays so as to meet the Time for Completion and requests the Project Manager's consent thereto, the Project Manager shall not unreasonably withhold such consent.

(c) This Subclause shall not apply to any work which is customarily carried out by rotary or double shifts.

22.2.6 Facilities for Staff and Labor

(a) Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Specification.

(b) The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living

quarters within the structures forming part of the Permanent Works.

22.2.7 Health and Safety

(a) The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay, and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.

(b) The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the performance of the Contract, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.

(c) The Contractor shall send to the Project Manager, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety, and welfare of persons, and damage to property, as the Project Manager may reasonably require.

22.2.8 Funeral Arrangements

In the event of the death of any of the Contractor's personnel or accompanying members of their families, the Contractor shall be responsible for making the appropriate arrangements for their return or burial, unless otherwise specified in the SCC.

22.2.9 Records of Contractor's Personnel

The Contractor shall keep accurate records of the Contractor's personnel, including the number of each class of Contractor's Personnel on the Site and the names, ages, gender, hours worked, and wages paid to all workers. These records shall be summarized on a monthly basis in a form approved by the Project Manager and shall be available for inspection by the Project Manager until the Contractor has completed all work.

22.2.10 Supply of Foodstuff

The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.

22.2.11 Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for

the use of the Contractor's Personnel.

22.2.12 Measures against Insect and Pest Nuisance
The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from insect and pest nuisance, and to reduce their danger to health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

22.2.13 Alcoholic Liquor or Drugs
The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give barter, or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift barter, or disposal by Contractor's Personnel.

22.2.14 Arms and Ammunition
The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.

22.2.15 Prohibition of All Forms of Forced or Compulsory Labor
The contractor shall not employ "forced or compulsory labor" in any form. "Forced or compulsory labor" consists of all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

22.2.16 Prohibition of Harmful Child Labor
The Contractor shall not employ any child to perform any work that is economically exploitative, or is likely to be hazardous to, 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.

22.3 Contractor's Equipment

22.3.1 All Contractor's Equipment brought by the Contractor onto the Site shall be deemed to be intended to be used exclusively for the execution of the Contract. The Contractor shall not remove the same from the Site without the Project Manager's consent that such Contractor's Equipment is no longer required for the execution of the Contract.

22.3.2 Unless otherwise specified in the Contract, upon completion of the Facilities, the Contractor shall remove from the Site all Equipment brought by the Contractor onto the Site and any surplus materials remaining thereon.

22.3.3 The Employer will, if requested, use its best endeavors to assist the Contractor in obtaining any local, state or national government permission required by the Contractor for the export of the Contractor's Equipment imported by the Contractor for use in the execution of the Contract that is no longer required for the execution of the Contract.

22.4 Site Regulations and Safety

The Employer and the Contractor shall establish Site regulations setting out the rules to be observed in the execution of the Contract at the Site and shall comply therewith. The Contractor shall prepare and submit to the Employer, with a copy to the Project Manager, proposed Site regulations for the Employer's approval, which approval shall not be unreasonably withheld.

Such Site regulations shall include, but shall not be limited to, rules in respect of security, safety of the Facilities, gate control, sanitation, medical care, and fire prevention.

22.5 Opportunities for Other Contractors

22.5.1 The Contractor shall, upon written request from the Employer or the Project Manager, give all reasonable opportunities for carrying out the work to any other contractors employed by the Employer on or near the Site.

22.5.2 If the Contractor, upon written request from the Employer or the Project Manager, makes available to other contractors any roads or ways the maintenance for which the Contractor is responsible, permits the use by such other contractors of the Contractor's Equipment, or provides any other service of whatsoever nature for such other contractors, the Employer shall fully compensate the Contractor for any loss or damage caused or occasioned by such other contractors in respect of any such use or service, and shall pay to the Contractor reasonable remuneration for the use of such equipment or the provision of such services.

22.5.3 The Contractor shall also so arrange to perform its work as to minimize, to the extent possible, interference with the work of other contractors. The Project Manager shall determine the resolution of any difference or conflict that may arise between the Contractor and other contractors and the workers of the Employer in regard to their work.

22.5.4 The Contractor shall notify the Project Manager promptly of any defects in the other Contractors' work that come to its notice, and that could affect the Contractor's work. The Project Manager shall determine the corrective measures, if any, required to rectify the situation after inspection of the Facilities. Decisions made by the Project Manager shall be binding on the Contractor.

22.6 Emergency Work

If, by reason of an emergency arising in connection with and during the execution of the Contract, any protective or remedial work is necessary as a matter of urgency to prevent damage to the Facilities, the Contractor shall immediately carry out such work.

If the Contractor is unable or unwilling to do such work immediately, the Employer may do or cause such work to be done as the Employer may determine is necessary in order to prevent damage to the Facilities. In such event the Employer shall, as soon as practicable after the occurrence of any such emergency, notify the Contractor in writing of

such emergency, the work done and the reasons therefor. If the work done or caused to be done by the Employer is work that the Contractor was liable to do at its own expense under the Contract, the reasonable costs incurred by the Employer in connection therewith shall be paid by the Contractor to the Employer. Otherwise, the cost of such remedial work shall be borne by the Employer.

22.7 Site Clearance

22.7.1 Site Clearance in Course of Performance

In the course of carrying out the Contract, the Contractor shall keep the Site reasonably free from all unnecessary obstruction, store, or remove any surplus materials, clear away any wreckage, rubbish, or temporary works from the Site, and remove any Contractor's Equipment no longer required for execution of the Contract.

22.7.2 Clearance of Site after Completion

After Completion of all parts of the Facilities, the Contractor shall clear away and remove all wreckage, rubbish, and debris of any kind from the Site, and shall leave the Site and Facilities in a clean and safe condition.

22.8 Watching and Lighting

The Contractor shall provide and maintain at its own expense all lighting, fencing, and watching when and where necessary for the proper execution and the protection of the Facilities, or for the safety of the owners and occupiers of adjacent property and for the safety of the public.

23. Test and Inspection

23.1 The Contractor shall at its own expense carry out at the place of manufacture and/or on the Site all such tests and/or inspections of the Plant and any part of the Facilities as are specified in the Contract.

23.2 The Employer and the Project Manager or their designated representatives shall be entitled to attend the aforesaid test and/or inspection, provided that the Employer shall bear all costs and expenses incurred in connection with such attendance including, but not limited to, all traveling and board and lodging expenses.

23.3 Whenever the Contractor is ready to carry out any such test and/or inspection, the Contractor shall give a reasonable advance notice of such test and/or inspection and of the place and time thereof to the Project Manager. The Contractor shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Employer and the Project Manager or their designated representatives to attend the test and/or inspection.

23.4 The Contractor shall provide the Project Manager with a certified report of the results of any such test and/or inspection.

If the Employer or Project Manager or their designated representatives fails to attend the test and/or inspection, or if it is agreed between the parties that such persons shall not do so, then the Contractor may

proceed with the test and/or inspection in the absence of such persons, and may provide the Project Manager with a certified report of the results thereof.

23.5 The Project Manager may require the Contractor to carry out any test and/or inspection not required by the Contract, provided that the Contractor's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of work on the Facilities and/or the Contractor's performance of its other obligations under the Contract, due allowance will be made in respect of the Time for Completion and the other obligations so affected.

23.6 If any Plant or any part of the Facilities fails to pass any test and/or inspection, the Contractor shall either rectify or replace such Plant or part of the Facilities and shall repeat the test and/or inspection upon giving a notice under GCC Subclause 23.3.

23.7 If any dispute or difference of opinion shall arise between the parties in connection with or arising out of the test and/or inspection of the Plant or part of the Facilities that cannot be settled between the parties within a reasonable period of time, it may be referred to an Dispute Board for determination in accordance with GCC Subclause45.3.

23.8 The Contractor shall afford the Employer and the Project Manager, at the Employer's expense, access at any reasonable time to any place where the Plant are being manufactured or the Facilities are being installed, in order to inspect the progress and the manner of manufacture or installation, provided that the Project Manager shall give the Contractor a reasonable prior notice.

23.9 The Contractor agrees that neither the execution of a test and/or inspection of Plant or any part of the Facilities, nor the attendance by the Employer or the Project Manager, nor the issue of any test certificate pursuant to GCC Subclause 23.4, shall release the Contractor from any other responsibilities under the Contract.

23.10 No part of the Facilities or foundations shall be covered up on the Site without the Contractor carrying out any test and/or inspection required under the Contract. The Contractor shall give a reasonable notice to the Project Manager whenever any such parts of the Facilities or foundations are ready or about to be ready for test and/or inspection; such test and/or inspection and notice thereof shall be subject to the requirements of the Contract.

23.11 The Contractor shall uncover any part of the Facilities or foundations, or shall make openings in or through the same as the Project Manager may from time to time require at the Site, and shall reinstate and make good such part or parts.

If any parts of the Facilities or foundations have been covered up at the Site after compliance with the requirement of GCC Subclause 23.10 and are found to be executed in accordance with the Contract, the expenses of uncovering, making openings in or through, reinstating, and making good the same shall be borne by the Employer, and the Time for Completion shall be reasonably adjusted to the extent that the

Contractor has thereby been delayed or impeded in the performance of any of its obligations under the Contract.

24. Completion of the Facilities

24.1 As soon as the Facilities or any part thereof has, in the opinion of the Contractor, been completed operationally and structurally and put in a tight and clean condition as specified in the Employer's Requirements, excluding minor items not materially affecting the operation or safety of the Facilities, the Contractor shall so notify the Employer in writing.

24.2 Within 7 days after receipt of the notice from the Contractor under GCC Subclause 24.1, the Employer shall supply the operating and maintenance personnel specified in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement for Pre-commissioning of the Facilities or any part thereof.

Pursuant to the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement, the Employer shall also provide, within the said 7-day period, the raw materials, utilities, lubricants, chemicals, catalysts, facilities, services, and other matters required for Pre-commissioning of the Facilities or any part thereof.

24.3 As soon as reasonably practicable after the operating and maintenance personnel have been supplied by the Employer and the raw materials, utilities, lubricants, chemicals, catalysts, facilities, services, and other matters have been provided by the Employer in accordance with GCC Subclause 24.2, the Contractor shall commence Pre-commissioning of the Facilities or the relevant part thereof in preparation for Commissioning, subject to GCC Subclause 25.5.

24.4 As soon as all works in respect of Pre-commissioning are completed and, in the opinion of the Contractor, the Facilities or any part thereof is ready for Commissioning, the Contractor shall so notify the Project Manager in writing.

24.5 The Project Manager shall, within 14 days after receipt of the Contractor's notice under GCC Subclause 24.4, either issue a Completion Certificate in the form specified in the Employer's Requirements (Forms and Procedures), stating that the Facilities or that part thereof have reached Completion as of the date of the Contractor's notice under GCC Subclause 24.4, or notify the Contractor in writing of any defects and/or deficiencies.

If the Project Manager notifies the Contractor of any defects and/or deficiencies, the Contractor shall then correct such defects and/or deficiencies, and shall repeat the procedure described in GCC Subclause 24.4.

If the Project Manager is satisfied that the Facilities or that part thereof have reached Completion, the Project Manager shall, within 7 days after receipt of the Contractor's repeated notice, issue a Completion Certificate stating that the Facilities or that part thereof have reached Completion as of the date of the Contractor's repeated notice.

If the Project Manager is not so satisfied, then it shall notify the Contractor in writing of any defects and/or deficiencies within 7 days after receipt of the Contractor's repeated notice, and the above

procedure shall be repeated.

24.6 If the Project Manager fails to issue the Completion Certificate and fails to inform the Contractor of any defects and/or deficiencies within 14 days after receipt of the Contractor's notice under GCC Subclause 24.4 or within 7 days after receipt of the Contractor's repeated notice under GCC Subclause 24.5, or if the Employer makes use of the Facilities or part thereof, then the Facilities or that part thereof shall be deemed to have reached Completion as of the date of the Contractor's notice or repeated notice, or as of the Employer's use of the Facilities, as the case may be.

24.7 As soon as possible after Completion, the Contractor shall complete all outstanding minor items so that the Facilities are fully in accordance with the requirements of the Contract, failing which the Employer will undertake such completion and deduct the costs thereof from any monies owing to the Contractor.

24.8 Upon Completion, the Employer shall be responsible for the care and custody of the Facilities or the relevant part thereof, together with the risk of loss or damage thereto, and shall thereafter take over the Facilities or the relevant part thereof.

25. Commissioning and Operational Acceptance

25.1 Commissioning

25.1.1 Commissioning of the Facilities or any part thereof shall be commenced by the Contractor immediately after issue of the Completion Certificate by the Project Manager, pursuant to GCC Subclause 24.5, or immediately after the date of the deemed Completion, under GCC Subclause 24.6.

25.1.2 The Employer shall supply the operating and maintenance personnel and all raw materials, utilities, lubricants, chemicals, catalysts, facilities, services, and other matters required for Commissioning.

25.1.3 In accordance with the requirements of the Contract, the Contractor's and Project Manager's advisory personnel shall attend the Commissioning, including the Guarantee Test, and shall advise and assist the Employer.

25.2 Guarantee Test

25.2.1 Subject to GCC Subclause 25.5, the Guarantee Test and repeats thereof shall be conducted by the Contractor during Commissioning of the Facilities or the relevant part thereof to ascertain whether the Facilities or the relevant part can attain the Functional Guarantees specified in the Appendix (Functional Guarantees) to the Contract Agreement. The Employer shall promptly provide the Contractor with such information as the Contractor may reasonably require in relation to the conduct and results of the Guarantee Test and any repeats thereof.

25.2.2 If for reasons not attributable to the Contractor, the Guarantee Test of the Facilities or the relevant part thereof cannot be successfully completed within the period from the date of

Completion specified in the SCC or any other period agreed upon by the Employer and the Contractor, the Contractor shall be deemed to have fulfilled its obligations with respect to the Functional Guarantees, and GCC Subclauses 28.2 and 28.3 shall not apply.

25.3 Operational Acceptance

25.3.1 Subject to GCC Subclause 25.4 below, Operational Acceptance shall occur in respect of the Facilities or any part thereof when

(a) the Guarantee Test has been successfully completed and the Functional Guarantees are met; or

(b) the Guarantee Test has not been successfully completed or has not been carried out for reasons not attributable to the Contractor within the period from the date of Completion specified in the SCC, or any other agreed upon period as specified in GCC Subclause 25.2.2 above; or

(c) the Contractor has paid the liquidated damages specified in GCC Subclause 28.3 hereof; and

(d) any minor items mentioned in GCC Subclause 24.7 hereof relevant to the Facilities or that part thereof have been completed.

25.3.2 At any time after any of the events set out in GCC Subclause 25.3.1 have occurred, the Contractor may give a notice to the Project Manager requesting the issue of an Operational Acceptance Certificate in the form provided in the Employer's Requirements (Forms and Procedures)in respect of the Facilities or the part thereof specified in such notice as of the date of such notice.

25.3.3 The Project Manager shall, after consultation with the Employer, and within 7 days after receipt of the Contractor's notice, issue an Operational Acceptance Certificate.

25.3.4 If within 7 days after receipt of the Contractor's notice, the Project Manager fails to issue the Operational Acceptance Certificate or fails to inform the Contractor in writing of the justifiable reasons why the Project Manager has not issued the Operational Acceptance Certificate, the Facilities or the relevant part thereof shall be deemed to have been accepted as of the date of the Contractor's said notice.

25.4 Partial Acceptance

25.4.1 If the Contract specifies that Completion and Commissioning shall be carried out in respect of parts of the Facilities, the provisions relating to Completion and Commissioning including the Guarantee Test shall apply to each such part of the Facilities individually, and the Operational Acceptance Certificate shall be issued accordingly for each such part of the Facilities.

25.4.2 If a part of the Facilities comprises facilities such as buildings, for which no Commissioning or Guarantee Test is required, then

the Project Manager shall issue the Operational Acceptance Certificate for such facility when it attains Completion, provided that the Contractor shall thereafter complete any outstanding minor items that are listed in the Operational Acceptance Certificate.

25.5 Delayed Pre-Commissioning and/or Guarantee Test

25.5.1 In the event that the Contractor is unable to proceed with the Pre-commissioning of the Facilities pursuant to Subclause 24.3, or with the Guarantee Test pursuant to Subclause 25.2, for reasons attributable to the Employer either on account of non availability of other facilities under the responsibilities of other contractor(s), or for reasons beyond the Employer's control, the provisions leading to "deemed" completion of activities such as Completion, pursuant to GCC Subclause 24.6, and Operational Acceptance, pursuant to GCC Subclause 25.3.4, and Contractor's obligations regarding Defect Liability Period, pursuant to GCC Subclause 27.2, Functional Guarantee, pursuant to GCC Clause 28, and Care of Facilities, pursuant to GCC Clause 32, and GCC Clause 41.1, Suspension, shall not apply. In this case, the following provisions shall apply.

25.5.2 When the Contractor is notified by the Project Manager that he will be unable to proceed with the activities and obligations pursuant to above Subclause 25.5.1, the Contractor shall be entitled to the following:

(a) the Time of Completion shall be extended for the period of suspension without imposition of liquidated damages pursuant to GCC Subclause 26.2;

(b) payments due to the Contractor in accordance with the provision specified in the Appendix (Terms and Procedures of Payment) to the Contract Agreement, which would not have been payable in normal circumstances due to noncompletion of the subject activities, shall be released to the Contractor against submission of a security in the form of a bank guarantee of equivalent amount acceptable to the Employer, and which shall become null and void when the Contractor will have complied with its obligations regarding those payments, subject to the provision of Subclause 25.5.3 below;

(c) the expenses towards the above security and extension of other securities under the contract, of which validity needs to be extended, shall be reimbursed to the Contractor by the Employer;

(d) the additional charges towards the care of the Facilities pursuant to GCC Subclause 32.1 shall be reimbursed to the Contractor by the Employer for the period between the notification mentioned above and the notification mentioned in Subclause 25.5.4 below. The provision of GCC Subclause 33.2 shall apply to the Facilities during

the same period.

25.5.3 In the event that the period of suspension under above Subclause 25.5.1 actually exceeds 180 days, the Employer and Contractor shall mutually agree to any additional compensation payable to the Contractor.

25.5.4 When the Contractor is notified by the Project Manager that the plant is ready for Pre-commissioning, the Contractor shall proceed without delay in performing all the specified activities and obligations under the contract.

F. Guarantees and Liabilities

26. Completion Time Guarantee

26.1 The Contractor guarantees that it shall attain Completion of the Facilities (or a part for which a separate time for completion is specified) within the Time for Completion specified in the SCC pursuant to GCC Subclause 8.2, or within such extended time to which the Contractor shall be entitled under GCC Clause 40 hereof.

26.2 If the Contractor fails to attain Completion of the Facilities or any part thereof within the Time for Completion or any extension thereof under GCC Clause 40, the Contractor shall pay to the Employer liquidated damages in the amount specified in the SCC as a percentage rate of the Contract Price or the relevant part thereof. The aggregate amount of such liquidated damages shall in no event exceed the amount specified as "Maximum" in the SCC as a percentage rate of the Contract Price. Once the "Maximum" is reached, the Employer may consider termination of the Contract, pursuant to GCC Subclause 42.2.2.

Such payment shall completely satisfy the Contractor's obligation to attain Completion of the Facilities or the relevant part thereof within the Time for Completion or any extension thereof under GCC Clause 40. The Contractor shall have no further liability whatsoever to the Employer in respect thereof.

However, the payment of liquidated damages shall not in any way relieve the Contractor from any of its obligations to complete the Facilities or from any other obligations and liabilities of the Contractor under the Contract.

Save for liquidated damages payable under this GCC Subclause 26.2, the failure by the Contractor to attain any milestone or other act, matter or thing by any date specified in the Appendix (Time Schedule) to the Contract Agreement and/or other program of work prepared pursuant to GCC Subclause 18.2 shall not render the Contractor liable for any loss or damage thereby suffered by the Employer.

26.3 If the Contractor attains Completion of the Facilities or any part thereof before the Time for Completion or any extension thereof under GCC Clause 40, the Employer shall pay to the Contractor a bonus in the amount specified in the SCC. The aggregate amount of such bonus shall in no event exceed the amount specified as "Maximum" in the

SCC.

27. Defect Liability

27.1 The Contractor warrants that the Facilities or any part thereof shall be free from defects in the design, engineering, materials, and workmanship of the Plant supplied and of the work executed.

27.2 The Defect Liability Period shall be 540 days from the date of Completion of the Facilities (or any part thereof) or 1 year from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs, unless specified otherwise in the SCC pursuant to GCC Subclause 27.10.

If during the Defect Liability Period any defect should be found in the design, engineering, materials, and workmanship of the Plant supplied or of the work executed by the Contractor, the Contractor shall promptly, in consultation and agreement with the Employer regarding appropriate remedying of the defects, and at its cost, repair, replace, or otherwise make good as the Contractor shall determine at its discretion, such defect as well as any damage to the Facilities caused by such defect. The Contractor shall not be responsible for the repair, replacement, or making good of any defect or of any damage to the Facilities arising out of or resulting from any of the following causes:

(a) improper operation or maintenance of the Facilities by the Employer,

(b) operation of the Facilities outside specifications provided in the Contract, or

(c) normal wear and tear.

27.3 The Contractor's obligations under this GCC Clause 27 shall not apply to:

(a) any materials that are supplied by the Employer under GCC Subclause 21.2, are normally consumed in operation, or have a normal life shorter than the Defect Liability Period stated herein;

(b) any designs, specifications or other data designed, supplied, or specified by or on behalf of the Employer or any matters for which the Contractor has disclaimed responsibility herein; or

(c) any other materials supplied or any other work executed by or on behalf of the Employer, except for the work executed by the Employer under GCC Subclause 27.7.

27.4 The Employer shall give the Contractor a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof. The Employer shall afford all reasonable opportunity for the Contractor to inspect any such defect.

27.5 The Employer shall afford the Contractor all necessary access to the Facilities and the Site to enable the Contractor to perform its obligations under this GCC Clause 27.

The Contractor may, with the consent of the Employer, remove from the Site any Plant or any part of the Facilities that are defective if the nature of the defect, and/or any damage to the Facilities caused by the defect, is such that repairs cannot be expeditiously carried out at the

Site.

27.6 If the repair, replacement or making good is of such a character that it may affect the efficiency of the Facilities or any part thereof, the Employer may give to the Contractor a notice requiring that tests of the defective part of the Facilities shall be made by the Contractor immediately upon completion of such remedial work, whereupon the Contractor shall carry out such tests.

If such part fails the tests, the Contractor shall carry out further repair, replacement or making good, as the case may be, until that part of the Facilities passes such tests. The tests shall be agreed upon by the Employer and the Contractor.

27.7 If the Contractor fails to commence the work necessary to remedy such defect or any damage to the Facilities caused by such defect within a reasonable time (which shall in no event be considered to be less than 15 days), the Employer may, following notice to the Contractor, proceed to do such work, and the reasonable costs incurred by the Employer in connection therewith shall be paid to the Employer by the Contractor or may be deducted by the Employer from any monies due the Contractor or claimed under the Performance Security.

27.8 If the Facilities or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Defect Liability Period of the Facilities or such part, as the case may be, shall be extended by a period equal to the period during which the Facilities or such part cannot be used by the Employer because of any of the aforesaid reasons.

27.9 Except as provided in GCC Clauses 27 and 33, the Contractor shall be under no liability whatsoever and howsoever arising, and whether under the Contract or at law, in respect of defects in the Facilities or any part thereof, the Plant, design, or engineering, or work executed that appear after Completion of the Facilities or any part thereof, except where such defects are the result of the gross negligence, fraud, criminal, or willful action of the Contractor.

27.10 In addition, any such component of the Facilities and during the period of time as may be specified in the SCC shall be subject to an extended Defect Liability Period. Such obligation of the Contractor shall be in addition to the Defect Liability Period specified under GCC Subclause 27.2.

28. Functional Guarantees

28.1 The Contractor guarantees that during the Guarantee Test, the Facilities and all parts thereof shall attain the Functional Guarantees specified in the Appendix (Functional Guarantees) to the Contract Agreement, subject to, and upon the conditions therein specified.

28.2 If, for reasons attributable to the Contractor, the minimum level of the Functional Guarantees specified in the Appendix (Functional Guarantees) to the Contract Agreement are not met either in whole or in part, the Contractor shall at its cost and expense make such changes, modifications, and/or additions to the Plant or any part thereof as may be necessary to meet at least the minimum level of

such Guarantees. The Contractor shall notify the Employer upon completion of the necessary changes, modifications, and/or additions, and shall request the Employer to repeat the Guarantee Test until the minimum level of the Guarantees has been met. If the Contractor eventually fails to meet the minimum level of Functional Guarantees, the Employer may consider termination of the Contract, pursuant to GCC Subclause 42.2.2.

28.3 If, for reasons attributable to the Contractor, the Functional Guarantees specified in the Appendix (Functional Guarantees) to the Contract Agreement are not attained either in whole or in part, but the minimum level of the Functional Guarantees specified in the said Appendix to the Contract Agreement is met, the Contractor shall, at the Contractor's option, either

(a) make such changes, modifications, and/or additions to the Facilities or any part thereof that are necessary to attain the Functional Guarantees at its cost and expense, and shall request the Employer to repeat the Guarantee Test or

(b) pay liquidated damages to the Employer in respect of the failure to meet the Functional Guarantees in accordance with the provisions in the Appendix (Functional Guarantees) to the Contract Agreement.

28.4 The payment of liquidated damages under GCC Subclause 28.3, up to the limitation of liability specified in the Appendix (Functional Guarantees) to the Contract Agreement, shall completely satisfy the Contractor's guarantees under GCC Subclause 28.3, and the Contractor shall have no further liability whatsoever to the Employer in respect thereof. Upon the payment of such liquidated damages by the Contractor, the Project Manager shall issue the Operational Acceptance Certificate for the Facilities or any part thereof in respect of which the liquidated damages have been so paid.

29. Patent Indemnity

29.1 The Contractor shall, subject to the Employer's compliance with GCC Subclause 29.2, indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions, or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Employer may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of (a) the installation of the Facilities by the Contractor or the use of the Facilities in the country where the Site is located, and (b) the sale of the products produced by the Facilities in any country.

Such indemnity shall not cover any use of the Facilities or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, any infringement resulting from the use of the Facilities or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Contractor, pursuant to the Contract Agreement.

29.2 If any proceedings are brought or any claim is made against the Employer arising out of the matters referred to in GCC Subclause 29.1,

the Employer shall promptly give the Contractor a notice thereof, and the Contractor may at its own expense and in the Employer's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Contractor fails to notify the Employer within 28 days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Employer shall be free to conduct the same on its own behalf. Unless the Contractor has so failed to notify the Employer within the 28-day period, the Employer shall make no admission that may be prejudicial to the defense of any such proceedings or claim.

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

29.3 The Employer shall indemnify and hold harmless the Contractor and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Contractor may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Employer.

30. Limitation of Liability

30.1 Except in cases of criminal negligence or willful misconduct,

(a) the Contractor shall not be liable to the Employer, 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 Contractor to pay liquidated damages to the Employer, and

(b) the aggregate liability of the Contractor to the Employer, whether under the Contract, in tort or otherwise, shall not exceed a multiple of the Contract Price specified in the SCC or, if a multiple is not so specified, the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the Contractor to indemnify the Employer with respect to patent infringement.

G. Risk Distribution

31. Transfer of Ownership

31.1 Ownership of the Plant (including spare parts) to be imported into the country where the Site is located shall be transferred to the Employer upon loading on to the mode of transport to be used to convey the Plant from the country of origin to that country.

31.2 Ownership of the Plant (including spare parts) procured in the country where the Site is located shall be transferred to the Employer when the

Plant are brought on to the Site.

31.3 Ownership of the Contractor's Equipment used by the Contractor and its Subcontractors in connection with the Contract shall remain with the Contractor or its Subcontractors.

31.4 Ownership of any Plant in excess of the requirements for the Facilities shall revert to the Contractor upon Completion of the Facilities or at such earlier time when the Employer and the Contractor agree that the Plant in question are no longer required for the Facilities.

31.5 Notwithstanding the transfer of ownership of the Plant, the responsibility for care and custody thereof together with the risk of loss or damage thereto shall remain with the Contractor pursuant to GCC Clause 32 (Care of Facilities) hereof until Completion of the Facilities or the part thereof in which such Plant are incorporated.

32. Care of Facilities

32.1 The Contractor shall be responsible for the care and custody of the Facilities or any part thereof until the date of Completion of the Facilities pursuant to GCC Clause 24 or, where the Contract provides for Completion of the Facilities in parts, until the date of Completion of the relevant part, and shall make good at its own cost any loss or damage that may occur to the Facilities or the relevant part thereof from any cause whatsoever during such period. The Contractor shall also be responsible for any loss or damage to the Facilities caused by the Contractor or its Subcontractors in the course of any work carried out, pursuant to GCC Clause 27. Notwithstanding the foregoing, the Contractor shall not be liable for any loss or damage to the Facilities or that part thereof caused by reason of any of the matters specified or referred to in paragraphs (a), (b) and (c) of GCC Subclauses 32.2 and 38.1.

32.2 If any loss or damage occurs to the Facilities or any part thereof or to the Contractor's temporary facilities by reason of

(a) insofar as they relate to the country where the Site is located, nuclear reaction, nuclear radiation, radioactive contamination, pressure wave caused by aircraft or other aerial objects, or any other occurrences that an experienced contractor 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, including War Risks and Political Risks, taken out under GCC Clause 34 hereof; or

(b) any use or occupation by the Employer or any third party other than a Subcontractor, authorized by the Employer of any part of the Facilities; or

(c) any use of or reliance upon any design, data, or specification provided or designated by or on behalf of the Employer, or any such matter for which the Contractor has disclaimed responsibility herein,

the Employer shall pay to the Contractor all sums payable in respect of the Facilities executed, notwithstanding that the same be lost,

destroyed, or damaged, and will pay to the Contractor the replacement value of all temporary facilities and all parts thereof lost, destroyed, or damaged. If the Employer requests the Contractor in writing to make good any loss or damage to the Facilities thereby occasioned, the Contractor shall make good the same at the cost of the Employer in accordance with GCC Clause 39. If the Employer does not request the Contractor in writing to make good any loss or damage to the Facilities thereby occasioned, the Employer shall either request a change in accordance with GCC Clause 39, excluding the performance of that part of the Facilities thereby lost, destroyed or damaged, or, where the loss or damage affects a substantial part of the Facilities, the Employer shall terminate the Contract pursuant to GCC Subclause 42.1 hereof.

32.3 The Contractor shall be liable for any loss of or damage to any Contractor's Equipment, or any other property of the Contractor used or intended to be used for purposes of the Facilities, except (i) as mentioned in GCC Subclause 32.2 with respect to the Contractor's temporary facilities, and (ii) where such loss or damage arises by reason of any of the matters specified in GCC Subclauses 32.2 (b) and (c) and 38.1.

32.4 With respect to any loss or damage caused to the Facilities or any part thereof or to the Contractor's Equipment by reason of any of the matters specified in GCC Subclause 38.1, the provisions of GCC Subclause 38.3 shall apply.

33. Loss of or Damage to Property; Accident or Injury to Workers; Indemnification

33.1 Subject to GCC Subclause 33.3, the Contractor shall indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions, or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, in respect of the death or injury of any person or loss of or damage to any property other than the Facilities whether accepted or not, arising in connection with the supply and installation of the Facilities and by reason of the negligence of the Contractor or its Subcontractors, or their employees, officers, or agents, except any injury, death, or property damage caused by the negligence of the Employer, its contractors, employees, officers, or agents.

33.2 If any proceedings are brought or any claim is made against the Employer that might subject the Contractor to liability under GCC Subclause 33.1, the Employer shall promptly give the Contractor a notice thereof and the Contractor may at its own expense and in the Employer's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Contractor fails to notify the Employer within 28 days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Employer shall be free to conduct the same on its own behalf. Unless the Contractor has so failed to notify the Employer within the 28-day period, the Employer shall make no admission that may be prejudicial to the defense of any such proceedings or claim.

The Employer shall, at the Contractor's request, afford all available

assistance to the Contractor in conducting such proceedings or claim, and shall be reimbursed by the Contractor for all reasonable expenses incurred in so doing.

33.3 The Employer shall indemnify and hold harmless the Contractor and its employees, officers, and Subcontractors from any liability for loss of or damage to property of the Employer, other than the Facilities not yet taken over, that is caused by fire, explosion, or any other perils, in excess of the amount recoverable from insurances procured under GCC Clause 34, provided that such fire, explosion, or other perils were not caused by any act or failure of the Contractor.

33.4 The party entitled to the benefit of an indemnity under this GCC Clause 33 shall take all reasonable measures to mitigate any loss or damage which has occurred. If the party fails to take such measures, the other party's liabilities shall be correspondingly reduced.

34. Insurance

34.1 To the extent specified in the Appendix (Insurance Requirements) to the Contract Agreement, the Contractor 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 insurances set forth below in the sums and with the deductibles and other conditions specified in the said Appendix. The identity of the insurers and the form of the policies shall be subject to the approval of the Employer, who should not unreasonably withhold such approval.

(a) Cargo Insurance During Transport

Covering loss or damage occurring while in transit from the Contractor's or Subcontractor's works or stores until arrival at the Site, to the Plant (including spare parts therefor) and to the Contractor's Equipment.

(b) Installation All Risks Insurance

Covering physical loss or damage to the Facilities at the Site, occurring prior to Completion of the Facilities, with an extended maintenance coverage for the Contractor's liability in respect of any loss or damage occurring during the Defect Liability Period while the Contractor is on the Site for the purpose of performing its obligations during the Defect Liability Period.

(c) Third Party Liability Insurance

Covering bodily injury or death suffered by third parties including the Employer's personnel, and loss of or damage to property occurring in connection with the supply and installation of the Facilities.

(d) Automobile Liability Insurance

Covering use of all vehicles used by the Contractor or its Subcontractors, whether or not owned by them, in connection with the execution of the Contract.

(e) Workers' Compensation

In accordance with the statutory requirements applicable in any

country where the Contract or any part thereof is executed.

(f) Employer's Liability

In accordance with the statutory requirements applicable in any country where the Contract or any part thereof is executed.

(g) Other Insurances

Such other insurances as may be specifically agreed upon by the parties hereto as listed in the Appendix (Insurance Requirements) to the Contract Agreement.

34.2 The Employer shall be named as co-insured under all insurance policies taken out by the Contractor pursuant to GCC Subclause 34.1, except for the Third Party Liability, Workers' Compensation, and Employer's Liability Insurances, and the Contractor's Subcontractors shall be named as co-insureds under all insurance policies taken out by the Contractor pursuant to GCC Subclause 34.1 except for the Cargo Insurance During Transport, Workers' Compensation, and Employer's Liability Insurances. All insurer's rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies.

34.3 The Contractor shall, in accordance with the provisions of the Appendix (Insurance Requirements) to the Contract Agreement, deliver to the Employer certificates of insurance or copies of the insurance policies as evidence that the required policies are in full force and effect. The certificates shall provide that no less than 21 days' notice shall be given to the Employer by insurers prior to cancellation or material modification of a policy.

34.4 The Contractor 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 Contractor.

34.5 The Employer shall at its expense take out and maintain in effect during the performance of the Contract those insurances specified in the Appendix (Insurance Requirements) to the Contract Agreement, in the sums and with the deductibles and other conditions specified in the said Appendix. The Contractor and the Contractor's Subcontractors shall be named as co-insureds under all such policies. All insurers' rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies. The Employer shall deliver to the Contractor satisfactory evidence that the required insurances are in full force and effect. The policies shall provide that not less than 21 days' notice shall be given to the Contractor by all insurers prior to any cancellation or material modification of the policies. If so requested by the Contractor, the Employer shall provide copies of the policies taken out by the Employer under this GCC Subclause 34.5.

34.6 If the Contractor fails to take out and/or maintain in effect the

insurances referred to in GCC Subclause 34.1, the Employer may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Contractor under the Contract any premium that the Employer shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Contractor. If the Employer fails to take out and/or maintain in effect the insurances referred to in GCC 34.5, the Contractor may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Employer under the Contract any premium that the Contractor shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Employer. If the Contractor fails to or is unable to take out and maintain in effect any such insurances, the Contractor shall nevertheless have no liability or responsibility towards the Employer, and the Contractor shall have full recourse against the Employer for any and all liabilities of the Employer herein.

34.7 Unless otherwise provided in the Contract, the Contractor shall prepare and conduct all and any claims made under the policies effected by it pursuant to this GCC Clause 34, and all monies payable by any insurers shall be paid to the Contractor. The Employer shall give to the Contractor all such reasonable assistance as may be required by the Contractor. With respect to insurance claims in which the Employer's interest is involved, the Contractor shall not give any release or make any compromise with the insurer without the prior written consent of the Employer. With respect to insurance claims in which the Contractor's interest is involved, the Employer shall not give any release or make any compromise with the insurer without the prior written consent of the Contractor.

35. Unforeseen Conditions

35.1 If, during the execution of the Contract, the Contractor shall encounter on the Site any physical conditions other than climatic conditions, or artificial obstructions that could not have been reasonably foreseen prior to the date of the Contract Agreement by an experienced contractor on the basis of reasonable examination of the data relating to the Facilities including any data as to boring tests, provided by the Employer, and on the basis of information that it could have obtained from a visual inspection of the Site if access thereto was available, or other data readily available to it relating to the Facilities, and if the Contractor determines that it will in consequence of such conditions or obstructions incur additional cost and expense or require additional time to perform its obligations under the Contract that would not have been required if such physical conditions or artificial obstructions had not been encountered, the Contractor shall promptly, and before performing additional work or using additional Plant or Contractor's Equipment, notify the Project Manager in writing of

(a) the physical conditions or artificial obstructions on the Site that could not have been reasonably foreseen;

(b) the additional work and/or Plant and/or Contractor's Equipment required, including the steps which the Contractor will or proposes to take to overcome such conditions or obstructions;

(c) the extent of the anticipated delay; and

(d) the additional cost and expense that the Contractor is likely to

incur.

On receiving any notice from the Contractor under this GCC Subclause 35.1, the Project Manager shall promptly consult with the Employer and Contractor and decide upon the actions to be taken to overcome the physical conditions or artificial obstructions encountered. Following such consultations, the Project Manager shall instruct the Contractor, with a copy to the Employer, of the actions to be taken.

35.2 Any reasonable additional cost and expense incurred by the Contractor in following the instructions from the Project Manager to overcome such physical conditions or artificial obstructions referred to in GCC Subclause 35.1 shall be paid by the Employer to the Contractor as an addition to the Contract Price.

35.3 If the Contractor is delayed or impeded in the performance of the Contract because of any such physical conditions or artificial obstructions referred to in GCC Subclause 35.1, the Time for Completion shall be extended in accordance with GCC Clause 40.

36. Change in Laws and Regulations

36.1 If, after the date 28 days prior to the date of Bid submission, in the country where the Site is located, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated, or changed, which shall be deemed to include any change in interpretation or application by the competent authorities, that subsequently affects the costs and expenses of the Contractor and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced costs shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with the SCC, pursuant to GCC Subclause 11.2.

37. Force Majeure

37.1 "Force Majeure" shall mean any event beyond the reasonable control of the Employer or of the Contractor, 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; and

(f) shortage of labor, materials, or utilities where caused by circumstances that are themselves Force Majeure.

37.2 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 thereof within 14 days after the occurrence of such event.

37.3 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 Completion shall be extended in accordance with GCC Clause 40.

37.4 The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof 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 Subclauses 37.6 and 38.5.

37.5 No delay or nonperformance by either party hereto caused by the occurrence of any event of Force Majeure shall

(a) constitute a default or breach of the Contract; or

(b) give rise to any claim for damages or additional cost or expense occasioned thereby, subject to GCC Subclauses 32.2, 38.3 and 38.4

if and to the extent that such delay or nonperformance is caused by the occurrence of an event of Force Majeure.

37.6 If the performance of the Contract is substantially prevented, hindered, or delayed for a single period of more than 60 days or an aggregate period of more than 120 days on account of one or more events of Force Majeure during the currency of 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, but without prejudice to either party's right to terminate the Contract under GCC Subclause 38.5.

37.7 In the event of termination pursuant to GCC Subclause 37.6, the rights and obligations of the Employer and the Contractor shall be as specified in GCC Subclauses 42.1.2 and 42.1.3.

37.8 Notwithstanding GCC Subclause 37.5, Force Majeure shall not apply to any obligation of the Employer to make payments to the Contractor herein.

38. War Risks

38.1 "War Risks" shall mean any event specified in paragraphs (a) and (b) of GCC Subclause 37.1 and any explosion or impact of any mine, bomb, shell, grenade, or other projectile, missile, munitions or explosive of war, occurring or existing in or near the country (or countries) where the Site is located.

38.2 Notwithstanding anything contained in the Contract, the Contractor shall have no liability whatsoever for or with respect to

(a) destruction of or damage to Facilities, Plant, or any part thereof;

(b) destruction of or damage to property of the Employer or any third party; or

(c) injury or loss of life

if such destruction, damage, injury or loss of life is caused by any war risks, and the Employer shall indemnify and hold the Contractor harmless from and against any and all claims, liabilities, actions, lawsuits, damages, costs, charges, or expenses arising in consequence of or in connection with the same.

38.3 If the Facilities or any Plant or Contractor's Equipment or any other property of the Contractor used or intended to be used for the purposes of the Facilities shall sustain destruction or damage by reason of any war risks, the Employer shall pay the Contractor for

(a) any part of the Facilities or the Plant so destroyed or damaged to the extent not already paid for by the Employer and so far as may be required by the Employer, and as may be necessary for completion of the Facilities;

(b) replacing or making good any Contractor's Equipment or other property of the Contractor so destroyed or damaged; and

(c) replacing or making good any such destruction or damage to the Facilities or the Plant or any part thereof.

If the Employer does not require the Contractor to replace or make good any such destruction or damage to the Facilities, the Employer shall either request a change in accordance with GCC Clause 39, excluding the performance of that part of the Facilities thereby destroyed or damaged or, where the loss, destruction, or damage affects a substantial part of the Facilities, shall terminate the Contract, pursuant to GCC Subclause 42.1.

If the Employer requires the Contractor to replace or make good on any such destruction or damage to the Facilities, the Time for Completion shall be extended in accordance with GCC 40.

38.4 Notwithstanding anything contained in the Contract, the Employer shall pay the Contractor for any increased costs or incidentals to the execution of the Contract that are in any way attributable to, consequent on, resulting from, or in any way connected with any war risks, provided that the Contractor shall as soon as practicable notify the Employer in writing of any such increased cost.

38.5 If during the performance of the Contract any war risks shall occur that financially or otherwise materially affect the execution of the Contract by the Contractor, the Contractor shall use its reasonable efforts to execute the Contract with due and proper consideration given to the safety of its and its Subcontractors' personnel engaged in the work on the Facilities, provided, however, that if the execution of the work on the Facilities becomes impossible or is substantially prevented 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 any war risks, 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.

38.6 In the event of termination pursuant to GCC Subclauses 38.3 or 38.5, the rights and obligations of the Employer and the Contractor shall be specified in GCC Subclauses 42.1.2 and 42.1.3.

H. Change in Contract Elements

39. Change in the Facilities

39.1 Introducing a Change

39.1.1 Subject to GCC Subclauses 39.2.5 and 39.2.7, the Employer shall have the right to propose, and subsequently require, that the Project Manager order the Contractor from time to time during the performance of the Contract to make any change, modification, addition, or deletion to, in or from the Facilities hereinafter called "Change," provided that such Change falls within the general scope of the Facilities and does not constitute unrelated work and that it is technically practicable, taking into account both the state of advancement of the Facilities and the technical compatibility of the Change envisaged with the nature of the Facilities as specified in the Contract.

39.1.2 The Contractor may from time to time during its performance of the Contract propose to the Employer with a copy to the Project Manager, any Change that the Contractor considers necessary or desirable to improve the quality, efficiency, or safety of the Facilities. The Employer may at its discretion approve or reject any Change proposed by the Contractor, provided that the Employer shall approve any Change proposed by the Contractor to ensure the safety of the Facilities.

39.1.3 Notwithstanding GCC Subclauses 39.1.1 and 39.1.2, no change made necessary because of any default of the Contractor 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 Completion.

39.1.4 The procedure on how to proceed with and execute Changes is specified in GCC Subclauses 39.2 and 39.3, and further details and forms are provided in the Employer's Requirements (Forms and Procedures).

39.2 Changes Originating from Employer

39.2.1 If the Employer proposes a Change pursuant to GCC Subclause 39.1.1, it shall send to the Contractor a "Request for Change Proposal," requiring the Contractor 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) effect on the Time for Completion,

(c) estimated cost of the Change,

(d) effect on Functional Guarantees (if any),

(e) effect on the Facilities, and

(f) effect on any other provisions of the Contract.

39.2.2 Prior to preparing and submitting the "Change Proposal," the Contractor shall submit to the Project Manager an "Estimate for Change Proposal," which shall be an estimate of the cost of preparing and submitting the Change Proposal.

Upon receipt of the Contractor's Estimate for Change Proposal, the Employer shall do one of the following:

(a) accept the Contractor's estimate with instructions to the Contractor to proceed with the preparation of the Change Proposal,

(b) advise the Contractor of any part of its Estimate for Change Proposal that is unacceptable and request the Contractor to review its estimate

(c) advise the Contractor that the Employer does not intend to proceed with the Change.

39.2.3 Upon receipt of the Employer's instruction to proceed under GCC Subclause 39.2.2 (a), the Contractor shall, with proper expedition, proceed with the preparation of the Change Proposal, in accordance with GCC Subclause 39.2.1.

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 such rates and prices are inequitable, the parties thereto shall agree on specific rates for the valuation of the Change.

39.2.5 If before or during the preparation of the Change Proposal it becomes apparent that the aggregate effect of compliance therewith and with all other Change Orders that have already become binding upon the Contractor 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 15%, the Contractor may give a written notice of objection thereto prior to furnishing the Change Proposal as aforesaid. If the Employer accepts the Contractor's objection, the Employer shall withdraw the proposed Change and shall

notify the Contractor in writing thereof.

The Contractor's failure to so object shall neither affect its right to object to any subsequent requested Changes or Change Orders herein, 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 Contractor represents.

39.2.6 Upon receipt of the Change Proposal, the Employer and the Contractor shall mutually agree upon all matters therein contained. Within 14 days after such agreement, the Employer shall, if it intends to proceed with the Change, issue the Contractor with a Change Order.

If the Employer is unable to reach a decision within 14 days, it shall notify the Contractor with details of when the Contractor can expect a decision.

If the Employer decides not to proceed with the Change for whatever reason, it shall, within the said period of 14 days, notify the Contractor accordingly. Under such circumstances, the Contractor 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 Contractor in its Estimate for Change Proposal submitted in accordance with GCC Subclause 39.2.2.

39.2.7 If the Employer and the Contractor cannot reach agreement on the price for the Change, an equitable adjustment to the Time for Completion, or any other matters identified in the Change Proposal, the Employer may nevertheless instruct the Contractor to proceed with the Change by issue of a "Pending Agreement Change Order."

Upon receipt of a Pending Agreement Change Order, the Contractor shall immediately proceed with effecting the Changes covered by such Order. The parties shall thereafter attempt to reach agreement on the outstanding issues under the Change Proposal.

If the parties cannot reach agreement within 60 days from the date of issue of the Pending Agreement Change Order, then the matter may be referred to the Dispute Board in accordance with the provisions of GCC Subclause45.3.

39.3 Changes Originating from Contractor

39.3.1 If the Contractor proposes a Change pursuant to GCC Subclause 39.1.2, the Contractor 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 Subclause 39.2.1.

Upon receipt of the Application for Change Proposal, the parties

shall follow the procedures outlined in GCC Subclauses 39.2.6 and 39.2.7. However, should the Employer choose not to proceed, the Contractor shall not be entitled to recover the costs of preparing the Application for Change Proposal.

40. Extension of Time for Completion

40.1 The Time(s) for Completion specified in the SCC shall be extended if the Contractor 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 Facilities as provided in GCC Clause 39;

(b) any occurrence of Force Majeure as provided in GCC Clause 37, unforeseen conditions as provided in GCC Clause 35, or other occurrence of any of the matters specified or referred to in paragraphs (a), (b) and (c) of GCC Subclause 32.2;

(c) any suspension order given by the Employer under GCC Clause 41 hereof or reduction in the rate of progress pursuant to GCC Subclause 41.2; or

(d) any changes in laws and regulations as provided in GCC Clause 36; or

(e) any default or breach of the Contract by the Employer, or any activity, act or omission of the Employer, or the Project Manager, or any other contractors employed by the Employer; or

(f) any other matter specifically mentioned in the Contract; or

(g) any delay on the part of a sub-contractor, provided such delay is due to a cause for which the Contractor himself would have been entitled to an extension of time under this Subclause

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 Contractor.

40.2 Except where otherwise specifically provided in the Contract, the Contractor shall submit to the Project Manager a notice of a claim for an extension of the Time for Completion, 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 Employer and the Contractor shall agree upon the period of such extension. In the event that the Contractor does not accept the Employer's estimate of a fair and reasonable time extension, the Contractor shall be entitled to refer the matter to a Dispute Board, pursuant to GCC Subclause45.3.

40.3 The Contractor shall at all times use its reasonable efforts to minimize any delay in the performance of its obligations under the Contract.

In all cases where the Contractor has given a notice of a claim for an extension of time under GCC 40.2, the Contractor shall consult with the Project Manager in order to determine the steps (if any) which can be taken to overcome or minimize the actual or anticipated delay. The

Contractor shall there after comply with all reasonable instructions, which the Project Manager shall give in order to minimize such delay. If compliance with such instructions shall cause the Contractor to incur extra costs and the Contractor is entitled to an extension of time under GCC 40.1, the amount of such extra costs shall be added to the Contract Price.

41. Suspension

41.1 The Employer may request the Project Manager, by notice to the Contractor, to order the Contractor to suspend performance of any or all of its obligations under the Contract. Such notice shall specify the obligation of which performance is to be suspended, the effective date of the suspension and the reasons therefor. The Contractor shall thereupon suspend performance of such obligation, except those obligations necessary for the care or preservation of the Facilities, until ordered in writing to resume such performance by the Project Manager.

If, by virtue of a suspension order given by the Project Manager, other than by reason of the Contractor's default or breach of the Contract, the Contractor's performance of any of its obligations is suspended for an aggregate period of more than 90 days, then at any time thereafter and provided that at that time such performance is still suspended, the Contractor may give a notice to the Project Manager requiring that the Employer shall, within 28 days of receipt of the notice, order the resumption of such performance or request and subsequently order a change in accordance with GCC Clause 39, excluding the performance of the suspended obligations from the Contract.

If the Employer fails to do so within such period, the Contractor may, by a further notice to the Project Manager, elect to treat the suspension, where it affects a part only of the Facilities, as a deletion of such part in accordance with GCC Clause 39 or, where it affects the whole of the Facilities, as termination of the Contract under GCC Subclause 42.1.

41.2 If

(a) the Employer has failed to pay the Contractor 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 Appendix (Terms and Procedures of Payment) to the Contract Agreement, or commits a substantial breach of the Contract, the Contractor may give a notice to the Employer that requires payment of such sum, with interest thereon as stipulated in GCC Subclause 12.3, requires approval of such invoice or supporting documents, or specifies the breach and requires the Employer to remedy the same, as the case may be. If the Employer 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, or fails to remedy the breach or take steps to remedy the breach within 14 days after receipt of the Contractor's notice; or

(b) the Contractor is unable to carry out any of its obligations under the Contract for any reason attributable to the Employer, including but not limited to the Employer's failure to provide possession of or access to the Site or other areas in accordance with GCC

Subclause 10.2, or failure to obtain any governmental permit necessary for the execution and/or completion of the Facilities,

then the Contractor may by 14 days' notice to the Employer suspend performance of all or any of its obligations under the Contract, or reduce the rate of progress.

41.3 If the Contractor's performance of its obligations is suspended, or the rate of progress is reduced pursuant to this GCC Clause 41, then the Time for Completion shall be extended in accordance with GCC Subclause 40.1, and any and all additional costs or expenses incurred by the Contractor as a result of such suspension or reduction shall be paid by the Employer to the Contractor in addition to the Contract Price, except in the case of suspension order or reduction in the rate of progress by reason of the Contractor's default or breach of the Contract.

41.4 During the period of suspension, the Contractor shall not remove from the Site any Plant, any part of the Facilities or any Contractor's Equipment, without the prior written consent of the Employer.

42. Termination

42.1 Termination for Employer's Convenience

42.1.1 The Employer may at any time terminate the Contract for any reason by giving the Contractor a notice of termination that refers to this GCC Subclause 42.1.

42.1.2 Upon receipt of the notice of termination under GCC Subclause 42.1.1, the Contractor shall, either immediately or upon the date specified in the notice of termination,

(a) cease all further work, except for such work as the Employer may specify in the notice of termination for the sole purpose of protecting that part of the Facilities 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 Employer pursuant to paragraph (d) (ii) below;

(c) remove all Contractor's Equipment from the Site, repatriate the Contractor's and its Subcontractors' personnel from the Site, remove from the Site any wreckage, rubbish and debris of any kind, and leave the whole of the Site in a clean and safe condition; and

(d) subject to the payment specified in GCC Subclause 42.1.3,

(i) deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination;

(ii) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Plant as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors; and

(iii) deliver to the Employer all non-proprietary drawings,

specifications and other documents prepared by the Contractor or its Subcontractors as at the date of termination in connection with the Facilities.

42.1.3 In the event of termination of the Contract under GCC Subclause 42.1.1, the Employer shall pay to the Contractor the following amounts:

(a) the Contract Price, properly attributable to the parts of the Facilities executed by the Contractor as of the date of termination;

(b) the costs reasonably incurred by the Contractor in the removal of the Contractor's Equipment from the Site and in the repatriation of the Contractor's and its Subcontractors' personnel;

(c) any amounts to be paid by the Contractor to its Subcontractors in connection with the termination of any subcontracts, including any cancellation charges;

(d) costs incurred by the Contractor in protecting the Facilities and leaving the Site in a clean and safe condition pursuant to paragraph (a) of GCC Subclause 42.1.2; and

(e) the cost of satisfying all other obligations, commitments and claims that the Contractor may in good faith have undertaken with third parties in connection with the Contract and that are not covered by paragraphs (a) through (d) above.

42.2 Termination for Contractor's Default

42.2.1 The Employer, 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 therefor to the Contractor, referring to this GCC Subclause 42.2:

(a) if the Contractor becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Contractor 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 Contractor takes or suffers any other analogous action in consequence of debt;

(b) if the Contractor assigns or transfers the Contract or any right or interest therein in violation of the provision of GCC Clause 43; and

(c) if the Contractor, in the judgment of the Employer has engaged in integrity violations, as defined in GCC Clause 6, in competing for or in executing the Contract.

42.2.2 If the Contractor

(a) has abandoned or repudiated the Contract;

(b) has without valid reason failed to commence work on the Facilities promptly or has suspended, other than pursuant to GCC Subclause 41.2, the progress of Contract performance for more than 28 days after receiving a written instruction from the Employer to proceed;

(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 Facilities in the manner specified in the program furnished under GCC Subclause 18.2 at rates of progress that give reasonable assurance to the Employer that the Contractor can attain Completion of the Facilities by the Time for Completion as extended;

then the Employer may, without prejudice to any other rights it may possess under the Contract, give a notice to the Contractor, stating the nature of the default and requiring the Contractor to remedy the same. If the Contractor fails to remedy or to take steps to remedy the same within 14 days of its receipt of such notice, then the Employer may terminate the Contract forthwith by giving a notice of termination to the Contractor that refers to this GCC Subclause 42.2.

42.2.3 Upon receipt of the notice of termination under GCC Subclauses 42.2.1 or 42.2.2, the Contractor 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 Employer may specify in the notice of termination for the sole purpose of protecting that part of the Facilities 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 Employer pursuant to paragraph (d) below;

(c) deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination;

(d) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Plant as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors; and

(e) deliver to the Employer all drawings, specifications and other documents prepared by the Contractor or its

Subcontractors as of the date of termination in connection with the Facilities.

42.2.4 The Employer may enter upon the Site, expel the Contractor, and complete the Facilities itself or by employing any third party. The Employer may, to the exclusion of any right of the Contractor over the same, take over and use with the payment of a fair rental rate to the Contractor, with all the maintenance costs to the account of the Employer and with an indemnification by the Employer for all liability including damage or injury to persons arising out of the Employer's use of such equipment, any Contractor's Equipment owned by the Contractor and on the Site in connection with the Facilities for such reasonable period as the Employer considers expedient for the supply and installation of the Facilities.

Upon completion of the Facilities or at such earlier date as the Employer thinks appropriate, the Employer shall give notice to the Contractor that such Contractor's Equipment will be returned to the Contractor at or near the Site and shall return such Contractor's Equipment to the Contractor in accordance with such notice. The Contractor shall thereafter without delay and at its cost remove or arrange removal of the same from the Site.

42.2.5 Subject to GCC Subclause 42.2.6, the Contractor shall be entitled to be paid the Contract Price attributable to the Facilities executed as of the date of termination, the value of any unused or partially used Plant on the Site, and the costs, if any, incurred in protecting the Facilities and in leaving the Site in a clean and safe condition pursuant to paragraph (a) of GCC Subclause 42.2.3. Any sums due the Employer from the Contractor accruing prior to the date of termination shall be deducted from the amount to be paid to the Contractor under this Contract.

42.2.6 If the Employer completes the Facilities, the cost of completing the Facilities by the Employer shall be determined.

If the sum that the Contractor is entitled to be paid, pursuant to GCC Subclause 42.2.5, plus the reasonable costs incurred by the Employer in completing the Facilities, exceeds the Contract Price, the Contractor shall be liable for such excess.

If such excess is greater than the sums due the Contractor under GCC Subclause 42.2.5, the Contractor shall pay the balance to the Employer, and if such excess is less than the sums due the Contractor under GCC Subclause 42.2.5, the Employer shall pay the balance to the Contractor.

The Employer and the Contractor shall agree, in writing, on the computation described above and the manner in which any sums shall be paid.

42.3 Termination by Contractor

42.3.1 If

(a) the Employer has failed to pay the Contractor 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 Appendix (Terms and Procedures of Payment) to the Contract Agreement, or commits a substantial breach of the Contract, the Contractor may give a notice to the Employer that requires payment of such sum, with interest thereon as stipulated in GCC Subclause 12.3, requires approval of such invoice or supporting documents, or specifies the breach and requires the Employer to remedy the same, as the case may be. If the Employer 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 14 days after receipt of the Contractor's notice; or

(b) the Contractor is unable to carry out any of its obligations under the Contract for any reason attributable to the Employer, including but not limited to the Employer'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 Facilities;

then the Contractor may give a notice to the Employer thereof, and if the Employer 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 28 days of such notice, or if the Contractor is still unable to carry out any of its obligations under the Contract for any reason attributable to the Employer within 28 days of the said notice, the Contractor may by a further notice to the Employer referring to this GCC Subclause 42.3.1, forthwith terminate the Contract.

42.3.2 The Contractor may terminate the Contract forthwith by giving a notice to the Employer to that effect, referring to this GCC Subclause 42.3.2, if the Employer 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 Employer takes or suffers any other analogous action in consequence of debt.

42.3.3 If the Contract is terminated under GCC Subclauses 42.3.1 or 42.3.2, then the Contractor shall immediately

(a) cease all further work, except for such work as may be necessary for the purpose of protecting that part of the Facilities 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 Employer pursuant to paragraph (d) (ii);

(c) remove all Contractor's Equipment from the Site and repatriate the Contractor's and its Subcontractors' personnel from the Site; and

(d) subject to the payment specified in GCC Subclause 42.3.4,

(i) deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination;

(ii) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Plant as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors; and

(iii) deliver to the Employer all drawings, specifications and other documents prepared by the Contractor or its Subcontractors as of the date of termination in connection with the Facilities.

42.3.4 If the Contract is terminated under GCC Subclauses 42.3.1 or 42.3.2, the Employer shall pay to the Contractor all payments specified in GCC Subclause42.1.3, and reasonable compensation for all loss, except for loss of profit, or damage sustained by the Contractor arising out of, in connection with or in consequence of such termination.

42.3.5 Termination by the Contractor pursuant to this GCC Subclause 42.3 is without prejudice to any other rights or remedies of the Contractor that may be exercised in lieu of or in addition to rights conferred by GCC Subclause 42.3.

42.4 In this GCC Clause 42, the expression “Facilities executed” shall include all work executed, Installation Services provided, and all Plant acquired, or subject to a legally binding obligation to purchase, by the Contractor and used or intended to be used for the purpose of the Facilities, up to and including the date of termination.

42.5 In this GCC Clause 42, in calculating any monies due from the Employer to the Contractor, account shall be taken of any sum previously paid by the Employer to the Contractor under the Contract, including any advance payment paid pursuant to the Appendix (Terms and Procedures of Payment) to the Contract Agreement.

43. Assignment

43.1 Neither the Employer nor the Contractor shall, without the express prior written consent of the other party which consent shall not be unreasonably withheld, assign to any third party the Contract or any part thereof, or any right, benefit, obligation or interest therein or thereunder, except that the Contractor 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. Claims, Disputes, and Arbitration

44. Contractor’s Claims

44.1 If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall submit a notice to the Project Manager, describing the event or circumstance giving rise to the claim. The notice shall be given

as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Subclause shall apply.

The Contractor shall also submit any other notices, which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Project Manager. Without admitting the Employer's liability, the Project Manager may, after receiving any notice under this Subclause, monitor the recordkeeping and/or instruct the Contractor to keep further contemporary records. The Contractor shall permit the Project Manager to inspect all these records, and shall (if instructed) submit copies to the Project Manager.

Within 42 days after the Contractor became aware (or should have become aware) of the event or circumstance giving rise to the claim, or within such other period as may be proposed by the Contractor and approved by the Project Manager, the Contractor shall send to the Project Manager a fully detailed claim, which includes full supporting particulars of the basis of the claim and of the extension of time and/or additional payment claimed. If the event or circumstance giving rise to the claim has a continuing effect,

(a) this fully detailed claim shall be considered as interim;

(b) the Contractor shall send further interim claims at monthly intervals, giving the accumulated delay and/or amount claimed, and such further particulars as the Project Manager may reasonably require; and

(c) the Contractor shall send a final claim within 28 days after the end of the effects resulting from the event or circumstance, or within such other period as may be proposed by the Contractor and approved by the Project Manager.

Within 42 days after receiving a claim or any further particulars supporting a previous claim, or within such other period as may be proposed by the Project Manager and approved by the Contractor, the Project Manager shall respond with approval, or with disapproval and detailed comments. He may also request any necessary further particulars, but shall nevertheless give his response on the principles of the claim within such time.

Each payment certificate shall include such amounts for any claim as have been reasonably substantiated as due under the relevant

provision of the Contract. Unless and until the particulars supplied are sufficient to substantiate the whole of the claim, the Contractor shall only be entitled to payment for such part of the claim as he has been able to substantiate.

The Project Manager shall agree with the Contractor or estimate: (i) the extension (if any) of the Time for Completion (before or after its expiry) in accordance with GCC Clause 40, and/or (ii) the additional payment (if any) to which the Contractor is entitled under the Contract.

The requirements of this Subclause are in addition to those of any other Subclause, which may apply to a claim. If the Contractor fails to comply with this or another Subclause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Subclause.

In the event that the Contractor and the Employer cannot agree on any matter relating to a claim, either party may refer the matter to the Dispute Board pursuant to GCC 45 hereof.

45. Disputes and Arbitration

45.1 Appointment of the Dispute Board

Disputes shall be referred to a Dispute Board for decision in accordance with GCC Subclause 45.3. The Parties shall appoint a Dispute Board by the date stated in the SCC.

The Dispute Board shall comprise, as stated in the SCC, either one or three suitably qualified persons ("the members"), each of whom shall be fluent in the language for communication defined in the Contract and shall be a professional experienced in the type of activities involved in the performance of the Contract and with the interpretation of contractual documents. If the number is not so stated and the Parties do not agree otherwise, the Dispute Board shall comprise three persons, one of whom shall serve as chairman.

If the Parties have not jointly appointed the Dispute Board 21 days before the date stated in the SCC and the Dispute Board is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The first two members shall recommend and the Parties shall agree upon the third member, who shall act as chairman.

However, if a list of potential members is included in the SCC, the members shall be selected from those on the list, other than anyone who is unable or unwilling to accept appointment to the Dispute Board.

The agreement between the Parties and either the sole member or each of the three members shall incorporate by reference the General Conditions of Dispute Board Agreement contained in the Appendix to these General Conditions, with such amendments as are agreed between them.

The terms of the remuneration of either the sole member or each of the

three members, including the remuneration of any expert whom the Dispute Board consults, shall be mutually agreed upon by the Parties when agreeing the terms of appointment of the member or such expert (as the case may be). Each Party shall be responsible for paying one-half of this remuneration.

If a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, a replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Subclause.

The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both Parties, the appointment of the Dispute Board (including each member) shall expire when the Operational Acceptance Certificate has been issued in accordance with GCC Clause 25.3.

45.2 Failure to Agree Dispute Board

If any of the following conditions apply, namely:

(a) the Parties fail to agree upon the appointment of the sole member of the Dispute Board by the date stated in the first paragraph of GCC Subclause 45.1;

(b) either Party fails to nominate a member (for approval by the other Party) of a Dispute Board of three persons by such date;

(c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the Dispute Board by such date; or

(d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation, or termination of appointment;

then the appointing entity or official named in the SCC shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the Dispute Board. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.

45.3 Obtaining Dispute Board's Decision

If a dispute (of any kind whatsoever) arises between the Parties in connection with the performance of the Contract, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Project Manager, either Party may refer the dispute in writing to the Dispute Board for its decision, with copies to the other Party and the Project Manager. Such reference shall state that it is given under this

Subclause.

For a Dispute Board of three persons, the Dispute Board shall be deemed to have received such reference on the date when it is received by the chairman of the Dispute Board.

Both Parties shall promptly make available to the Dispute Board all such additional information, further access to the Site, and appropriate facilities, as the Dispute Board may require for the purposes of making a decision on such dispute. The Dispute Board shall be deemed to be not acting as arbitrator(s).

Within 84 days after receiving such reference, or within such other period as may be proposed by the Dispute Board and approved by both Parties, the Dispute Board shall give its decision, which shall be reasoned and shall state that it is given under this Subclause. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the performance of the Facilities in accordance with the Contract.

If either Party is dissatisfied with the Dispute Board's decision, then either Party may, within 28 days after receiving the decision, give notice to the other Party of its dissatisfaction and intention to commence arbitration. If the Dispute Board fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference, then either Party may, within 28 days after this period has expired, give notice to the other Party of its dissatisfaction and intention to commence arbitration.

In either event, this notice of dissatisfaction shall state that it is given under this Subclause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in GCC Subclauses 45.6 and 45.7, neither Party shall be entitled to commence arbitration of a dispute unless a notice of dissatisfaction has been given in accordance with this Subclause.

If the Dispute Board has given its decision as to a matter in dispute to both Parties, and no notice of dissatisfaction has been given by either Party within 28 days after it received the Dispute Board's decision, then the decision shall become final and binding upon both Parties.

45.4 Amicable Settlement

Where notice of dissatisfaction has been given under GCC Subclause 45.3 above, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction and intention to commence arbitration was given, even if no attempt at amicable settlement has been made.

45.5 Arbitration

Unless settled amicably, any dispute in respect of which the Dispute Board's decision (if any) has not become final and binding shall be finally settled by international arbitration. Unless otherwise agreed by both Parties,

(a) arbitration proceedings shall be conducted as stated in the Special Conditions;

(b) if no arbitration proceedings is so stated, the dispute shall be finally settled by institutional arbitration under the Rules of Arbitration of the International Chamber of Commerce;

(c) the dispute shall be settled by three arbitrators; and

(d) the arbitration shall be conducted in the language for communications defined in GCC Subclause 5.3.

The arbitrator(s) shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Project Manager, and any decision of the Dispute Board, relevant to the dispute. Nothing shall disqualify the Project Manager from being called as a witness and giving evidence before the arbitrator(s) on any matter whatsoever relevant to the dispute.

Neither Party shall be limited in the proceedings before the arbitrator(s) to the evidence or arguments previously put before the Dispute Board to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the Dispute Board shall be admissible in evidence in the arbitration.

Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Project Manager and the Dispute Board shall not be altered by reason of any arbitration being conducted during the progress of the Works.

45.6 Failure to Comply with Dispute Board's Decision

In the event that a Party fails to comply with a Dispute Board decision which has become final and binding, then the other Party may, without prejudice to any other rights it may have, refer the failure itself to arbitration under GCC Subclause 45.5. GCC Subclauses 45.3 and 45.4 shall not apply to this reference.

45.7 Expiry of Dispute Board's Appointment

If a dispute arises between the Parties in connection with the performance of the Contract, and there is no Dispute Board in place, whether by reason of the expiry of the Dispute Board's appointment or otherwise,

(a) GCC Subclauses45.3 and 45.4shall not apply, and

(b) the dispute may be referred directly to arbitration under GCC Subclause 45.5.

APPENDIXA

General Conditions of Dispute Board Agreement

1 Definitions

Each “Dispute Board Agreement” is a tripartite agreement by and between

(a) the “Employer”;

(b) the “Contractor”; and

(c) the “Member” who is defined in the Dispute Board Agreement as being

(i) the sole member of the "Dispute Board" and, where this is the case, all references to the “Other Members” do not apply; or

(ii) one of the three persons who are jointly called the “Dispute Board”(or “dispute board”) and, where this is the case, the other two persons are called the “Other Members”.

The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Board Agreement, which incorporates this Appendix. In the Dispute Board Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.

2 General Provisions

Unless otherwise stated in the Dispute Board Agreement, it shall take effect on the latest of the following dates:

(a) the Commencement Date defined in the Contract;

(b) when the Employer, the Contractor and the Member have each signed the Dispute Board Agreement; or

(c) when the Employer, the Contractor and each of the Other Members (if any) have respectively each signed a dispute board agreement.

This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 days’ notice of resignation to the Employer and to the Contractor, and the Dispute Board Agreement shall terminate upon the expiry of this period.

3 Warranties

The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Project Manager. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.

When appointing the Member, the Employer and the Contractor relied upon the Member’s representations that he/she is

(a) experienced in the work, which the Contractor is to carry out under the Contract,

(b) experienced in the interpretation of contract documentation, and

(c) fluent in the language for communications defined in the Contract.

4 General Obligations of the Member

The Member shall

(a) have no interest financial or otherwise in the Employer, the Contractor or the Project Manager, nor any financial interest in the Contract except for payment under the Dispute Board Agreement;

(b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor, or the Project Manager, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Board Agreement;

(c) have disclosed in writing to the Employer, the Contractor, and the Other Members (if any), before entering into the Dispute Board Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer, or employee of the Employer, the Contractor, or the Project Manager, and any previous involvement in the overall project of which the Contract forms part;

(d) not, for the duration of the Dispute Board Agreement, be employed as a consultant or otherwise by the Employer, the Contractor, or the Project Manager, except as may be agreed in writing by the Employer, the Contractor, and the Other Members (if any);

(e) comply with the annexed procedural rules and with GCC Subclause 45.3;

(f) not give advice to the Employer, the Contractor, the Employer's Personnel, or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;

(g) not while a Member enter into discussions or make any agreement with the Employer, the Contractor, or the Project Manager regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the Dispute Board Agreement;

(h) ensure his/her availability for all site visits and hearings as are necessary;

(i) become conversant with the Contract and with the progress of the Facilities (and of any other parts of the project of which the Contract forms part) by studying all documents received, which shall be maintained in a current working file;

(j) treat the details of the Contract and all the Dispute Board's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor, and the Other Members (if any); and

(k) be available to give advice and opinions on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members (if any).

5 General Obligations of the Employer and the Contractor

The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the Dispute Board's activities under the Contract and the Dispute Board Agreement. The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.

The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any)

(a) be appointed as an arbitrator in any arbitration under the Contract;

(b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or

(c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith.

The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless against and from claims from which he is relieved from liability under the preceding paragraph.

Whenever the Employer or the Contractor refers a dispute to the Dispute Board under GCC Subclause 45.3, which will require the Member to make a site visit and attend a hearing, the Employer or the Contractor shall provide appropriate security for a sum equivalent to the reasonable expenses to be incurred by the Member. No account shall be taken of any other payments due or paid to the Member.

6 Payment

The Member shall be paid as follows, in the currency named in the Dispute Board Agreement:

(a) a retainer fee per calendar month, which shall be considered as payment in full for

(i) being available on 28 days' notice for all site visits and hearings;

(ii) becoming and remaining conversant with all project developments and maintaining relevant files;

(iii) all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his duties; and

(iv) all services performed hereunder except those referred to in sub-paragraphs (b) and (c) of this Clause.

The retainer fee shall be paid with effect from the last day of the calendar month in which the Dispute Board Agreement becomes effective; until the last day of the calendar month in which the Taking-Over Certificate is issued for the whole of the Works.

With effect from the first day of the calendar month following the month in which Taking-Over Certificate is issued for the whole of the Works, the retainer fee shall be reduced by one-third. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the Dispute Board Agreement is otherwise terminated.

(b) a daily fee, which shall be considered as payment in full for

(i) each day or part of a day up to a maximum of 2 days' travel time in each direction for the journey between the Member's home and the site, or another location of a meeting with the Other Members (if any);

(ii) each working day on site visits, hearings, or preparing decisions; and

(iii) each day spent reading submissions in preparation for a hearing.

(c) all reasonable expenses, including necessary travel expenses (air fare in less than first class, hotel and subsistence and other direct travel expenses) incurred in connection with the Member's duties, as well as the cost of telephone calls, courier charges, facsimiles, and telexes, and use of the internet: a receipt shall be required for each item in excess of 5%of the daily fee referred to in sub-paragraph (b) of this Clause;

(d) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

The retainer and daily fees shall be as specified in the Dispute Board Agreement. Unless it specifies otherwise, these fees shall remain fixed for the first 24 calendar months, and shall thereafter be adjusted by agreement between the Employer, the Contractor and the Member, at each anniversary of the date on which the Dispute Board Agreement became effective.

If the parties fail to agree on the retainer fee or the daily fee, the appointing entity or official named in the SCC shall determine the amount of the fees to be used.

The Member shall submit invoices for payment of the monthly retainer and air fares quarterly in advance. Invoices for other expenses and for daily fees shall be submitted following the conclusion of a site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.

The Contractor shall pay each of the Member's invoices in full within 56 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the Dispute Board Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the Dispute Board; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in accordance with GCC Subclause 12.3.

If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice under Clause 7.

7 Termination

At any time: (i) the Employer and the Contractor may jointly terminate the Dispute Board Agreement by giving 42 days' notice to the Member, or (ii) the Member may resign as provided for in Clause 2.

If the Member fails to comply with the Dispute Board Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.

If the Employer or the Contractor fails to comply with the Dispute Board Agreement, the Member may, without prejudice to his other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.

Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.

8 Default of the Member

If the Member fails to comply with any of his obligations under Clause 4 concerning his impartiality or independence in relation to the Employer or the Contractor, he/she shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the Dispute Board which are rendered void or ineffective by the said failure to comply.

9 Disputes

Any dispute or claim arising out of or in connection with this Dispute Board Agreement, or the breach, termination or invalidity thereof, shall be finally settled by institutional arbitration. If no other arbitration institute is agreed, the arbitration shall be conducted under the Rules of Arbitration of the International Chamber of Commerce by one arbitrator appointed in accordance with these Rules of Arbitration.

Annex - DISPUTE BOARD GUIDELINES

1. Unless otherwise agreed by the Employer and the Contractor, the Dispute Board shall visit the site at intervals of not more than 140 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor, and the Dispute Board, the period between consecutive visits shall not be less than 70 days, except as required to convene a hearing as described below.

2. The timing of and agenda for each site visit shall be as agreed jointly by the Dispute Board, the Employer, and the Contractor, or in the absence of agreement, shall be decided by the Dispute Board. The purpose of site visits is to enable the Dispute Board to become and remain acquainted with the progress of the Works and of any actual or potential problems or claims, and, as far as reasonable, to prevent potential problems or claims from becoming disputes.

3. Site visits shall be attended by the Employer, the Contractor, and the Project Manager and shall be coordinated by the Employer in cooperation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each site visit and before leaving the site, the Dispute Board shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.

4. The Employer and the Contractor shall furnish to the Dispute Board one copy of all documents which the Dispute Board may request, including Contract documents, progress reports, variation instructions, certificates, and other documents pertinent to the performance of the Contract. All communications between the Dispute Board and the Employer or the Contractor shall be copied to the other Party. If the Dispute Board comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.

5. If any dispute is referred to the Dispute Board in accordance with GCC Subclause 45.3, the Dispute Board shall proceed in accordance with GCC Subclause 45.3 and these Guidelines. Subject to the time allowed to give notice of a decision and other relevant factors, the Dispute Board shall

   (a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case; and

   (b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.

6. The Dispute Board may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.

7. Except as otherwise agreed in writing by the Employer and the Contractor, the Dispute Board shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor, and the Project Manager, and to proceed in the absence of any party who the Dispute Board is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.

8. The Employer and the Contractor empower the Dispute Board, among other things, to

   (a) establish the procedure to be applied in deciding a dispute;

(b) decide upon the Dispute Board's own jurisdiction, and as to the scope of any dispute referred to it;

(c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Guidelines;

(d) take the initiative in ascertaining the facts and matters required for a decision;

(e) make use of its own specialist knowledge, if any;

(f) decide upon the payment of financing charges in accordance with the Contract;

(g) decide upon any provisional relief such as interim or conservatory measures;

(h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Project Manager, relevant to the dispute; and

(i) appoint, should the Dispute Board so consider necessary and the Parties agree, a suitable expert at the cost of the Parties to give advice on a specific matter relevant to the dispute.

9. The Dispute Board shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the Dispute Board shall make and give its decision in accordance with GCC Subclause 45.3, or as otherwise agreed by the Employer and the Contractor in writing. If the Dispute Board comprises three persons

(a) it shall convene in private after a hearing, in order to have discussions and prepare its decision;

(b) it shall endeavour to reach a unanimous decision: if this proves impossible the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and

(c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless

(i) either the Employer or the Contractor does not agree that they do so, or

(ii) the absent Member is the chairman and he/she instructs the other Members to not make a decision.

Section 8

Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC. The clause number of the SCC is the corresponding clause number of the GCC.

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1. Definitions

Following definitions are supplemented as below:

The Employer is:

Power Grid Company of Bangladesh Limited (PGCB)

Registered Office:

Power Grid Company of Bangladesh Ltd.
PGCB Bhaban, Avenue-3, Jahurul Islam City, Aftabnagar, Badda, Dhaka-1212

Head Office:

Power Grid Company Of Bangladesh Ltd.
PGCB Bhaban, Avenue-3, Jahurul Islam City, Aftabnagar, Badda, Dhaka-1212
Phone: +88 02 550467 31-35
Fax: +88-02-55046722

The Project Manager is:

Chief Engineer & Project Director,
Dhaka and Western Zone Transmission Grid Expansion Project,
Power Grid Company of Bangladesh Limited
Phone: +88 02 550467 31-35
Fax: +88 02 55046722

The Bank is:

Asian Development Bank (ADB) and Asian Infrastructure Investment Bank (AIIB) will finance the Project. AIIB funding will be used for this Contract. The ADB Procurement Policy (2017, as amended from time to time) and Procurement Regulations for ADB Borrowers (2017, as amended from time to time) apply, and ADB will be the focal point in all matters relating to procurement, financial management, and compliance with ADB's Safeguard Policy (2009, as amended from time to time).

Country of Origin:

All countries as indicated in Section 5 - Eligible Countries.

5. Law and Language

5.1 The Contract shall be interpreted in accordance with the laws of:

The Peoples Republic of Bangladesh

5.2 The ruling language is:

English

5.3 The language for communications is:

English

7. Scope of Facilities

7.3 The Contractor agrees to supply spare parts for a period of years: **5 (five) years**

The Contractor shall carry sufficient inventories to ensure an ex-stock supply of consumable spares for the Plant. Other spare parts and components shall be supplied as promptly as possible, but at the most within 6 months of placing the order and opening the letter of credit. In addition, in the event of termination of the production of spare parts, advance notification will be made to the Employer of the pending termination, with sufficient time to permit the Employer to procure the needed requirement. Following such termination, the Contractor will furnish to the extent possible and at no cost to the Employer the blueprints, drawings and specifications of the spare parts, if requested.

8. Time for Commencement and Completion

8.1 The Contractor shall commence work on the FACILITIES within **30 (thirty) days** from the Effective Date for determining Time for Completion as specified in the CONTRACT AGREEMENT.

8.2 The Time for Completion of the whole of the facilities shall be 900 (nine hundred) days from the Effective Date as described in the Contract Agreement.

A New Clause 8.3 is added:

8.3. The Contractor can start work on site only when the (C) ESMP has been approved by the Employer.

9. Contractor's Responsibilities

A new Sub-Clause 9.8.c) is added:

9.8 (c) Within 28 days of the Commencement Date the Contractor shall submit a detailed Site Specific Environmental Management Plan (SSEMP) for the Project Manager's no objection showing how he/she intends to comply with environmental laws and regulations and other specific requirements prescribed in the Contract, addressing all the monitoring and mitigation measures set forth in the Initial Environmental Examination ("IEE") and the Environmental Management

Plan ("EMP") of the project attached in this section. Work shall not commence on the Site until the no objection of SSEMP has been obtained from the Project Manager and is being implemented. Such acceptance by the Project Manager shall not relieve the Contractor of any of his obligations or responsibilities under the Contract.

The Contractor shall (a) establish an operational system for managing environmental impacts, (b) comply with the approved SSEMP and any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor the implementation of the project EMP through the SSEMP, (c) allocate the budget required to ensure that such measures, requirements and actions are carried out, (d) submit semi-annual reports on the compliance of such measures to the Employer.

Where unanticipated environmental risks or impacts become apparent during the Contract, the Contractor is required to update the SSEMP to outline the potential impacts to site works and associated mitigation measures for the Project Manager's approval.

A New Clause 9.9 is added

The Contractor shall supply any raw materials, utilities, lubricants, chemicals, catalysts, facilities, services and other matters in an amount sufficient to carry out the pre-commissioning, commissioning and guarantee tests as prescribed and required in the Scope of Works under the Contract.

A new Clause 9.10 is added

The Contractor, immediately after notification of award, shall provide the Employer free of charge with 8 (eight) hardcopies of all engineering data, drawings and descriptive materials submitted with the bid, which will form part of the contract.

A new Clause 9.11is added

The Contractor, at his own cost, within 30 (thirty) days after contract signature, shall provide the Employer with fifteen (15) hard copies of the CONTRACT DOCUMENT.

10. Employer's Responsibilities

10.2 The Employer shall be responsible for acquiring and providing legal and physical possession of the Site and access thereto, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract, as specified in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement. The Employer shall give full possession of and access thereto on or before the date(s) specified in that Appendix.

The following shall be added at the end of Sub-Clause 10.3:

"Subject to Sub-Clause 10.7, any additional field data and drawing required for permits, approvals, and/or licenses from all local, state, or national government authorities, or public service undertakings, which are not required to be supplied by the Employer in the Appendix (Scope of Works and Supply by the Employer), shall be provided by the Contractor."

The following Texts shall be deleted from Sub-Clause 10.5:

shall supply and make available all raw materials, utilities, lubricants, chemicals, catalysts, other materials and facilities;

11. Contract Price

11.2 The Contract Price shall be adjusted in accordance with the provisions of Appendix-2 (Price Adjustment) to the Contract Agreement and on the actual quantity of Plant and Installation Services completed by the Contractor during the Contract Execution Stage. Payment will be made on the actual quantity of Plant and Installation Services that will be completed by the Contractor during the Contract Execution Stage.

13. Securities

The following shall be added at the end of Sub-Clause 13.3.1:

13.3.1 The amount of performance security, as a percentage of the Contract Price for the Facility, shall be **10% of the contract price.**

The following shall be added at the end of Sub-Clause 13.3.2:

13.3.2 The performance security shall be in the form of the **unconditional bank guarantee** as per form included in Section 9 (Contract Forms).

In case the institution issuing the security is located outside of Bangladesh, it shall have a correspondent financial institution located in the territory of Bangladesh to make it enforceable.

13.3.3 The performance security shall not be reduced on the date of the operational acceptance.

14. Taxes and Duties

The following paragraph is added at the end of the Sub-Clause 14.1:

While making payment to the Contractor or instructing the respective bank to effect the payment to the Contractor, the Employer is entitled to deduct income tax at source at applicable rate(s),

which is required as per law of the Employer's country from Schedule 2, 3 & 4. In the event of withholding of income tax, the same shall be withheld and deposited to the govt. exchequer in the credit of Contractor by the Employer as per prevailing law of the Employer's country and evidence thereof shall be furnished to the Contractor.

The Contractor shall be entirely responsible for payment of all taxes including sales tax or VAT, stamp duties, licence fees and other such levies imposed inside the Employer's country, for purchasing any goods or services by them from any supplier(s), which may be required in the course of supply of all items and services mentioned in this contract.

Sub-Clause 14.2 is replaced with the following:

a. Any material import from abroad under price schedule No.1 shall be considered as the direct import of the Employer. Employer shall bear and promptly pay all relevant customs and import duties as well as other local taxes, e.g., a value added tax (VAT), advance income tax (AIT) and other charges, which imposed by the law of the country, that are to be incorporated into the facilities. Accordingly, the items under-price schedule No.1 shall be quoted exclusive of customs duties, VAT, AIT and other relevant duties and taxes related to custom clearance.

Applicable VAT at the time of making payment to the Contractor as VDS (VAT deduction at source) for any or all of the items under the price schedule of this contract shall bear by the Employer and deposit the same to the govt. exchequer as per prevailing law of the Employer's Country. The Bidder shall quote bid-prices of all items of the price schedules under this contract exclusive of VDS.
The Contractor shall be entirely responsible for payment of all taxes including sales tax or VAT, stamp duties, licence fees and other such levies imposed outside the Employer's country.

b. The Employer shall not be responsible for the payment of Customs Duties and VAT at Customs Clearing stage for the items specified in Price Schedule No.4 .The Contractor shall be responsible for the payment of customs duties and VAT, income tax, other charges and levies for the items imported for civil works material specified in Price Schedule No.4.

c. The Contractor shall, at his cost and expense, secure any work permit, labour permit, tax clearance, tax exemption certificate and any other authorization, which may be required by the Government of Bangladesh to permit imported personnel of Contractor and his Subcontractors to perform their work at site.

d. The Contractor shall be liable to the Employer for customs duties and taxes paid by the Employer, and for other lawful taxes which may be or may become payable on the Contractor's equipment, tools and supplies imported for the works and subsequently sold in Bangladesh. The Contractor has to obtain the permission of the Employer prior to any sale.

e. To obtain the necessary import permits and satisfy the requirements of the customs authorities, the Employer requires the following documentation:

Within 60 days of contract signature, the Contractor shall submit a detailed delivery schedule of plant he is to provide under the contract, indicating the type of equipment, name of the Manufacturer and country of origin. Six copies of the schedule have to be submitted to the Employer.

On behalf of the Government of Bangladesh, the Ministry of Commerce annually issues a schedule of import-protected items. The Contractor shall be responsible for advising the Project Manager of any plant he intends to ship under the contract, which is import-protected. The Project Manager has to receive this advice at least four months before the plant reaches Bangladesh in order to permit the Employer to obtain the necessary import permits.

For the shipment of plant, shipping documents need to be distributed as follows:

(i) To the Project Director, Power Grid Company of Bangladesh Ltd, Aftabnagar, Badda, Dhaka 1212, Bangladesh:

1 original plus 10 copies of the invoices endorsed by the Contractor
1 negotiable plus 10 copies of the bill of lading endorsed by the Contractor
1 original plus 10 copies of the insurance certificate
10 copies of packing lists
10 copies of the freight memo
1 original plus 10 copies of the certificate of origin
10 copies of the insurance invoice
10 copies of the application for payment
10 copies of the pre-shipment inspection certificate or waiver thereof

(ii) To the Project Manager:

2 copies of the above documentation

(iii) To the Representative of Project Manager:

2 copies of the above documentation.

f. Import licenses and permits for the plant shall be obtained by the Employer at no cost to the Contractor. No import and export customs duties levied on food of any sort or personal effects imported for consumption by the Contractor's imported personnel shall be paid by the Employer.

g. If, however, after payment of customs and import duties by the Employer, goods are discovered to have arrived in Bangladesh in such a badly damaged condition due to the Contractor's negligence that they have to be replaced by the contractor, the Contractor will be responsible for the payment of the customs and import duties levied on all of the replacement of the imported plant and machinery.

h. The Contractor will be responsible for payment of all costs, with the exception of those costs that are specifically to the account of the Employer as described in SCC 14.2(a), related to clearances of plant and Contractor's equipment at the port of entry. The Contractor shall perform all necessary customs formalities for clearance of materials from the port in consultation with PGCB.

i. It is the Contractor's responsibility to ensure that all negotiable shipping documentation and all necessary import information are forwarded to the Employer so the Employer receives them in Bangladesh at least 14 days prior to the arrival of the ship in the Bangladesh port. Demurrage

and any other charges resulting from the lack of documents or incorrect documentation received in Bangladesh shall be to the Contractor's account.

18. Work Program

The following text is added at the end of Sub-Clause 18.3:

"(c) monitoring of the obligations in Sub-Clauses 22.2.1, 22.2.3, 22.2.4, 22.2.7(a), 22.2.15, 22.2.16, 21.1, 22.1.1, 22.2.3(d), 22.2.7(d) and 47 "

19. Subcontracting

Replacing Sub-Clause 19.3:

19.3 For items or parts of the Facilities not specified in the Appendix (List of Major Items of Supply and Services and List of Approved Subcontractors for Major Items) to the Contract Agreement, the Contractor may employ such Subcontractors subject to written approval of Employer's Representative (Project Manager &Engineer).

The following Sub-Clause 19.6. is added:

19.6 The Contractor shall not subcontract the whole of the facilities.

21. Procurement

The following text is added at the end of Sub-Clause 21.1 Materials:

The Contractor shall adequately record the condition of roads, agricultural land and other infrastructure prior to the start of transporting materials, goods and equipment, and construction."

22. Installation

The following text is added at the end of Sub-Clause 22.1.1 Benchmark, end of sub-paragraph a):

"The Contractor shall comply with (i) the measures and requirements relevant to the Contractor which are set forth in the "Resettlement Plan (RP)" and "Environmental Management Plan (EMP)" and attached hereto as Appendix 1 to 3 to the extent it concerns impacts on affected people during construction; and (ii) any corrective or preventive actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor implementation of the resettlement plan. CAPs need to be ensured in the corresponding substations before the contractor is given entry. "Corrective Action Plan (CAP)" is attached hereto as Appendix 4.

The Contractor shall allocate a budget for compliance with these measures, requirements and actions."

The following text is added at the end of Sub-Clause 22.2.3 Labour Laws, as sub-clause

22.2.3 (d):

The Contractor shall not make employment decisions based upon personal characteristics unrelated to job requirements. The Contractor shall base the employment relationship upon equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment or retirement, and discipline. The Contractor shall provide equal wages and benefits to men and women for work of equal value or type.

The following text is added at the end of Sub-Clause 22.2.5:

d) Normal working hours are from 9:00 am to 5:00 pm.

22.2.7 Health and Safety

(d) The Contractor shall throughout the contract (including the Defect Liability Period):

(i) conduct Information, Education and Consultation Communication (IEC) campaigns, at least every other month, addressed to all the Site staff and labour (including all the Contractor's employees, all Sub-Contractors and Employer's and Project Manager's employees, and all truck drivers and crew making deliveries to Site for construction activities) and to the immediate local communities particularly women, concerning the risks, dangers and impact, and appropriate avoidance behaviour with respect to of Sexually Transmitted Diseases (STD) - or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular;

(ii) provide male or female condoms for all Site staff and labour as appropriate; and

(iii) provide for STI and HIV/AIDS screening, diagnosis, counselling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labour.

(iv) conduct health and safety programs for workers employed under the project, and shall include information on the trafficking of women and the risk of sexually transmitted diseases, including HIV/AIDs in such programs

The Contractor shall include in the program to be submitted for the execution of the Facilities under Subclause 18.2 an alleviation program for Site staff and labour and their families in respect of Sexually Transmitted Infections (STI) and Sexually Transmitted Diseases (STD) including HIV/AIDS. The STI, STD and HIV/AIDS alleviation program shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Subclause and the related specification. For each component, the program shall detail the resources to be provided or utilized and any related sub-contracting proposed. The program shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for the preparation and implementation this program shall not exceed the amount dedicated for this purpose.

(e) The Contractor is responsible for establishment of preventive and emergency preparedness and response measures to avoid, and where avoidance is not possible, to minimize, adverse impacts and risks of the construction site work to the health and safety of local communities.

Within 28 days of the Commencement Date the Contractor shall submit a detailed Site Specific Health and Safety Management Plan (SSHSMP) for the Project Manager’s no objection

showing how he/she intends to comply with the local Health and Safety laws and regulations and other specific requirements prescribed in the Contract, taking into account the Initial Environmental Examination ("IEE") and the Environmental Management Plan ("EMP") of the project attached in this section. Work shall not commence on the Site until the confirmation of no objection of the SSHSMP has been obtained from the Project Manager and is being implemented. Such confirmation of no objection by the Project Manager shall not relieve the Contractor of any of his/her obligations or responsibilities under the Contract.

Where unanticipated health and safety hazards or risks become apparent during the Contract, the Contractor is required to update the SSHSMP to outline the potential impacts to site works and associated mitigation measures for the Project Manager's no objection.

The Contractor shall comply with the approved SSHSMP and any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor the implementation of the project EMP through the SSHSMP.

In particular, the Contractor is required to provide all personnel on site including Employer's Personnel and visitors with personal protective equipment, including protection for feet (safety boots), head, eyes, ears (safety helmets) and hands, etc. , in accordance with the Contractor's SSHSMP prepared in accordance with Sub-Clause 4.8 [Safety Procedures]. The Contractor should ensure that his Subcontractors comply with the SSHSMP and provide all such necessary equipment to their personnel.

The Contractor shall bear the costs to ensure that such measures, requirements and actions are carried out.

The Contractor shall submit semi-annual reports on the compliance of such measures to the Employer.

Sub-Clause 22.2.16 is replaced by the following:

The Contractor shall not employ any child to perform any work, including work that is economically exploitative, or is likely to be hazardous to, 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. "Child" means a child below the statutory minimum age specified under applicable national, provincial or local law.

The following Sub-clause is added

22.2.17: **Respectful Work Environment**

The Contractor shall ensure that its employees and sub-contractors observe the highest ethical standards and refrain from any form of bullying, discrimination, misconduct and harassment, including sexual harassment and shall, at all times, behave in a manner that creates an environment free of unethical behavior, bullying, misconduct and harassment, including sexual harassment. The Contractor shall take appropriate action against any employees or sub-contractors, including suspension or termination of employment or sub-contract, if any form of unethical or inappropriate behavior is identified.

The Contractor shall conduct training programs for its employees and sub-contractors to raise awareness on and prevent any form of bullying, discrimination, misconduct and harassment including sexual harassment, and to promote a respectful work environment. The Contractor shall keep an up to date

record of its employees and subcontractors who have attended and completed such training programs and provide such records to the Employer or the Engineer at their first written request.

22.2.18: Workers' Organizations

In countries where the relevant labor laws recognize workers' rights to form and to join workers' organizations of their choosing without interference and to bargain collectively, the Contractor shall comply with such laws. Where the relevant labor laws substantially restrict workers' organizations, the Contractor shall enable alternative means for the Contractor's Personnel to express their grievances and protect their rights regarding working conditions and terms of employment. In either case described above, and where the relevant labor laws are silent, the Contractor shall not discourage the Contractor's Personnel from forming or joining workers' organizations of their choosing or from bargaining collectively, and shall not discriminate or retaliate against the Contractor's Personnel who participate, or seek to participate, in such organizations and bargain collectively. The Contractor shall engage with such workers' representatives. Workers' organizations are expected to fairly represent the workers in the workforce."

24. Completion of the Facilities

The 2nd paragraph of Sub-Clause GCC 24.2 is deleted.

Sub-Clause 24.3 is replaced by the following:

As soon as reasonably practicable after the operating and maintenance personnel have been supplied by the Employer in accordance with GC Sub-Clause 24.2, the Contractor shall commence Pre-commissioning of the Facilities or the relevant part thereof in preparation for Commissioning, subject to GC Sub-Clause 25.

Sub-clause 24.9

Upon the completion of construction, the Contractor shall fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition as recorded by the Contractor in consonance with its obligation in Clause 21.1.

25. Commissioning and Operational Acceptance

SCC 25.1.2 Replacing Sub-Clause GC 25.1.2 with the following:

The Employer shall deploy the operating and maintenance personnel pursuant to GC Subclause 10.5 and the Contractor shall provide all materials and support services pursuant to GC Sub-clause 9.9 as required for Commissioning.

The following paragraph is added at the end of Sub-Clause 25.1.3:

Immediately after the Commissioning, the Contractor shall so notify the Project Manager in writing.

25.2.2 The Guarantee Test of the Facilities shall be successfully completed within 180 (one hundred eighty) days from the date of Completion.

26. Completion Time Guarantee

26.2 Applicable rate for liquidated damages: **0.5% (zero point five percent) of the contract price or the relevant part thereof per week**.

Maximum deduction for liquidated damages: **10% (ten percent) of the contract price**

26.3 No bonus will be given for earlier completion of the facilities or part thereof.

27. Defect Liability

The first paragraph of Sub-Clause 27.2 is replaced by the following:

The Defect Liability Period shall be twelve (12) months from the date of Operational Acceptance of facilities for all equipment/materials.

27.10 Not applicable.

35. Unforeseen Conditions

The following texts are added at the end of sub-clause 35.3:

In addition to notice of any Unforeseeable physical conditions, the Contractor shall provide the Project Manager with a written notice of any unanticipated environmental and/or social risks and impacts that arise during construction, implementation or operation of the Plant or Permanent Works, which were not considered in the IEE, the EMP, the RP attached hereto as Appendix 1 through Appendix 3.

45. Disputes and Arbitration

45.1 The Dispute Board shall be appointed within **30 (thirty) days** after the Effective Date.

The Dispute Board shall consists of **3 (three) members**.

45.2 Appointment (if not agreed) to be made by:

Head, Department of Electrical & Electronics Engineering, Bangladesh University of Engineering & Technology, Bangladesh

The appointing entity or official must not, in any way, be related or connected to the Employer or Contractor.

45.5 Rules of procedure for arbitration proceedings:

(a) Contracts with foreign Contractors:

International arbitration shall be conducted in accordance with the Rules of the Singapore International Arbitration Centre (SIAC).

Arbitration shall be administered by the Singapore International Arbitration Centre (SIAC).

The place of arbitration shall be the place of the institution administering the arbitration.

(b) Contracts with Contractors being nationals of the Employer's country:

Arbitration shall be conducted in accordance with the “Bangladesh Arbitration Act 2001”.

The place of arbitration shall be Dhaka, Bangladesh

46. Eligibility

46.1 The Contractor shall have the nationality of any country.The Contractor shall be deemed to have the nationality of a country if the Contractor is a citizen or is constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed Subcontractors or Suppliers for any part of the Contract including related services.

46.2 The materials, equipment and services to be supplied under the contract shall have their origin in eligible source countries, and all expenditures under the contract will be limited to such materials, equipment, and services. At the Employer's request, the Contractor may be required to provide evidence of the origin of materials, equipment and services.

46.3 For the purposes of SCC 46.2, "origin" means the place where the materials and equipment are mined, grown, produced or manufactured, and from which the services are provided.Materials and equipment are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that differs substantially in its basic characteristics or in purpose or utility from its components.

47. Environmental Management Plan

The Contractor shall comply with all applicable national, provincial and local environmental laws and regulations.

The Contractor shall (a) establish an operational system for managing environmental impacts, (b) carry out all of the monitoring and mitigation measures set forth in the [Initial Environmental Examination ("lEE")] or [Environmental Management Plan ("EMP")] and (c) allocate the budget required to ensure that such measures are carried out. The Contractor shall submit semi-annual reports on the carrying out of such measures to the Employer.

More particularly, the Contractor shall comply with (i) the measures and requirements set forth in the initial environmental examination and the environmental management plan attached here-

to as Appendix [2,3]; and (ii) any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor implementation of the initial environmental examination and the environmental management plan.
The Contractor shall allocate a budget for compliance with these measures, requirements and actions."

Appendix to SCC will be provided (in PDF form) with the bidding document:

1. Resettlement Plan (RP)
2. Initial Environment Examination (IEE)
3. Environment Management Plan (EMP)
4. Corrective Action Plan (CAP)

Contract Forms

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Notice of Intention for Award of Contract

[*on letterhead paper of the Employer*]

[*date of notification*]

To: [*name of the Bidder*]
Attention: [*insert name of the Bidder's authorized representative*]
Address: [*insert address of the Bidder's authorized representative*]
Telephone/Fax numbers: [*insert telephone/fax numbers of the Bidder's authorized representative*]
E-mail Address: [*insert e-mail address of the Bidder's authorized representative*]

This is to notify you of our intention to award the contract [*insert name of the contract and identification number, as given in the Bid Data Sheet*]. You have [*insert number of days as specified in ITB 42.1 of the BDS*] days, from the date of this notification to (i) request for a debriefing in relation to the evaluation of your Bid, and/or (ii) submit a bidding-related complaint in relation to the intention for award of contract, in accordance with the procedures specified in ITB 47.1.

The summary of the evaluation are as follows:

1. List of Bidders

Name of Bidder	Bid Price as Read Out at Opening	Evaluated Bid Price

2. Reason/s Why Your Bid Was Unsuccessful

……
……
……

3. The Successful Bidder

Name of Bidder:	
Address:	
Contract Price:	
Duration of Contract:	
Scope of the Contract Awarded:	
Amount Performance Security Required:	

Authorized Signature: ……

Name and Title of Signatory: ……

Name of Agency: ……

Notification of Award

[Employer's letterhead]

Letter of Acceptance

No. : _____
Date : _____

To:

_____
_____
_____
(Name and address of the Contractor)

This is to notify you that your Bid No. _____ [*Number of bid*] dated _____ [*Date of Bid*] for execution of:

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8)_Retender.

Contract No.:PGCB/AIIB/L8374/DWZTGEP/GIS/P8 (Re-tender)

for the Contract Price in the aggregate of:

_____
(amount of foreign currency in numbers and words), (name of foreign currency), and (amount of local currency in numbers and words)

as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance with the Conditions of Contract and any additional security required as a result of the evaluation of your bid, using for that purpose one of the Performance Security Forms included in Section 9 (Contract Forms) of the Bidding Document.

You are, requested to convey your written and unconditional acceptance of this Notification of Award until _____ *(deadline).*

You are requested to submit _____ *(Number of sets)*sets of the Draft Contract Documents until _____ *(date).*

You are also requested to send your authorized representative(s),for the finalization of the contract documents until _____ *(date)*

A copy of the unsigned Contract of Agreement is enclosed for your necessary actions

Yours sincerely,

_____

The Company Secretary

Power Grid Company of Bangladesh Limited (PGCB)
Head Office, 2nd Floor
Avenue-03, Jahurul Islam City, Aftabnagar,Badda, Dhaka-1212, Bangladesh

Copy to:

1. Managing Director, Power Grid Company of Bangladesh Ltd.
   Head Office (2nd Floor), Aftabnagar, Badda, Dhaka-1212.
2. Executive Director (P&D) / (Finance), Power Grid Company of Bangladesh Ltd., Dhaka,
   Head Office (2nd Floor), Aftabnagar, Badda, Dhaka-1212.
3. CE (P&D), Power Grid Company of Bangladesh Ltd.
   Head Office (4th Floor), Aftabnagar, Badda, Dhaka-1212.
4. Project Director, PGCB, Dhaka.
5. SE (Contract/SSD& QC), Power Grid Company of Bangladesh Ltd., Dhaka,
   Head Office (4th Floor), Aftabnagar, Badda, Dhaka-1212.

Attachment: Contract of Agreement

Contract Agreement

THIS AGREEMENT made in Dhaka on the _____of _____, _____*year*,
(day) *(month)* *(year)*

BETWEEN

M/s. Power Grid Company of Bangladesh LTD. (PGCB),

(1) an Enterprise of Bangladesh Power Development Board, duly incorporated under the Company's Act, 1994 of Bangladesh, having its principal place of business at PGCB Bhaban, Avenue-3, Jahurul Islam City, Aftabnagar, Badda, Dhaka-1212, Bangladesh represented by its ……., Mr. ……., hereinafter referred to as the "Employer" (which expression shall unless excluded by or repugnant to the context, mean and include its legal representatives, successors-in-interests, administrators, and assignees of the FIRST PART)

AND

M/s. .....,

(2) acompany limited by shares duly incorporated under the relevant laws of …… and having its registered office at ……represented by its …….. Mr……., Passport No……..., Nationality…….. herein afterreferred to as the "Contractor" (which expression shall unless excluded by or repugnant to the context, mean and include its legal representatives, successors-in-interests, administrators, and assignees of the SECOND PART).

WHEREAS the Employer desires to engage the Contractor to design, manufacture, test, deliver, install, complete and commission certain Facilities, viz. [*list of facilities*] ("the Facilities") and the Contractor have agreed to such engagement upon and subject to the terms and conditions hereinafter appearing.

NOW IT IS HEREBY AGREED as follows:

Article 1
Contract Documents

1.1 **Contract Documents** (Reference GCC Clause 2)

The following documents shall constitute the Contract between the Employer and the Contractor, and each shall be read and construed as an integral part of the Contract:

(a) This Contract Agreement and the Appendices hereto

(b) Power of Attorney issued by Contractor for signing the Contract.

(c) Performance Security

(d) Minutes of Pre-Contract Meeting(s)

(e) Vetting from relevant departments (if required)

(f) Price Schedules including arithmetic correction and/or discount

(if any)

(g) Letter of written and Unconditional Acceptance of the Notification of Award

(h) Notification of Award

(i) Letter of price bid and Price Schedules submitted by the Contractor

(j) Letter of Technical Bid.

(k) All Addenda and Clarifications

(l) Special Conditions of Contract

(m) General Conditions of Contract

(n) Remaining portion of Volume 1 of the Bidding Document

(o) Volume 2 of the Bidding Document

(p) Volume 3 of the Bidding Document

(q) Replies against PGCB's Clarification (if any).

(r) Clarification sought by the Employer (if any).

(s) Bid Proposal of Bidder (Contractor).

(s) Any other documents shall be added here[1]

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.

1.3**Definitions** (Reference GCC Clause 1)

Capitalized words and phrases used herein shall have the same meanings as are ascribed to them in the General Conditions.

[1]Tables of Adjustment Data may be added if the contract provides for price adjustment (see GCC 11).

Article 2
Contract Price and Terms of Payment

2.1 **Contract Price** (Reference GCC Clause 11)

The Employer hereby agrees to pay to the Contractor the Contract Price in consideration of the performance by the Contractor of its obligations hereunder. The Contract Price shall be the aggregate of _____

(amounts of foreign currency in words]

_____

(amounts of foreign currency in figures)

as specified in Price Schedule No. 5 (Grand Summary),

_____

(amounts of local currency in words)

_____

(amounts of local currency in figures)

or such other sums as may be determined in accordance with the terms and conditions of the Contract.

2.2 **Terms of Payment** (Reference GCC Clause 12)

The terms and procedures of payment according to which the Employer will reimburse the Contractor are given in the Appendix 1 (Terms and Procedures of Payment) hereto.

The Employer shall instruct its bank to issue irrevocable letter of credit made available to the Contractor in a bank in the country of the Contractor. The credit shall be for an amount of…….

and shall be subject to the Uniform Customs and Practice for Documentary Credits 1993 Revision, ICC Publication No. 500.

In the event that the amount payable under Schedule No. 1 and/or Schedule 2 is adjusted in accordance with GCC 11.2 or with any of the other terms of the Contract, the Employer shall arrange for the letter of credit to be amended accordingly

Article 3
Effective Date

3.1 **Effective Date** (Reference GCC Clause 1)

The Effective Date upon which the period until the Time for Completion of the Facilities shall be counted from is the date when all of the following conditions have been fulfilled:

(a) This Contract of Agreement has been duly executed for and on behalf of the Employer and the Contractor.

(b) The Contractor has submitted to the Employer the performance security and the advance payment guarantee.

(c) The Employer has paid the Contractor the advance payment.

Each party shall use its best efforts to fulfil the above conditions for

which it is responsible as soon as practicable.

Article 4 Communications

4.1 The address of the Employer for notice purposes, pursuant to GCC 4.1 is: _____

(*Employer's address)*

4.2 The address of the Contractor for notice purposes, pursuant to GCC 4.1 is: _____

(*Contractor's address)*

Article 5 Appendixes

5.1 The Appendixes listed in the attached List of Appendixes shall be deemed to form an integral part of this Contract Agreement.

5.2 Reference in the Contract to any Appendix shall mean the Appendixes attached hereto, and the Contract shall be read and construed accordingly.

IN WITNESS WHEREOF, the Employer and the Contractor have caused this Agreement to be duly executed by their duly authorized representatives the day and year first above written.

Signed by, for and on behalf of the Employer

_____

[*Signature*] [*Title*]

in the presence of

_____

[*Signature*] [*Title*]

Signed by, for and on behalf of the Contractor

_____

[*Signature*] [*Title*]

in the presence of

_____

[*Signature*] [*Title*]

Appendixes

Appendix 1 -Terms and Procedures of Payment
Appendix 2 -Price Adjustment
Appendix 3 - Insurance Requirements
Appendix 4 -Time Schedule
Appendix 5 -List of Major Items of Plant and Services and List of Approved Subcontractors
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Appendix 1 - Terms and Procedures of Payment

In accordance with the provisions of GCC Clause 12 (Terms of Payment), the Employer shall pay the Contractor in the following manner and at the following times, based on the Price Breakdown given in the section on Price Schedules. Payments will be made in the currencies quoted by the Bidder unless otherwise agreed between the parties. Applications for payment in respect of part deliveries may be made by the Contractor as work proceeds.

If the bidder quotes its price in EXW column but the proposed local manufacturer found technically non-responsive and foreign manufacturer found technically responsive then such equipment/plant/item will be supplied from technically responsive outside Employers country manufacturer. But, as there will be no price quoted in CIP column for such equipment/plant/item hence the CIP price for such item will be the quoted EXW price and it will be presumed that there was no EXW quoted price and and the payment will be done accordingly. If the proposed manufacturers from outside the Employer's country and within the Employer's country are found technically responsive and if the price is quoted as EXW, but need to be supplied as CIP, then the Custom Duties & Value Added Tax (CD & VAT) and associated other taxes for such plant/equipment shall be paid by the Contractor.

On the other hand, in case, such bidder quotes price in price schedule of outside Employer's country (CIP price) but the proposed foreign manufacturer found technically non-responsive and local manufacturer found technically responsive, then such equipment/plant/item will be supplied from technically responsive local manufacturer. But, as there would be no price quoted in EXW column for such equipment/plant/item, hence EXW price for such item will be the quoted CIP price and payment will be done accordingly.If the proposed manufacturers from outside the Employer's country and within the Employer's country are found technically responsive and if the price is quoted as CIP, but need to be supplied as EXW, then Tax Deductible at Source (TDS) for such plant/equipment shall be deducted from the Contractor.

(A) Terms of Payment

Schedule No. 1 - Plant and Mandatory Spare Parts Supplied from Abroad

In respect of plant and mandatory spare parts supplied from abroad, the following payments shall be made:

Ten percent (10%)	of the total CIP amount as an advance payment against receipt of invoice and an irrevocable advance payment security for the equivalent amount made out in favour of the Employer. The advance payment security may be reduced in proportion to the value of the plant and mandatory spare parts delivered to the site, as evidenced by delivery documents.
Eighty percent (80%)	of the total or pro rata CIP or amount upon Incoterm "CIP," upon delivery to Site, as evidenced by Post Landing Inspection (PLI) Report and within forty-five (45) days after receipt of invoice.
Five percent (5%)	of the total or pro rata CIP or amount upon issue of the Completion Certificate, within 45 days after receipt of invoice.

Five percent (5%)	of the total or pro rata CIP or amount upon issue of the Operational Acceptance Certificate, within 45 days after receipt of invoice.

Schedule No. 2 - Plant and Mandatory Spare Parts Supplied from Within the Employer's Country

In respect of plant and mandatory spare parts supplied from within the Employer's country, the following payments shall be made:

Ten percent (10%)	of the total EXW amount as an advance payment against receipt of invoice, and an irrevocable advance payment security for the equivalent amount made out in favour of the Employer. The advance payment security may be reduced in proportion to the value of the plant and mandatory spare parts delivered to the site, as evidenced by delivery documents.
Eighty percent (80%)	of the total or pro rata EXW amount upon Incoterm "Ex-Works," upon delivery to the site, as evidenced by Post Landing Inspection (PLI) Report and within forty-five (45) days after receipt of invoice.
Five percent (5%)	of the total or pro rata EXW amount upon issue of the Completion Certificate, within 45 days after receipt of invoice.
Five percent (5%)	of the total or pro rata EXW amount upon issue of the Operational Acceptance Certificate, within 45 days after receipt of invoice.

Schedule No. 3 - Design Services

In respect of design services for both the foreign currency and the local currency portions, the following payments shall be made:

Ten percent (10%)	of the total design services amount as an advance payment against receipt of invoice and an irrevocable advance payment security for the equivalent amount made out in favour of the Employer.
Ninetypercent (90%)	of the total or pro rata design services amount upon acceptance of Final design by the Project Manager within 45 days after receipt of invoice.

Schedule No. 4 - Installation and Other Services

In respect of installation services for both the foreign and local currency portions, the following payments shall be made:

Ten percent (10%)	of the total installation and other services amount as an advance payment against receipt of invoice and an irrevocable advance payment security for the equivalent amount made out in favour of the Employer. The advance payment security may be reduced in proportion to the value of work performed by the Contractor as evidenced by the invoices for installation services.
Eighty percent (80%)	of the measured value of work performed by the Contractor, as identified in

	the said Program of Performance, during the preceding month, as evidenced by the Employer's authorization of the Contractor's application, will be made monthly within 45 days after receipt of invoice.
Five percent (5%)	of the total or pro rata value of installation services performed by the Contractor as evidenced by the Employer's authorization of the Contractor's monthly applications, upon issue of the Completion Certificate, within 45 days after receipt of invoice.
Five percent (5%)	of the total or pro rata value of installation services performed by the Contractor as evidenced by the Employer's authorization of the Contractor's monthly applications, upon issue of the Operational Acceptance Certificate, within 45 days after receipt of invoice.

In the event that the Employer fails to make any payment on its respective due date, the Employer shall pay to the Contractor interest on the amount of such delayed payment at the following rate:

For foreign currency payments, the interest rate is SOFR; and for local currency payments, Central Bank rate (Published by Bangladesh Bank in its website).

(B) Payment Procedures

When applying for certification and making payments, the procedures shall be as follows:

Foreign Currency Portion:

All Foreign currency payment will be through an irrevocable commercial letter of credit except the advance payment. All costs in connection with the Letter of Credit inside Bangladesh shall be borne by the Employer and costs outside Bangladesh shall be borne by the Contractor.

Only the advance payment (10% of the foreign currency portion) will be paid through direct disbursement by AIIB, without letter of credit. The remaining payments (90% of the foreign currency portion) will be made through an irrevocable commercial Letter of Credit. But LC value will be increased by remaining 10% of contract value at the time when it will be required for customs clearance purpose for clearance of goods from Port only.

Local Currency Portion:

The local currency portion of the contract price will be paid as per PGCB's financial and account rules or any other account rules in force and adopted by the Employer.

The Employer will not allow the contractor to ship plant items when civil infrastructure is not ready at the project site. Upon certification of the Employer/Engineer for the civil infrastructure and fulfilment of all other relevant issues, the plant items will be shipped. The contractor will obtain the clearance a reasonable time before the completion of the civil works so that the plant items reach the sites immediately after completion of the relevant civil works.

Appendix 2 - Price Adjustment

Prices payable to the Contractor, in accordance with the Contract, shall be subjected to adjustment during performance of the Contract to reflect changes in the cost of labor and material components, in accordance with the following formula. Each percentage of the formula (except the fixed element) can be changed by the contractor.

(1) Transformer

$$P_1 = P_0 \times (a + b\frac{L_1}{L_0} + c\frac{M_{11}}{M_{01}} + d\frac{M_{12}}{M_{02}} + e\frac{M_{13}}{M_{03}} + f\frac{M_{14}}{M_{04}}) - P_0$$

Where,

P_1 = Price Adjustment amount of power transformer, payable to the Contractor

P_0 = Contract Price of power transformer (base price)

a= percentage of fixed element in Contract Price (*a* = 15%)

b= percentage of labour component in Contract Price (*b* = 20%)

c= percentage of material Core (Si steel) component in Contract Price (*c* = 22%)

d = percentage of material (Copper) component in Contract Price (*d* = 25%)

e = percentage of material (Steel) component in Contract Price (*e* = 15%)

f = percentage of material (Zinc) component in Contract Price (*f* = 3%)

L_0, L_1= labour indices applicable to the appropriate industry in the country of origin of the base date and the date for adjustment, respectively

M_{01}, M_{11}= material (Core, Si steel) indices applicable to the appropriate industry in the country of origin of the base date and the date for adjustment, respectively

M_{02}, M_{12}= material (Copper) indices applicable to the appropriate industry in the country of origin of the base date and the date for adjustment, respectively

M_{03}, M_{13}= material (Steel) indices applicable to the appropriate industry in the country of origin of the base date and the date for adjustment, respectively

M_{04}, M_{14}= material (Zinc) indices applicable to the appropriate industry in the country of origin of the base date and the date for adjustment, respectively

Conditions Applicable To Price Adjustment

The Bidder shall indicate the source of labor and materials indices and the base date indices in its Bid.

Item	Country of Origin; Currency of index	Source of Indices Used Title / definition	Base Date Indices ValueDate
L_0, L_1 (Labour)			
M_{01}, M_{11} (Si Steel)			
M_{02}, M_{12} (Copper)			
M_{03}, M_{13} (Steel)			
M_{04}, M_{14} (Zinc)			

The following conditions shall apply:

a. The base date shall be the date 28 days prior to the deadline for submission of the Bid.

b. The date of adjustment shall be the mid-point of the period of manufacture of the component or Plant. The mid-point shall be determined by considering the start date of manufacture to be 30 days after Contract Effective Date. The end date of manufacture is considered to be 30 days prior to the shipping date.

c. No price increase will be allowed beyond the original delivery date unless covered by an extension of time awarded by the Employer under the terms of the Contract. No price increase will be allowed for periods of delay for which the Contractor is responsible. The Employer will, however, be entitled to any price decrease occurring during such periods of delay.

d. If the currency in which the Contract price, P_0, is expressed is different from the currency of the country of origin of the labour and/or materials indexes, a correction factor will be applied to avoid incorrect adjustments of the Contract price. The correction factor shall correspond to the ratio of exchange rates between the two currencies on the base date and the date for adjustment as defined above.

e. No price adjustment shall be payable on the portion of the Contract price paid to the Contractor as an advance payment.

f. Any payments resulting from price adjustments will be settled at the end of contract.

Appendix 3 - Insurance Requirements

(A) Types of Insurance to be taken outby the Contractor

In accordance with the provisions of GCC Clause 34, the Contractor 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 types of insurance set forth below in the sums and with the deductibles and other conditions specified. The identity of the insurers and the form of the policies shall be subject to the approval of the Employer, such approval not to be unreasonably withheld.
The Contract has to follow the existing insurance act and related acts of the Government of Bangladesh.

(a) Cargo Insurance

The Cargo Insurance covers losses or damages occurring, while in transit from the supplier's or manufacturer's works or stores until arrival at the Site, to the Facilities (including spare parts therefore) and to the construction equipment to be provided by the Contractor or its Subcontractors.

Amount [in Currency(ies)]	Deductible Limits [in Currency(ies)]	Parties Insured [Names]	From [Place]	To [Place]
110% of the contract price (CIP)	As per insurance act	Power Grid Company of Bangladesh Limited	Supplier's or Manufacturer's works or stores	Contractor's store in Bangladesh

(b) Installation All Risks Insurance

The Installation All Risk Insurance covers physical losses or damages to the Facilities at the Site, occurring prior to completion of the Facilities, with an extended maintenance coverage for the Contractor's liability in respect of any loss or damage occurring during the defect liability period while the Contractor is on the Site for the purpose of performing its obligations during the defect liability period.

Amount [in Currency(ies)]	Deductible Limits [in Currency(ies)]	Parties Insured [Names]	From [Names]	To [Names]
100% of the contract price	As per insurance act	Power Grid Company of Bangladesh Limited and Contractor / Subcontractor	-	-

(c) Third Party Liability Insurance

The Third Party Liability Insurance covers bodily injury or death suffered by third parties (including the Employer's personnel) and loss of or damage to property (including the Employer's property and any parts of the Facilities that have been accepted by the Employer) occurring in connection with the supply and installation of the Facilities.

Amount [in Currency(ies)]	Deductible Limits [in Currency(ies)]	Parties Insured [Names]	From [Place]	To [Place]
USD 2.0 million	As per insurance act	Power Grid Company of Bangladesh Limited and	-	-

Amount [in Currency(ies)]	Deductible Limits [in Currency(ies)]	Parties Insured [Names]	From [Place]	To [Place]
		Contractor / Subcontractor		

(d) Automobile Liability Insurance

The Automobile Liability Insurance covers use of all vehicles used by the Contractor or its Subcontractors (whether owned by them or not) in connection with the supply and installation of the Facilities. Comprehensive insurance in accordance with statutory requirements.

(e) Workers' Compensation

Workers' compensation shall be In accordance with the statutory requirements applicable in any country where the Facilities or any part thereof is executed.

(f) Employer's Liability

Employer's liability shall be in accordance with the statutory requirements applicable in any country where the Facilities or any part thereof is executed.

(g) Other Insurance

The Contractor is also required to take out and maintain at its own cost the following types of insurance:

Details:

Amount [in Currency(ies)]	Deductible Limits [in Currency(ies)]	Parties Insured [Names]	From [Place]	To [Place]
-	-	-	-	-

The Employer shall be named as co-insured under all insurance policies taken out by the Contractor pursuant to GCC Subclause 34.1, except for the Third Party Liability, Workers' Compensation, and Employer's Liability Insurance, and the Contractor's Subcontractors shall be named as co-insureds under all insurance policies taken out by the Contractor pursuant to GCC Subclause 34.1, except for the Cargo, Workers' Compensation and Employer's Liability Insurance. All insurer's rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies.

(B) Types of Insurance to be taken outby the Employer

The Employer shall at its expense take out and maintain in effect during the performance of the Contract the following insurance policies.

Details:

None

Appendix 4 - Time Schedule

Time for completion of the whole facilities shall be **900 (nine hundred) days** from the effective date as described in Section 8 - Special Conditions of Contract, Sub-Clause 8.2,Volume 1 of 3 of the Bidding Document and as per the Article 3 of this Contract Agreement.

The Bidder shall provide

- Filled general Time schedule, provided as Appendix 4 to the Section 9: Contract Forms,
- Detail proposal for Mobilization Schedule, Section 4: Bidding Forms, item 5.3. and
- Detail proposal for the Construction Schedule, Section 4: Bidding Forms, item 5.4.

Time Schedule (Show Activity in Bar Chart for 30 months.)

Design, Supply, Installation, Testing and Commissioning of 230/33 kV GIS Substation at Bhola and 132/33 kV GIS Substations at Domar, Hatibandha, Shibchar, Bhanga, Jhalokathi, Pirojpur on Turnkey Basis (Package-8)_Retender	**Duration**	**Month**																													
		1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**

Appendix 5 - List of Major Items of Plant and Services and List of Approved Subcontractors

A list of major items of plant and services is provided below.

The following Subcontractors and Manufacturers are approved for carrying out the item of the facilities indicated. Where more than one Subcontractor is listed, the Contractor is free to choose between them.

In accordance with GCC Sub-clause 19.1, the Contractor 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 Employer and their names have been added to this list of Approved Subcontractors.

Approved Manufacturers and Subcontractors for the Major Items of Plant and Services

Approved Manufacturers/Subcontractors

Equipment	Approved Manufacturers' Name and Address	Nationality

Appendix 6 - Scope of Works and Supply by the Employer

The following personnel, facilities, works, and supplies will be provided or supplied by the Employer, and the provisions of GCC Clauses 10, 21, and 24 shall apply as appropriate.

All personnel, facilities, works, and supplies will be provided by the Employer in good time so as not to delay the performance of the Contractor, in accordance with the approved Time Schedule and Program of Performance pursuant to GCC Sub-clause 18.2.

Unless otherwise indicated, all personnel, facilities, works, and supplies will be provided free of charge to the Contractor.

Personnel	Charge to Contractor (if any)
Employer's personnel will be engaged to supervise and certify the works and tests. Names of personnel will be communicated later.	No charge to Contractor.

Facilities	Charge to Contractor (if any)
-	-

Works	Charge to Contractor (if any)
-	-

Supplies	Charge to Contractor (if any)
The Employer will not generally supply any machinery /equipment and materials to the Contractor. In the event of any such requirement and subject to availability, the Employer may extend the facilities to use such machinery and materials by the Contractor on rental charge/cost under normal terms and conditions.	The Contractor will be required to pay the amount to be determined by the Employer for such facilities.

Appendix 7 - List of Documents for Approval or Review

Pursuant to GCC Sub-clause 20.3.1, the Contractor shall prepare, or cause its Subcontractor to prepare, and present to the Project Manager in accordance with the requirements of GCC Sub-clause 18.2 (Program of Performance), the following documents for

(A) Approval

1. CESMP
2. Weekly and Monthly H&S Reports
3. Site Survey Elaborate
4. Geotechnical Elaborate
5. General design & Fire protection design
6. Electrical Final Design
7. Civil Final Design
8. Mechanical Final Design
9. Detail Electrical Design
10. Detail Civil Design
11. As-build design
12. Manufacturers
13. Detail description of the equipment, drawings, characteristics, type tests, etc.
14. Plan and program of Training
15. Plan and program for Factory Acceptance Test
16. Routine Test Reports
17. Plan and program of deliveries
18. Delivery documentation
19. Subcontractors
20. Plan and program for Site Test
21. Site Test Reports
22. Plan and program for Commissioning
23. Final Testing & Commissioning Report
24. Other

(B) Review

1. Plan and Program of Works and Services
2. Organization Schedule
3. Site Organization
4. Monthly Progress Reports
5. Final Report
6. Other

Appendix 8 - Functional Guarantees

1.General

This Appendix sets out

(a) the functional guarantees referred to in GCC Clause 28 (Functional Guarantees)
(b) the preconditions to the validity of the functional guarantees, either in production and/or consumption, set forth below
(c) the minimum level of the functional guarantees
(d) the formula for calculating liquidated damages for failure to attain the functional guarantees.

2.Preconditions

The Contractor gives the functional guarantees (specified herein) for the facilities, subject to the following preconditions being fully satisfied:

2.1 The Employer's advisory personnel shall attend the commissioning, including the guarantee test, and shall advise and assist the Contractor.

2.2 The Employer shall promptly provide the Contractor with such information as the Contractor may reasonably require in relation to the conduct and results of the guarantee test and any repetitions thereof.

3.Functional Guarantees

Subject to compliance with the foregoing preconditions, the Contractor guarantees as follows:

3.1 Testing & commissioning of all the equipment & materials performed and test results in the standard limits
3.2 Plant & equipment and making ready for commercial operation of the facilities.

4. Failure in Guarantees and Liquidated Damages

4.1 Failure to Attain Guaranteed Capacity

Not used.

4.2 Raw Materials and Utilities Consumption in Excess of Guaranteed Level

Not Applicable

4.3 Minimum Levels

Notwithstanding the provisions of this paragraph, if as a result of the guarantee test(s), the following minimum levels of performance guarantees (and consumption guarantees) are not attained by the Contractor, the Contractor shall at its own cost make good any deficiencies until the Facilities reach any of such minimum performance levels, pursuant to GCC Sub-clause 28.2:

(a) Commissioning of the Facilities attained in the guarantee test: **100 % (one hundred percent)**of the facility.

1. Performance Security

_____*[Bank's name, and address of issuing branch or office*[2]*]*

Beneficiary: _____*[Name and address of Employer]*

Date:_____

Performance Guarantee No.: _____

We have been informed that _____*[name of the Contractor]* (hereinafter called "the Contractor") has entered into Contract No. _____ *[reference number of the contract]* with you, for the execution of _____ *[name of contract and brief description of plant and services]*(hereinafter called "the Contract").

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

At the request of the Contractor, we _____[*name of the bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ____*[name of the currency and amount in figures*[3] _____ (*amount in words*)] such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire not later than the earlier of

(a) 12 months after our receipt of

(i) a copy of the Operational Acceptance Certificate; or

(ii) a registered letter from the Contractor, attaching a copy of the notice to the project manager stating that the events constituting Operational Acceptance have occurred, and stating that 7 days have lapsed from receipt of such notice and the project manager has failed to issue an Operational Acceptance Certificate or inform the Contractor in writing of the justifiable reason why it has not issued the Operational Acceptance Certificate.

(b) the ____ day of, 202_.

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, ICC Publication No. 458 (*or ICC Publication No. 758 as applicable*), except that subparagraph (ii) of Sub-Article 15(a) is hereby excluded.[4]

2 All italicized text is for guidance on how to prepare this demand guarantee and shall be deleted from the final document.
3 The guarantor shall insert an amount representing the percentage of the contract price specified in the contract and denominated either in the currency(ies) of the contract or a freely convertible currency acceptable to the Employer.
4 Or the same or similar to this clause specified in the Uniform Rules for Demand Guarantees, ICC Publication No. 758, where applicable.

Seal of bank and signature(s)

Note to Bidder: **If the institution issuing the performance security is located outside the country of the Employer, it shall have a correspondent financial institution located in the country of the Employer to make it enforceable.**

2. Advance Payment Security

_____[Bank's name, and address of issuing branch or office[5]]

Beneficiary: _____ [Name and address of Employer]

Date:_____

Advance Payment Guarantee No.:

We have been informed that _____[*name of the Contractor]*(hereinafter called "the Contractor") has entered into Contract No: _____ [*reference number of the contract]* dated _____ with you, for the execution of _____ [*name of contract and brief description of works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum of _____ *[name of the currency and amount in figures[6]] [amount in words]* is to be made against an advance payment guarantee.

At the request of the Contractor, we _____*[name of the bank]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of _____*[name of the currency and amount in figures[7](amount in words)]* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the "(a) used the advance payment for purposes other than the costs of mobilization and cash flow support in respect of the Works; or (b) has failed to repay the advance payment when it has become due and payable in accordance with the conditions of the Contract, specifying the amount payable by the Contractor."

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Contractor on its account number _____*[Contractor's account number]*at _____*[name and address of the bank].*

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated 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 80% of the Contract Price has been certified for payment, or on the day of _____[8] whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

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5 All italicized text serves as a guide for preparing this demand guarantee and shall be deleted from the final document.

6 The guarantor shall insert an amount representing the amount of the advance payment denominated either in the currency(ies) of the advance payment as specified in the contract, or in a freely convertible currency acceptable to the Employer.

7 Footnote 2.

8 Insert the expected expiration date of the time for completion. The Employer should note that in the event of an extension of the time for completion of the contract, the Employer would need to request an extension of this guarantee from the guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed _____ [6 months]_____ [1 year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458 (*or ICC Publication No. 758 as applicable*).

Seal of bank and signature(s)

Note to Bidder. **If the institution issuing the advance payment security is located outside the country of the Employer, it shall have a correspondent financial institution located in the country of the Employer to make it enforceable.**