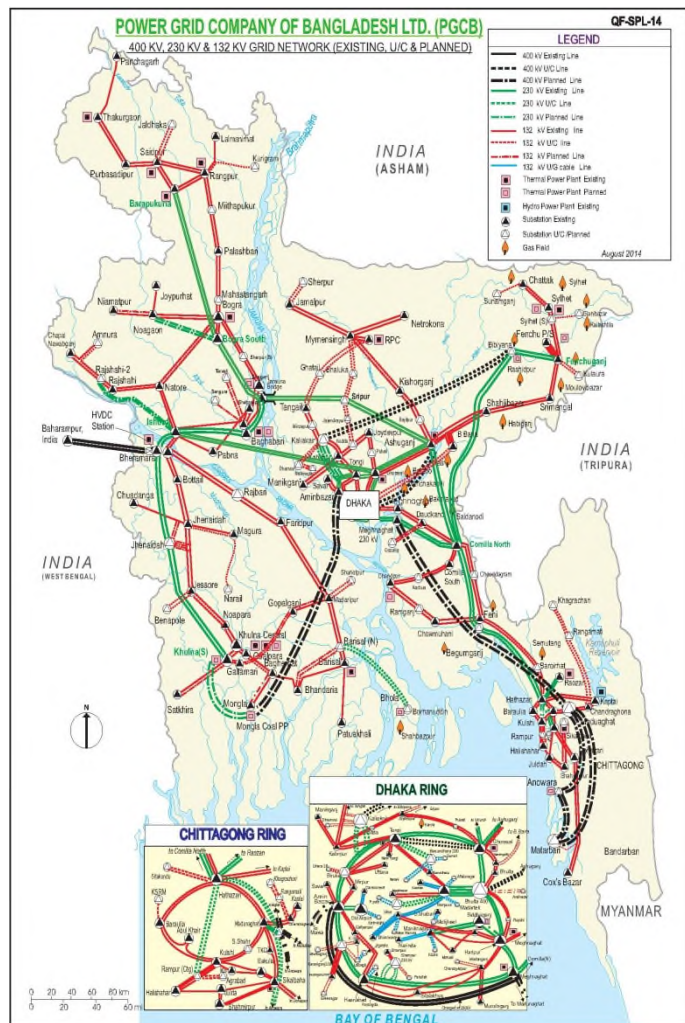


Financial
Cooperation
between
Bangladesh and
Germany

Energy Efficiency
in Grid-based
Power Supply



**Tender Documents for Design, Supply, Installation,
Testing & Commissioning of 132/33 kV Substations, on
Turnkey Basis
Package 3**

Contract No. PGCB/KfW/BMZ.2014.67.976/2018/Package-3

Volume 1, January 2019

Employer:



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Section I

Instructions to Bidders



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A. General

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|-----------------------------|--|
| 1. Scope of Bid | <p>1.1 In connection with the Invitation for Bids 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 Volume 1 - Section 6 (Employer's Requirements). The name, identification, and number of lots (contracts) of the International Competitive Bidding (ICB) are provided in the BDS.</p> <p>1.2 Unless otherwise stated, throughout this Bidding Document definitions and interpretations shall be as prescribed in Volume 1 - Section 7 (General Conditions of Contract).</p> |
| 2. Source of Funds | <p>2.1 The Borrower or Recipient (hereinafter called "Borrower") indicated in the BDS has applied for or received financing (hereinafter called "funds") from the KfW Entwicklungsbank (hereinafter called "KfW") within the scope of German Financial Co-operation for financial assistance for the Transmission System Strengthening in Bangladesh, toward the cost of the project named in the BDS. The Borrower intends to apply a portion of the funds to eligible payments under the contract(s) for which this Bidding Document is issued.</p> <p>2.2 Payments by KfW will be made only at the request of the Borrower and upon approval by KfW in accordance with the terms and conditions of the financing agreement between the Borrower and KfW (hereinafter called the Loan Agreement), and will be subject in all respects to the terms and conditions of that Loan Agreement. No party other than the Borrower shall derive any rights from the Loan Agreement or have any claim to the funds.</p> <p>2.3 The above Loan Agreement will cover only part of the project cost. As for the remaining portion, Government of Bangladesh (GoB) and Power Grid Company of Bangladesh Ltd. (hereinafter called "Employer") allocated necessary funds towards the cost of the proposed works as indicated in the BDS</p> |
| 3. Corrupt Practices | <p>3.1 KfW's requires that borrowers (including beneficiaries of KfW-financed activity), as well as bidders, suppliers, and contractors under KfW-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the KfW:</p> <p>(a) defines, for the purposes of this provision, the terms set forth below as follows:</p> <p>(i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;</p> <p>(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;</p> <p>(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;</p> <p>(iv) "collusive practice" means an arrangement between two or more</p> |



parties designed to achieve an improper purpose, including influencing improperly the actions of another party;

- (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, or coercive practices in competing for the Contract; and
- (c) will sanction a firm or an individual, at any time, in accordance with KfW's Anticorruption Policy and Integrity Principles and Guidelines (both as amended from time to time), including declaring ineligible, either indefinitely or for a stated period of time, to participate in KfW-financed or KfW-administered activities or to benefit from an KfW-financed or KfW-administered 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, or coercive or other prohibited practices.

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

4. Eligible Bidders

4.1 A Bidder may be a private entity or a government-owned entity - subject to ITB 4.5 - or any combination of such entities with the intent to enter into an agreement supported by a letter of intent or under an existing agreement in the form of a joint venture, consortium, or association (JV). In the case of a JV:

- (a) all partners shall be jointly and severally liable, and
- (b) the JV 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 JV during the bidding process and, in the event the JV is awarded the Contract, during contract execution.

4.2 A Bidder, and all partners constituting the Bidder, shall have a nationality of an eligible country, in accordance with Volume 1 - Section 5 (Eligible Countries). A Bidder shall be deemed to have the nationality of a country if the Bidder is a national 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, including but not limited to:

- (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 Clause 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 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.

- 4.4 A firm shall not be eligible to participate in any procurement activities under an KfW-financed or KfW-supported project while under sanction by KfW pursuant to its Anticorruption Policy (see ITB 3), whether such sanction was directly imposed by KfW, or imposed by KfW pursuant to the Agreement for Mutual Enforcement of Debarment Decisions. A bid from a sanctioned or cross-debarred firm will be rejected.
- 4.5 Government-owned entities in the Borrower's country shall be eligible only if they can establish that they
 - (a) are legally and financially autonomous,
 - (b) operate under the principles of commercial law, and
 - (c) are not dependent agencies of the Employer or the Borrower.
- 4.6 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 4.7 The Employer is entitled to exclude Bidders if 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 if the Bidder has been included in the list of sanctions of the United Nations, of the EU, of the German Government or in any other list of sanctions
- 4.8 In case a prequalification process has been conducted prior to the bidding process, this bidding is open only to prequalified Bidders.

5. Eligible Plant and 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 above 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 Documents

6. **Sections of Bidding Document** 6.1 The Bidding Document consists of Volume 1, Volume 2 and Volume 3, which include all the sections indicated below, and should be read in conjunction with any Addenda issued in accordance with ITB 8.

Volume 1

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)

Volume 2

- Scope of Works
- Technical Specifications
- Drawings forming Part of Specifications

Volume 3

- Schedule A: Introduction & Preamble to the Price & Technical Schedules
- Schedule B: Bid Prices & Schedules
- Schedule C: Bar Chart Program of Key Activities-Delivery & Completion Time Schedule
- Schedule D: Manufacturers, Places of Manufacture and Testing
- Schedule E: Technical Particulars and Guarantees
- Schedule F: Proposed Subcontractors

- 6.2 The Invitation for Bids 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 Invitation for Bids.
- 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 of the Bidding Document shall contact the Employer in writing at the Employer's address indicated in the BDS or raise his enquiries 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 twenty-one (21) days prior to the deadline for submission of bids. The Employer's response 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 upon 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, as far as possible, to submit any questions in writing, to reach the Employer not later than one 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 not be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 10. Language of Bid** 10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer, shall be written in the English language. 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 English language, 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 called the Technical Bid containing the documents listed in ITB 11.2 and the other the Price Bid containing the documents listed in ITB 11.3, 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) signed Declaration of Undertaking, in accordance with Volume 1 - Section 4
 - (d) alternative bids, if permissible, in accordance with ITB 13;
 - (e) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 22.2;
 - (f) documentary evidence establishing 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;
 - (g) documentary evidence in accordance with ITB 15 establishing the Bidder's eligibility and qualifications to perform the contract if its Bid is accepted;
 - (h) Technical Proposal in accordance with ITB 17.
 - (i) documentary evidence establishing in accordance with ITB 16 that the plant and services offered by the Bidder conform to the Bidding Document;
 - (j) in the case of a bid submitted by a JV, JV agreement, or letter of intent to enter into a JV including a draft agreement, indicating at least the parts of the Plant to be executed by the respective partners;
 - (k) List of subcontractors, in accordance with ITB 17.2;
 - (l) 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 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 Volume 1 - Section 4 (Bidding Forms) and Volume 3. 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.
- 13. Alternative Bids**
 - 13.1 Unless otherwise indicated in the BDS, alternative bids shall not be considered. 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 Volume 1 - 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 Volume 1 - 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 Clause 5, Bidders shall complete the country of origin declarations in the Price Schedule Forms, included in Volume 3.
- 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 Volume 1 - Section 3 (Evaluation and Qualification Criteria), the Bidder shall provide the information requested in the corresponding information sheets included in Volume 1 - Section 4 (Bidding Forms) and Volume 3.



- 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 contract; and
 - (c) a commentary on the Employer's Specification 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 catalogue 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 Specification.
- 16.2 In order to facilitate evaluation of Technical Bids, deviations, if any, from the terms and conditions or Specification shall be listed as indicated in ITB 18.2.
- 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 Volume 1 - Section 4 (Bidding Forms) and Volume 3, 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 Volume 1 - 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 Dis-counts

- 18.1 Unless otherwise specified in the BDS and/or Volume 1 - 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. If a Bidder wishes to make a deviation, such deviation shall be listed in the relevant form in Volume 1 - Section 4 (Bidding Forms) and Volume 3. The Bidder shall also provide the additional price if any, for withdrawal of the deviation.
- 18.3 Bidders shall give a breakdown of the prices in the manner and detail called for in the Price Schedules included in Volume 3. 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 Volume 3 shall be used for each of the following elements. The total amount from each Schedule (1 to 4) shall be summarized in a Grand Summary (Schedule 5) giving the total bid price(s) to be entered in the Bid Form.
- Schedule No. 1: Plant & Equipment (including Mandatory Spare Parts) Supplied from Abroad
- Schedule No. 2: Plant & Equipment (including 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: Spare Parts
- Bidders shall note that the plant and equipment 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 as per Incoterms specified in the BDS



- (ii) all custom 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 as per Incoterms specified in the BDS,
 - (ii) Sales tax and all other taxes payable in the Purchaser'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).
 - (d) Installation and other Services shall be quoted separately (Schedule No. 4) and shall include rates or prices for local transportation, insurance and other services incidental to delivery of the plant, all labour, 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 twenty-eight (28) days prior to the deadline for submission of bids.
 - (e) Recommended spare parts shall be quoted separately (Schedule 6) 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 non-responsive 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 labour, 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 not be rejected, but the price adjustment will be treated as zero. Bidders are required to indicate the source of labour and material indices in the corresponding Form in Volume 1 - Section 4 (Bidding Forms).
- 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.

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| 19. Currencies of Bid and Payment | <p>19.1 The currency(ies) of the bid shall be, as specified in the BDS.</p> <p>19.2 Bidders shall indicate in the Schedule of Prices and the Letter of Price Bid the portion of the bid price that corresponds to expenditures incurred in the currency of the Employer's country.</p> |
| 20. Period of Validity of Bids | <p>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 non-responsive.</p> <p>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 for a corresponding period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its bid.</p> |
| 21. Bid Security | <p>21.1 Unless otherwise specified in the BDS, the Bidder shall furnish as part of its bid, a Bid Securing Declaration or a bid security in original form and in the amount and currency as specified in the BDS.</p> <p>21.2 A Bid Securing Declaration shall use the form included in Volume 1 - Section 4 (Bidding Forms). The Employer will declare a Bidder ineligible to be awarded a Contract for a specified period of time if the Bid Securing Declaration is executed, as provided in the BDS.</p> <p>21.3 The bid security shall be a demand guarantee, at the Bidder's option, in any of the following forms:</p> <ul style="list-style-type: none"> (a) an unconditional bank guarantee; or (b) an irrevocable letter of credit; or (c) a cashier's or certified check; <p>from a reputable source from an eligible country. The bid security shall be submitted either using the Bid Security Form included in Volume 1 - Section 4 (Bidding Forms), in the case of a bank guarantee, or in another format approved by the Employer. In either case, the form must include the complete name of the Bidder. The bid security shall be valid for twenty-eight days (28) beyond the original validity period of the bid, or beyond any period of extension if requested under ITB 20.2.</p> <p>21.4 If a bid security is specified, any bid not accompanied by a substantially compliant bid security or bid securing declaration shall be rejected by the Employer as non-responsive.</p> <p>21.5 If a bid security is specified pursuant to ITB 21.1, the bid security of the unsuccessful Bidder shall be returned as promptly as possible upon the successful Bidder's furnishing of the performance security pursuant to ITB 45.</p> <p>21.6 If a bid security is specified pursuant to ITB 21.1, the bid security of successful Bidders shall be returned as promptly as possible once the successful Bidder has signed the Contract and furnished the required performance security.</p> |



- 21.7 The bid security may be forfeited or the bid securing declaration executed:
- (a) if a Bidder withdraws its bid during the period of bid validity specified by the Bidder on the Letter of Bid Form, except as provided in ITB 20.2 or
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 44;
 - (ii) furnish a performance security in accordance with ITB 45; or
 - (iii) accept the arithmetical corrections of its Bid in accordance with ITB 36.
- 21.8 The Bid Security or the Bid Securing Declaration of a JV shall be in the name of the JV that submits the bid. If the JV has not been legally constituted at the time of bidding, the Bid Security or 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 of the Technical Bid and one original of the Price Bid comprising 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. All pages of the bid where entries or amendments have been made shall be signed or initialed by the person signing the bid.
- 22.3 A bid submitted by a JV shall be signed so as to be legally binding on all partners.
- 22.4 Any 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 sub-Clauses 23.2 and 23.3.
 - (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 BDS1.1.
- 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 Sub-Clause 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 Sub-Clause 27.7.
- 23.5 Alternative Bids, if permissible in accordance with ITB Clause 13, shall be prepared, sealed, marked, and delivered in accordance with the provisions of ITB Clauses 20 and 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 that withdrawal notices do not require copies). The corresponding substitution or modification of the bid must accompany the respective written notice. All notices must be:
- (a) prepared and submitted in accordance with ITB 22 and ITB 23 (except that withdrawals notices do not require copies), and in addition, the respective envelopes shall be clearly marked "Withdrawal," "Substitution," "Modification;" and
 - (b) received by the 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 conduct the opening of Technical Bids in the presence of Bidders' designated representatives who choose to attend, and at the address, date and time specified in the BDS. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB Sub-clause 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 Proposal 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 Sub-Clause 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 Sub-Clause 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, 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. No Bid shall be rejected at the opening of Technical Bids except for late bids, in accordance with ITB Sub-Clause 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 proposals; 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 in 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 non-responsive 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, 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. 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 Bidders who submitted bids in 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 information on Contract award is communicated to all Bidders.
- 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. Preliminary Examination of Technical Bids**
- 31.1 The Employer shall examine the Technical Bid to confirm that all documents and technical documentation requested in ITB Sub-Clause 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, 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 Bid is 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 Volume 1 - Section 6 (Employer's Requirements) have been met without any material deviation or reservation.
- 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 nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component. The adjustment shall be made using the method indicated in Volume 1 - 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 non-responsive, in order to determine whether the technical aspects are in compliance with the Bidding Document. In order 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 environ-



mental 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 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 Volume 1 - 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 Bidder meets the eligibility and qualifying criteria specified in Volume 1 - 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.

35.3 An affirmative determination shall be a prerequisite for the opening and evaluation of a Bidder's Price Bid. 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 to be used by the Bidder will also be evaluated for acceptability in accordance with Volume 1 - 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 substitute an acceptable manufacturer or subcontractor without any change to the bid price. Prior to signing the Contract, the corresponding Appendix to the Contract Agreement shall be completed, listing the approved manufacturers or subcontractors for each item concerned.

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 former shall prevail and the latter will be corrected accordingly;
- (b) where there are errors between the total of the amounts of Schedule Nos. 1 to 4 and the amount given in Schedule No. 5 (Grand Summary), the former shall prevail and the latter will be corrected accordingly; and
- (c) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetical error, in which case the amount in figures shall pre-



vail subject to (a) and (b) 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. Margin of Preference** 38.1 Unless otherwise specified in the BDS, a margin of preference shall not apply.
- 39. Evaluation 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 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; and
 - (f) the evaluation factors indicated in Volume 1 - Section 3 (Evaluation and Qualification Criteria).
- 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 Volume 1 - 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.



- 40. Comparison of Bids** 40.1 The Employer shall compare all substantially responsive Bids to determine the lowest evaluated bid, in accordance with ITB 39.2.
- 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.



F. Award of Contract

- | | |
|----------------------------------|---|
| 42. Award Criteria | <p>42.1 The Employer shall award the Contract to the Bidder whose offer has been determined 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.</p> <p>42.2 The Employer reserves the right to accept any of the deviations submitted in accordance with ITB 18.2 by the lowest evaluated bidder, at the price shown for the deviation in the bid.</p> |
| 43. Notification of Award | <p>43.1 Prior to the expiration of the period of bid validity, the Employer shall notify the successful Bidder, in writing, that its bid has been accepted. The notification letter (hereinafter and in the Conditions of Contract and Contract Forms called the "Letter of Acceptance") shall specify the sum that the Employer will pay the Contractor in consideration of the execution and completion of the plant and services (hereinafter and in the Conditions of Contract and Contract Forms called "the Contract Price").</p> <p>43.2 At the same time, the Employer will publish in an English language newspaper or well-known freely accessible website the results identifying the bid and lot numbers and the following information: (i) name of each Bidder who submitted a Bid; (ii) bid prices as read out at bid opening; (iii) name and evaluated prices of each Bid that was evaluated; (iv) name of bidders whose bids were rejected and the reasons for their rejection; and (v) name of the winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded. After publication of the 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 to any unsuccessful Bidder who, after Publication of contract award, requests a debriefing.</p> <p>43.3 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.</p> <p>43.4 The Employer shall promptly respond in writing to any unsuccessful Bidder who, after notification of award in accordance with ITB 43.1, requests in writing the grounds on which its bid was not selected.</p> |
| 44. Signing of Contract | <p>44.1 Promptly after notification, the Employer shall send the successful Bidder the Contract Agreement.</p> <p>44.2 Within twenty-eight (28) days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.</p> |
| 45. Performance Security | <p>45.1 Within twenty-eight (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, using for that purpose the Performance Security Form included in Volume 1 - Section 6 (Employer's Requirements), 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.</p> |



- 45.2 Failure of the successful Bidder to submit the above-mentioned Performance Security or sign the Contract shall constitute sufficient grounds for the annulment of the award and forfeiture of the bid security 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.



Section II

Bid Data Sheet



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A. Introduction

ITB 1.1 The number of the Invitation for Bids is :

IFB No. PGCB/KfW/2014.67.976/2018/Package 3

The Employer is:

Power Grid Company of Bangladesh Limited

The name of the International Competitive Bidding (ICB) is:

**Design, Supply, Installation, Testing & Commissioning of 132/33 kV Substations,
on Turnkey Basis, Package 3
(Contract No. PGCB/KfW/BMZ.2014.67.976/2018/Package-3)**

The identification number of the ICB is:

ICB No. PGCB/KfW/ BMZ.2014.67.976/2018/Package-3

The number of lots (contracts) comprising this ICB is: **1 (one)**

ITB 2.1 The Borrower is:

The People's Republic of Bangladesh

The Employer is:

Power Grid Company of Bangladesh Limited

The name of the project is:

Energy Efficiency in Grid Based Power Supply Project (EEGBPSP)

ITB 4.1 The percentage of share of the nominated Representative or Partner in Charge of the Joint Venture / Consortium shall be at least 50% of the Bid Price.

The percentage of share of each partner in Joint Venture / Consortium shall be at least 20 % of the Bid Price

ITB 4.8 There is no prequalification process.

B. Bidding Documents

ITB 7.1 For **clarification purposes** only, the Employer's address is:

Power Grid Company of Bangladesh Limited
Attention: Company Secretary
4th Floor, Institution of Engineers Building
8/A Ramna, Dhaka-1000, Bangladesh
Phone: +88 02 9553663, 9550514, 9560064, 9558054
Fax: +88 02 9582382
Email: se-design@pgcb.org.bd

The all relevant requests for clarification shall be answered at least two (2) weeks prior to the deadline for submission of bids.

ITB 7.4 A Pre-Bid meeting **will** take place. Date, time and place are as follows :

Date: **17 February 2019**
Time: 11:00 a.m. Bangladesh Standard Time (BST)
Place: Power Grid Company of Bangladesh Limited
Conference Room, 4th Floor, Institution of Engineers Building
8/A Ramna, Dhaka-1000, 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 following text is added at the end:

Such kind of translation shall be certified by any notary public or any Government-authorized agency of the Bidder's country.

ITB 11.1 (j) The Bidder shall submit the following additional documents in its Bid:

Environmental, Social, Health and Safety (ESHS) Methodology as described in Section 4 (Bidding Forms), Chapter 6.10

The Technical Proposal shall include an ESHS Methodology meeting the requirements. A Bid not comprising an ESHS Methodology shall be rejected. A Bid for which the ESHS methodology is not substantially responsive (i.e. without material deviation, reservation or omission) shall be rejected.

ITB 11.2 (c) All partners of Joint Venture / Consortium shall sign the Declaration of Undertaking and a failure to do so will lead to a rejection of the Bid

ITB 11.2 (l) The Bidder shall submit with its Technical Bid the following additional documents:

1. Certificate of incorporation;
2. Letter of Authorization to the effect that the Bidder is authorized to submit the bid on behalf of the respective Manufacturer and that the Bidder has the authority to supply such equipment to the Employer as per the form given in Section 4: Bidding Forms (Manufacturer's Authorization) on the Manufacturer's or Manufacturer's Agent's Letterhead; and printed technical catalogue/brochure (original to be submitted with the original) from the proposed Manufacturers of
 - Gas Insulated Switchgear (GIS)
 - power transformer,
 - circuit breaker,
 - disconnecter
 - instrument transformers,
 - surge arrester,
 - substation automation system,
 - protection relay;
 - communication equipment, and
 - DFDR
3. Delivery & completion time schedule as per Schedule C in Volume 3 of the bidding documents;
4. Name & nationality of Manufacturers as per requirement of Schedule D in Volume 3 of the bidding documents;
5. Technical particulars and guarantees as per Schedule E in Volume 3 of the bidding documents;



6. Proposed Subcontractors as per Schedule F in Volume 3 of the bidding documents;
7. Drawings/documents as per requirement of Section 6 - Employer's Requirements in Volume 1 of the Bidding Documents,
8. A Bidder who is not doing business in Bangladesh may submit the name and address of a local agent who is able to liaise with the Employer.

ITB 11.3 (d) The Bidder shall submit with its price bid the following additional documents:

Cash flow statement for project implementation

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 contract shall be:

five years.

ITB 18.1 Bidders shall quote for the entire plant and services on a single responsibility basis

ITB 18.3 and 18.4 Custom duty and any other taxes on installation and other services in the Employer's country shall be as per provision of GCC14, Section 7, Volume 1 of the Bid Documents.

ITB 18.4(a)(i) The Incoterm for quoting plant to be supplied from abroad is:

CIP

Destinations are as follows:

Shahajibazar, Sathkira, Sylhet, Bhandaria, Barisal

ITB 18.4(b)(i) The Incoterm for quoting plant to be supplied from within the Employer's country is:

EXW

ITB 18.6 The prices quoted shall be:

adjustable

ITB 19.1 The currency(ies) of the bid shall be as follows:

- (a) Plant and equipment to be supplied from abroad shall be quoted entirely in foreign currency: **EURO**.
- (b) Plant and equipment to be supplied from within the Employer's country shall be quoted in either foreign currency **EURO** and/or local currency



BANGLADESH TAKA, depending upon the currency in which the costs are to be incurred.

- (c) Design and Installation shall be quoted in either foreign and/or local currency as mentioned above, depending upon the currency in which the costs are to be incurred.

ITB 20.1 The bid validity period shall be:

180 (one hundred eighty) days

ITB 21.1 Bids shall include a Bid Security issued by a bank using the form included in Volume 1 - Section 4 (Bidding Forms). The amount and currency of the bid security shall be:

EURO 400,000 (Euro four hundred thousand only)

The Bidder shall submit the original of above bid security with the original technical bid, otherwise the bid shall be rejected.

ITB 21.2 The ineligibility period will be: Not applicable.

ITB 21.9 The following sub-clauses shall be added:

- (i) If a Bidder submitted a bid security/bank guarantee which is issued by any foreign bank located outside Employer's country, such bid security shall be confirmed by a correspondent bank registered in the Employer's country.
- (ii) The authenticity of the bid security/bank guarantee submitted by a Bidder shall be examined and verified by the Employer in writing from the bank issuing the security, prior to finalization of the evaluation report.
- (iii) If a bid security/bank guarantee was found non-authentic, the bid which it covers shall not be considered for subsequent evaluation and in such case the Employer shall proceed to take punitive measures against that Bidder as stated under ITB 3.2.
- (iv) Bids not accompanied by a valid bid security as stated under Sub-clause 21 shall be considered as "non-responsive".

ITB 22.1 In addition to the original of the bid, the number of copies is:

2 (two) hardcopies and 2 (two) electronic copies.
(Please also refer to ITB 11.2 above)

In case of discrepancies, the hard copy will 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). The price schedules shall, however, also be included as hard copy, duly signed.



Packing:

- Each technical bid (original, copy 1 and copy 2) shall be packed in a separate "inner" envelope.
- These three "inner" envelopes containing the technical bids shall be packed together in one "outer" envelope: Technical Bids
- Each price bid (original, copy 1 and copy 2) shall be packed in a separate "inner" envelope.
- These three "inner" envelopes containing the price bids shall be packed together in one "outer" envelope: Price Bids
- 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 consist of a written Power of Attorney which should either be:

- a) notarized, or
- b) attested to by an appropriate authority in the bidders' home country, or
- c) authenticated board resolution to be signed by a person having the power of attorney of the company.



D. Submission and Opening of Bids

ITB 23.1 Bidders shall **not have** the option of submitting their bids electronically.

ITB 24.1 For **bid submission purposes only**, the Employer's address is

Power Grid Company of Bangladesh Limited
Attention: The Company Secretary
4th Floor, Institution of Engineers Building
8/A Ramna, Dhaka-1000, Bangladesh

The deadline for bid submission is

Date: **24 March 2019**
Time: 11:00 a.m. Bangladesh Standard Time (BST)

ITB 27.1 The bid opening shall take place. Date, time and place are as follows:

Date: **24 March 2019**
Time: 11:05 a.m. Bangladesh Standard Time (BST)
Place: Power Grid Company of Bangladesh Limited
Conference Room, 4th Floor, Institution of Engineers Building
8/A Ramna, Dhaka-1000, Bangladesh

E. Evaluation and Comparison of Bids

ITB 30.2 Compliance of the ESHS Methodology (as specified in BDS ITB 11.1) with the ESMP shall be determined by using the method specified in Section IV Clause 6.10. A Bid for which the ESHS Methodology is not substantially responsive (i.e. without material deviation, reservation or omission) shall be rejected.

ITB 35.4 Clause 35.4 shall be replaced by following:

The participation of any Manufacturer and Subcontractor proposed in the bid shall be confirmed by a Letter of Intent between the concerned parties, as needed.

The capabilities of additional or different Manufacturers and Subcontractors proposed in the bid will also be evaluated for acceptability in accordance with Volume 1 - Section 3 (Evaluation and Qualification Criteria).

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.

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:

Euro

The source of exchange rate shall be:

The Bill Clearing (B.C.) selling rate of Sonali Bank Limited in Bangladesh.

The date for the exchange rate shall be:

The date of opening of the Technical Proposals.

ITB 40.1 The Bid evaluation report shall be subject to KfW's no objection prior the awarding the Contract

F. Award of Contract

ITB 44.1 The draft Contract Agreement shall be subject to KfW's no objection prior the sending to the successful Bidder

ITB 45.3 The following sub-clause is added:

(i) If the performance security submitted under ITB Clause 45 is not found authentic, the Employer shall proceed to take measures against the Bidder in accordance with ITB Clause 3.2.

Section III

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) - (c), the following factors shall apply:

- a. If guaranteed values are lower than required, the bid shall be rejected.

In addition to the criteria listed in ITB 35.2 (a) - (c) the following factors shall apply:

- **Assessment of adequacy of the Environmental, Social, Health and Safety (ESHS) Methodology**

The ESHS methodology submitted by the Bidder shall be evaluated to determine whether it is substantially responsive (i.e. without material deviation, reservation or omission) to the requirements specified in the ESMP. The Bidder shall use the ESHS Methodology Form provided for in this purpose in Section IV, Technical Proposal, Chapter 6.10. A bid not comprising an ESHS Methodology or a bid for which the ESHS Methodology is not substantially responsive (i.e. with material deviation, reservation or omission) shall be rejected

1.2 Economic Evaluation

Any 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.

1.2.1 Quantifiable Deviations and Omissions

- (a) Pursuant to ITB 33.3& 39.2, the cost of all quantifiable non-material non-conformities or omissions (minor omissions or missing items) shall be evaluated. The Employer will make its own assessment of the cost of any non-material non-conformities and omissions for the purpose of ensuring fair comparison of bids.
- (b) Scope of work of each bid will be examined for completeness and compliance with the contract requirements. If item(s) appear to be excluded, an amount representing the average amount for these excluded items of all other responsive bids 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 Bidder and the quantity specified 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.

- (d) In case a Bidder quotes any additional item(s) not mentioned in the bidding documents, these items shall be excluded and the total quoted bid 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 bidding documents.
- (f) 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.

- (g) In case no unit price but only a total price is quoted for an item, the total price will be divided by the total number of units of this item to find the unit price. In this case, the total price will be corrected by multiplying this unit price with the original number of units mentioned for this item in the bidding documents.
- (h) In case of any ambiguity between unit price and total price, the unit price shall prevail, and the total price shall be corrected by multiplying this unit price with the original number of units mentioned for this item in the bidding documents.

1.2.2 Time Schedule

Time to complete the plant and services from the effective date specified in Article 3 of the contract agreement is **30 month**. Bids indicating a longer completion time will be rejected. No credit will be given for earlier completion.

1.2.3 Operating and Maintenance Costs

1.2.3.1 Capitalization of Transformer Losses

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

$$\text{capitalization of transformer losses} = N * a + L * b + M * c$$

Where:

- N = No-load loss (core loss) at rated voltage in kW
L = Load loss (copper loss) at 75 °C, 50 Hz maximum continuous rating in kW
M = Total load of transformer cooling fans at transformer maximum continuous rating in kW (when all cooling fans are in operation)
a = Cost/kW of no-load loss (core loss) valued at EUR 7,000
b = Cost/kW of load loss (copper loss) valued at EUR 3,500
c = Cost/kW of auxiliary power valued at EUR 3,500

The details of the above are explained in the technical specifications of the transformer in Volume 2, Section 4, Clause 4.3.6 of the bidding documents.

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

Not applicable

1.2.5 Specific Additional Criteria

Not applicable

1.2.6 Domestic Preference

Not applicable

1.2.7 Calculation of the Lowest Evaluated Price

To calculate the lowest evaluated price during bid evaluation, the following shall apply:

- (a) Applicable customs duties, taxes and VAT are excluded in the case of CIP bids for imported goods. Only VAT is excluded for goods manufactured locally.
- (b) In case a Bidder proposes any equipment from more than one manufacturer, only one price shall be quoted for such equipment. If a Bidder quotes different prices for one and the same equipment proposed from different manufacturers, the bid shall be rejected.
- (c) Bidders shall not be permitted or required to modify the mix of local and foreign plant and equipment after bid opening.

1.3 Technical Alternatives

Not applicable.

2. Qualification

2.1 Eligibility

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture / Consortium			Submission Requirements
		All Partners Combined	Each Partner	At Least 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 Sub-Clause 4.3.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
2.1.3 Eligibility Not having been declared ineligible as described in ITB Sub-Clause 4.4.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
2.1.4 Government-owned Entity Bidder required meeting conditions of ITB Sub-Clause 4.5.	must meet requirement	must meet requirement	must meet requirement	not applicable	Forms ELI-1, ELI-2 with attachments, and Letter of Technical Bid
2.1.5 UN Eligibility Not having been excluded by an act of compliance with UN Security Council resolution or Employer's country law in accordance with ITB Sub-Clause 4.7.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid



Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture / Consortium			Submission Requirements
		All Partners Combined	Each Partner	At Least One Partner	
2.1.6 ESHS Experience and Capacity	must meet requirement	must meet requirement	not applicable	not applicable	Methodology Statement as per Section IV, 6.10

2.2 Pending Litigation

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture / Consortium			Submission Requirements
		All Partners Combined	Each Partner	At Least One Partner	
2.2.1 Pending Litigation All pending litigation shall be treated as resolved against the Bidder and so shall in total not represent more than 50 percent of the Bidder's net worth.	must meet requirement by itself or as partner to past or existing JV / Consortium	not applicable	must meet requirement by itself or as partner to past or existing JV / Consortium	not applicable	Form LIT-1



2.3 Financial Situation

Criteria Requirement	Compliance Requirements				Documents
	Single Entity	Joint Venture / Consortium			Submission Requirements
		All Partners Combined	Each Partner	At Least One Partner	
2.3.1 Historical Financial Performance Submission of audited balance sheets or, if not required by the law of the Bidder's country, other financial statements acceptable to the Employer, for the last three (3) years , to demonstrate the current soundness of the Bidder's financial position and its prospective long-term profitability. As a minimum, Bidder's net worth 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 Minimum average annual turnover of <p style="text-align: center;">EUR 15,000,000 (fifteen million EUR)</p> calculated as total certified payments received for contracts in progress or completed, within the last three (3) years .	must meet requirement	must meet requirement	must meet 25% of the requirement	must meet 40% of the requirement	Form FIN-2
2.3.3 Financial Resources Using forms FIN-3 and FIN-4 in Volume 1 - Section 4 (Bidding Forms), the Bidder must demonstrate access to, or availability of, financial resources such as liquid assets, unencumbered real assets, lines of credit, and other financial means, other than any contractual advance payments to meet: <ol style="list-style-type: none"> the following cash-flow requirement <p style="text-align: center;">EUR 2,000,000 (two million EUR)</p> and the overall cash flow requirements for this contract and its current works commitment. 	must meet requirement	must meet requirement	must meet 25% of the requirement	must meet 40% of the requirement	Form FIN-3, FIN-4

2.4 Experience

Criteria Requirement	Single Entity	Compliance Requirements			Documents
		Joint Venture / Consortium			Submission Requirements
		All Partners Combined	Each Partner	At Least One Partner	
2.4.1 General Experience Experience under contracts in the role of prime contractor (single entity or JV member), or management contractor, between 1st January 2008 and the Bid submission deadline . <u>Evidence shall be provided as specific experience.</u> Note 1: Prime contractor means main contractor or any partner of a Joint Venture / Consortium contract, not the subcontractor. Subcontractor's experience will not be accepted. Note 2: In case of JV, the partner's contribution shall be not less than 20 % within the contract, otherwise that project will not be considered. Note 3: A management contractor is a company, which takes on the role of contract management as a "general" contractor could do. It does not normally perform directly the work(s) associated with the contract. Rather, it manages the work of other (sub) contractors while bearing full responsibility and risk for price, quality, and timely performance of the contract.	must meet requirement	Not applicable	must meet requirement	Not applicable	Form EXP-1
2.4.2 Specific Experience (a) Contracts of Similar Size and Nature All Bidders must have experience as Contractor for three (3) similar completed contracts, as a prime contractor (single entity or JV member), between 1st January 2008 and the bid submission deadline , with a total aggregated value of at least: EUR 30,000,000.00 (thirty million EUR)	must meet requirement	must meet requirement	Not applicable	Not applicable	Form EXP-2(a)



Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture / Consortium			Submission Requirements
		All Partners Combined	Each Partner	At Least One Partner	
<p>The scope of each contract must include design, supply, delivery, installation, testing & commissioning of:</p> <p>:</p> <p>New construction /extension of 110/X kV or higher rated voltage AIS and GIS substations with a minimum of three bays including one power transformer bay.</p> <p>In the above three contracts executed during the period mentioned above:</p> <ul style="list-style-type: none"> At least one GIS substation of the above-mentioned three contracts shall be in successful operation for a minimum of three (3) years on the date of the bid submission deadline. At least one of the above contracts must be completed either in Bangladesh or outside the Bidder's own country. <p>Note 1: Contractor means main contractor or any partner of a Joint Venture / Consortium contract; not the subcontractor. Subcontractor's experience will not be accepted.</p> <p>Note 2: In case of JV, the partner's contribution shall be not less than 20 % within the contract, otherwise that project will not be considered.</p> <p>Note 3: Evidence of above experience shall be submitted in the bid. It shall be on the user's letterhead, indicating address, telephone and fax numbers of the user. It shall include name of the project, name of the employer, description of the work, commissioning date and contract amount.</p> <p>Note4: Bidders are requested to submit documentation for not more than six (6) relevant contracts.</p>					



Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture / Consortium			Submission Requirements
		All Partners Combined	Each Partner	At Least One Partner	
(b) Experience in Key Activities Not applicable	n.a.	n.a.	n.a.	n.a.	n.a.



2.5 Personnel

The Bidder must demonstrate that he has the personnel for the key positions that meets the following requirements:

No.	Position	Total Work Experience (years)	Work Experience In Similar Projects (years)
1	Contractor's Representative Project Director / Project Manager	15	10
2	Site Manager	12	8
3	Substation Design Engineer	12	8
4	HV Electrical Engineer	10	5
5	Control & Protection Engineer	10	5
6	Substation Civil Engineer	10	5
7	Environmental and Social (ES) Manager*	10	5
8	Health and Safety (HS) Manager*	10	5

*

- The Environmental and Social (ES) Manager and Health and Safety (HS) Manager shall have 10 years in designing and monitoring the implementation of ESHS management plans for construction works
- The Environmental and Social (ES) Manager and Health and Safety (HS) Manager shall be responsible inter alia for development of site-and works-specific CESMMP, including all sub-plans as indicated in Section VI (ERQ), Annex 1 and for the implementation of these plans , including monitoring and related reporting within the standard progress reporting of the project.
- The Environmental and Social (ES) Manager and Health and Safety (HS) Manager have be familiar with the application of the World Bank Group's General EHS Guidelines and the Sector EHS Guidelines for Electric Power Transmission and Distribution and with the other international standards as set out in Section VI (ERQ), Annex 1.
- CV's of the specialists have to be provided with the bidding documents, including evidence for each expert for having worked with application of the required standards.
- Each of the specialists for E&S Management should be provided with appropriate assistance in terms of additional support staff of appropriate qualification to ensure due implementation of the CESMMP.
- The numbers of support staff for each of the specialists/the final team set up for E&S Management of the Construction Phase shall be provided as part of the bidding document.

The Bidder shall provide details of the proposed personnel and their experience records in the relevant information forms included in **Volume 1 - Section 4 (Bidding Forms)**.

2.6 Equipment

The Bidder must demonstrate that he has the key equipment listed hereafter:

No.	Equipment	Characteristics	Minimum Number Required
1	Truck	10 tons	4
2	Dozer	Medium	2
3	Excavator	Mini	2
4	Hydraulic truck crane	Boom 40 meters, load 10 tons	2
5	Self-propelled telescope stick boom	Load 200 kg, 15 meters	2

The Bidder shall provide further details on the proposed items of equipment using the relevant form in **Volume 1 - Section 4 (Bidding Forms)**. Only the requested equipment will be evaluated, other attached equipment by the bidder remains unconsidered.

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.

2.7 Manufacturers/Subcontractors

Manufacturers/Subcontractors for the following major items of supply or services must meet the minimum criteria listed herein for that item. Failure to comply with this requirement may result in rejection of the Manufacturer and/or Subcontractor and may result in rejection of the bid.

List of minimum required Type test reports can be found in Volume 1, Section 6, Employer's requirements

No.	Equipment	Minimum Criteria
1.	Power Transformer	<ul style="list-style-type: none"> At least last ten (10) years of manufacturing experience of minimum 110/X kV or higher rating power transformers. Minimum average delivery over the last 3 years of ten (10) 110/X kV or higher rating power transformers Manufacturer's authorization letter Reference list of 110/X kV or higher rating power transformers At least one evidence from end users for satisfactory service of equipment for a minimum of three (3) years as on the date of bid opening. Implemented ISO 9001 certificate Type test reports as mentioned in the clause 1.3 of section-6 of volume 1 of 3 of the bidding document for similar power transformers, three-phase, with on-load tap changer and a minimum rating 110/132 kV, 100 MVA Technical data sheets, drawings, catalogues and other technical documents
2.	Gas Insulated Switchgear	<ul style="list-style-type: none"> At least last twenty (20) years of manufacturing experience of minimum 110 kV or higher rating GIS Switchgear Minimum average delivery over the last 3 years of twenty five (25) 110kV or higher rating GIS switchgears or minimum one hundred fifty (150) 110 kV or higher rating GIS bays of any kind. Manufacturer's authorization letter Reference list of 110 kV or higher rating GIS switchgear At least one evidence from end users for satisfactory service of equipment for a minimum of three (3) years as on the date of bid opening. Implemented ISO 9001 certificate Complete type test reports as mentioned in the clause 1.3 of section-6 of volume 1 of 3 of the bidding document for similar or higher rating, 145 kV, 3.150 A rated current of busbars and switching equipment, 40 kA General Conceptual method statement, for all GIS Substations, including: SLDs, Layouts, Gas schematic diagram for several applicable cases (BB, BC, CB, DS, ES, Outgoing etc.) Technical data sheets, drawings, catalogues and other technical documents
3.	Circuit Breaker	<ul style="list-style-type: none"> At least last ten (10) years of manufacturing experience of minimum 110 kV or higher rating circuit breakers Minimum average delivery over the last 3 years of one hundred (100) 110 kV or higher rating circuit breakers. Manufacturer's authorization letter Reference list of 110 kV or higher rating circuit breakers. At least one evidence from end users for satisfactory service of equipment for a minimum of three (3) years as on the date of bid opening.

No.	Equipment	Minimum Criteria
		<ul style="list-style-type: none"> • Implemented ISO 9001 certificate • Type test reports as mentioned in the clause 1.3 of section-6 of volume 1 of 3 of the bidding document for similar or higher rating 145 kV, 3.150 A, 40 kA • Technical data sheets, drawings, catalogues and other technical documents
4.	Disconnecter Switch	<ul style="list-style-type: none"> • At least last ten (10) years of manufacturing experience of minimum 110 kV or higher rating disconnectors. • Minimum average delivery over the last 3years of one hundred (100) 110 kV or higher rating disconnectors • Manufacturer's authorization letter • Reference list of 110 kV or higher rating disconnectors.. • Implemented ISO9001certificate • Type test reports as mentioned in the clause1.3 of section - 6 of volume 1 o f3 of the bidding document for similar or higher rating, 145 kV, 2.000 A, 40 kA • Technical data sheets, drawings, catalogues and other technical documents
5.	Instrument Transformers	<ul style="list-style-type: none"> • At least last ten (10) years of manufacturing experience of minimum 110 kV or higher rating Instrument transformers • Minimum average delivery over the last 3 years of one hundred (100) 110 kV or higher rating instrument transformers • Manufacturer's authorization letter • Reference list of 110 kV or higher rating Instrument transformers.. • Implemented ISO9001certificate • Type test reports as mentioned in the clause1.3 of section - 6 of volume 1 o f3 of the bidding document for similar or higher rating Instrument transformers • Technical data sheets, drawings, catalogues and other technical documents
6.	Surge Arrester	<ul style="list-style-type: none"> • At least last ten (10) years of manufacturing experience of minimum 110 kV or higher rating surge arresters • Minimum average delivery over the last 3 years of one hundred (100) 110 kV or higher rating surge arresters • Manufacturer's authorization letter • Reference list of 110 kV or higher rating surge arresters. • Implemented ISO 9001 certificate • Type test reports as mentioned in the clause 1.3 of section-6 of volume 1 of 3 of the bidding document for similar or higher rating • Technical data sheets, drawings, catalogues and other technical documents
7.	Substation Automation system and Protection Relays	<ul style="list-style-type: none"> • At least last five (5) years of manufacturing experience of high voltage substation automation systems and protection relays, as per IEC 61850 standard • Minimum average delivery over the last 3 years of ten (10) complete substation automation systems and hundred (100) protection relays, as per IEC 61850 standard • Manufacturer's authorization letter • Reference list • Implemented ISO 9001 certificate • Type test reports • Technical data sheets, catalogues and other technical documents
8	Communication Equipment	<ul style="list-style-type: none"> • At least last ten (10) years of manufacturing experience of communication equipment. • Minimum average delivery over the last 3 years of ten (10) complete substation communication equipment • Manufacturer's authorization letter • Reference list

No.	Equipment	Minimum Criteria
		<ul style="list-style-type: none"> • Implemented ISO 9001 certificate • Type test reports • Technical data sheets, catalogues and other technical documents
9	DFDR	<ul style="list-style-type: none"> • At least last ten (10) years of manufacturing experience of DFDR for high voltage substations • Minimum average delivery over the last 3 years of ten (10) DFDR • Manufacturer's authorization letter • Reference list • Implemented ISO 9001 certificate • Type test reports • Technical data sheets, catalogues and other technical documents
10.	XLPE Power cable and cable termination	<ul style="list-style-type: none"> • At least last twenty (20) years of manufacturing experience of minimum 110 kV or higher rating XLPE Power cable and cable termination. • Minimum average delivery over the last 3 years of two hundred (200) km of 110 kV or higher rating XLPE Power cable • Manufacturer's authorization letter • Reference list • Implemented ISO 9001 certificate • Type test reports as mentioned in the clause 1.3 of section-6 of volume 1 of 3 of the bidding document for similar or higher rating. • Technical data sheets, drawings, catalogues and other technical documents
11	Electrical Works Subcontractor	<ul style="list-style-type: none"> • At least last five (5) years of experience in installation of high voltage substations, rated voltage 110 kV or higher • At least one (1) contract for the installation of a new substation with 110/X kV or higher rated voltage, of minimum five (5) HV bays and two (2) power transformers, in last three (3) years • Subcontractor's reference list • At least one (1) end user's letter <p>Note: Evidence of the above experience shall be submitted in the bid. It shall be on the user's letterhead, indicating address, telephone and fax numbers of the user. It shall include name of the project, name of the employer, description of the work, commissioning date and contract amount.</p>
12	Civil Works Subcontractor	<ul style="list-style-type: none"> • At least last five (5) years of experience in civil works for installation of high voltage substations with rated voltages of 110 kV or higher • At least one (1) contract for civil works for the installation of new substations of 110/X kV or higher rated voltage, of minimum five (5) HV bays and two (2) power transformers in the last three (3) years • Subcontractor's reference list • At least one (1) end user's letter <p>Note: Evidence of the above experience shall be submitted in the bid. It shall be on the user's letterhead, indicating address, telephone and fax numbers of the user. It shall include name of the project, name of the employer, description of the work, commissioning date and contract amount.</p>

Section IV

Bidding Forms



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1. Letter of Technical Bid

(Issuing Authority's letterhead)

Invitation for Bid No.: _____

ICB No.: _____

Bid No.: _____

Date: _____

To:

The Company Secretary
Power Grid Company of Bangladesh Limited
Institution of Engineers Bangladesh (IEB) Building, 4th Floor
8/A Ramna, Dhaka-1000, 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);
- b. We offer to design, manufacture, supply, deliver, install, test and commission in conformity with the Bidding Document the following Plant and Services:

**Design, Supply, Installation, Testing & Commissioning of
132/33 kV Substations, on Turnkey Basis, Package 3
(Contract No. PGCB/KfW/BMZ.2014.67.976/2018/Package-3)
(Name of Project)**

- c. Our bid consisting of the Technical Bid and the Price Bid shall be valid for a period of _____ 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 or as a Joint Venture / Consortium partner, in more than one bid in this bidding process in accordance with ITB 4.3, other than alternative offers submitted in accordance with ITB 13;



- g. Our firm, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, has not been declared ineligible, under the Employer's country laws or official regulations or by an act of compliance with a decision of the United Nations Security Council;
- h. We are not a government owned entity / We are a government owned entity but meet the requirements of ITB 4.5;*
- i. We agree to permit the KfW or Employer or their representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by the KfW or Employer.

Signature(s) and Seal:

Signature(s) of the authorized Bidder's representative(s)
Place for Seal

Name(s):

Name(s) of the authorized Bidder's representative(s)

Title(s):

Title(s) of the authorized Bidder's representative(s)

Duly authorized to sign the Bid for and behalf of:

Name of Bidder

Place and Date:

Place and date

* Use one of the two options as appropriate



2. Letter of Price Bid

(Issuing Authority's letterhead)

Invitation for Bid No.: _____

ICB No.: _____

Bid No.: _____

Date: _____

To:

The Company Secretary
Power Grid Company of Bangladesh Limited
Institution of Engineers Bangladesh (IEB) Building, 4th Floor
8/A Ramna, Dhaka-1000, 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);
- b. We offer to design, manufacture, supply, deliver, install, test and commission in conformity with the bidding document the following plant and services:

**Design, Supply, Installation, Testing & Commissioning of
132/33 kV Substations, on Turnkey Basis, Package 3
(Contract No. PGCB/KfW/BMZ.2014.67.976/2018/Package-3)**
Name of Project

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

(Total price)

- d. The discounts offered and the methodology for their application are:

(Discount(s) and Methodology)

- e. Our bid shall be valid for a period of ____ 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;



- f. If our bid is accepted, we commit to obtain a performance security in accordance with the Bidding Documents;
- g. We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed; and
- h. We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- i. We agree to permit KfW 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 the KfW.

Signature(s) and Seal:

Signature(s) of the authorized Bidder's representative(s)
Place for Seal

Name(s):

Name(s) of the authorized Bidder's representative(s)

Title(s):

Title(s) of the authorized Bidder's representative(s)

Duly authorized to sign the Bid for and behalf of:

Name of Bidder

Place and Date:

Place and date

3. Price Schedules

Please refer to Volume 3, Schedule B: Bid Prices and Schedules.

4. Bid Security

Bank's Name, and Address of Issuing Branch or Office]

ICB No.:

Invitation for Bid No.:

Bid Security/Tender Guarantee No.:

Date:

Address of guarantor bank:

Address of beneficiary (contracting agency):

We have been informed that _____

(Name of Tenderer)

(hereinafter called "the Tenderer") has submitted to you its tender dated _____

(hereinafter called "the Tender") for the execution of _____

[Name of contract]

under Invitation to Bidders No. _____

(The ITB)

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

At the request of the Tenderer, we _____

(Name of Bank)

hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of

(Amount in figures)

(_____)

(Amount in words)

upon receipt by us of your first demand in writing accompanied by a written statement stating that the Tenderer is in breach of its obligation(s) under the Tender conditions, because the Tenderer:

- (a) has withdrawn its Tender during the period of Tender validity specified by the Tenderer in the Letter of Tender; or
- (b) having been notified of the acceptance of its Tender by the Purchaser during the period of tender validity, (i) fails or refuses to execute the Contract Form, if required, or (ii) fails or refuses to furnish the performance security, in accordance with the Tender Document.

This guarantee will expire:

- (a) if the Tenderer is the successful Tenderer, upon our receipt of copies of the contract signed by the Tenderer and the performance security issued to you upon the instruction of the Tenderer; and
- (b) if the Tenderer is not the successful Tenderer, upon the earlier of
 - (i) our receipt of a copy of your notification to the Tenderer of the name of the successful Tenderer; or
 - (ii) twenty-eight days after the expiration of the Tenderer's Tender.
- (a) no later than _____

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.

Signature(s) and Seal:

Signature(s) of the authorized Bank's representative(s) or agent
Place for Seal

Name(s):

Name(s) of the authorized Bank's representative(s) or agent

Title(s):

Title(s) of the authorized Bank's representative(s) or agent

Place and Date:

Place and date

5. Declaration of Undertaking

We underscore the importance of a free, fair and competitive procurement process that precludes abusive practices. In this respect we have neither offered nor granted directly or indirectly any inadmissible advantages to any public servant or other person nor accepted such advantages in connection with our bid, nor will we offer or grant or accept any such incentives or conditions in the present procurement process or, in the event that we are awarded the contract, in the subsequent execution of the contract. We also declare that no conflict of interest exists in the meaning of the kind described in the corresponding Guidelines¹.

We also underscore the importance of adhering to environmental and social standards in the implementation of the project. We undertake to comply with applicable labour laws and the Core Labour Standards of the International Labour Organization (ILO) as well as national and applicable international standards of environmental protection and health and safety standards.

We will inform our staff about their respective obligations and about their obligation to fulfil this declaration of undertaking and to obey the laws of the country of @ (name of country).

We also declare that our company/all members of the consortium has/have not been included in the list of sanctions of the United Nations, nor of the EU, nor of the German Government, nor in any other list of sanctions and affirm that our company/all members of the consortium will immediately inform the client and KfW if this situation should occur at a later stage.

We acknowledge that, in the event that our company (or a member of the consortium) is added to a list of sanctions that is legally binding on the client and/or KfW, the client is entitled to exclude our company/the consortium from the procurement procedure and, if the contract is awarded to our company/the consortium, to terminate the contract immediately if the statements made in the Declaration of Undertaking were objectively false or the reason for exclusion occurs after the Declaration of Undertaking has been issued.

Place

Date

(Name of company)

(Signature(s))

¹ See "Guidelines for the Assignment of Consultants in Financial Cooperation with Partner Countries" and "Guidelines for Procurement of Goods, Works and associated Services in Financial Cooperation with Partner Countries"



6. Technical Proposal

6.1 Site Organization

6.2 Method Statement

6.3 Mobilization Schedule

6.4 Construction Schedule

6.5 Personnel

Bidders should provide the names of suitably qualified personnel to meet the requirements specified in Volume 1 - Section 3 (Evaluation and Qualification Criteria).

The data on their experience should be supplied using the Form below for each candidate.

6.5.1 Form PER-1: Proposed Personnel

1.	Title of position*	Contractor's Representative / Project Director / Project Manager
	Name	
2.	Title of position*	Site Manager
	Name	
3.	Title of position*	Substation Design Engineer
	Name	
4.	Title of position*	HV Electrical Engineer
	Name	
5.	Title of position*	Control & Protection Engineer
	Name	
6.	Title of position*	Substation Civil Engineer
	Name	
7.	Title of position*	Environmental and Social (ES) Manager
	Name	
8.	Title of position*	Health and Safety (HS) Manager
	Name	

*As listed in Volume 1 - Section 3 (Evaluation and Qualification Criteria).

6.5.2 Form PER-2: Resume of Proposed Personnel

Position				
Personal 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

6.6 Form EQP: Equipment

The Bidder shall provide adequate information to demonstrate clearly that he has the capability to meet the requirements for the key equipment listed in Volume 1 - Section 3 (Evaluation and Qualification Criteria).

A separate form shall be prepared for each item of equipment listed, or for alternative equipment proposed by the Bidder.

Equipment Information	
Item of Equipment	
Name of manufacturer	
Model and power rating	
Capacity	
Year of manufacture	
Current Status	
Current location	
Details of current commitments	
Indicate source of the equipment: <input type="checkbox"/> Owned <input type="checkbox"/> Rented <input type="checkbox"/> Leased <input type="checkbox"/> Specially manufactured	

The Bidder must provide:

- proof of the ownership, for own equipment (inventory list, copy of registration, etc.) or
- lease/rent agreement, for hired/leased/rented equipment

6.7 Proposed Manufacturers for Major Items of Plant and Services

The following form shall be filled and attached to the bid.

Bidders are free to propose/list more than one Manufacturer for each item.

Quoted rates and prices shall be deemed to apply to whichever Manufacturer is appointed

No adjustment of the rates and prices will be permitted.

Their participation shall be confirmed with the Manufacturer's Authorization letter(s), as required.

In case that more than one Manufacturer has been proposed, the Employer have right to choose one or more of them, or can ask for replacement

Prior to signing the Contract, the corresponding Appendix to the Contract Agreement shall be completed, listing the approved manufacturers for each item concerned.

Manufacturers

The following Manufacturers are proposed for carrying out the facilities:

Item	Equipment	Type of Equipment	Manufacturer's Name and Address	Place of Manufacture and Testing	Nationality
Power Transformer					
1.1.	Power transformer 132/33 kV				
Auxiliary Power Transformer					
2	Auxiliary power transformer 33/0.4 kV				
132 kV Equipment					
3.1.	GIS 132 kV				
3.2.	Circuit breakers 132 kV				
3.3.	Disconnectors 132 kV				
3.4.	Current transformers 132 kV				
3.5.	Voltage transformers 132 kV				
3.6.	Surge arresters 132 kV				
33 kV Equipment					
4.1.	Circuit breakers 33 kV				
4.2.	Disconnectors 33 kV				
4.3.	Current transformers 33 kV				
4.4.	Voltage transformers 33 kV				
4.5.	Surge arresters 33 kV				
Control, Protection, and Metering Equipment					
5.1.	Control & monitoring equipment				
5.2.	Relay protection equipment				

Item	Equipment	Type of Equipment	Manufacturer's Name and Address	Place of Manufacture and Testing	Nationality
5.3.	Control & protection panels				
5.4.	Metering equipment				
5.5.	Metering panels				
5.6.	DFDR				
Telecommunication Equipment					
6.	Communication equipment				
Auxiliary Power Supply Equipment					
7.1.	ACU battery				
7.2.	Charger				
7.3.	DC distribution switchboard				
7.4.	AC distribution switchboard				
Conductors, Insulators & Fittings					
8.1.	Conductors				
8.2.	Insulators				
8.3.	Fittings				
Multicore LV Auxiliary Power and Control Cables					
9.	Cables				
Name of Bidder:					
Signature of Bidder:					

6.8 Manufacturer's Authorization

Manufacturer's Authorization

(to be filled by the manufacturer's/their authorized agent on their official letterhead)

*(The Bidder shall require the Manufacturer to fill in 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)*

ICB No.:

Invitation for Bid No.:

Manufacturer's Authorization No.:

Date:

To:

The Company Secretary
Power Grid Company of Bangladesh Limited
Institution of Engineers Bangladesh (IEB) Building, 4th Floor
8/A Ramna, Dhaka-1000, Bangladesh.

We,

(Name of Manufacturer or Manufacturer's authorized agent)

Who are official manufacturers or agent authorized by the manufacturer of:

(Type of Goods)

Having factory(ies) at:

(Address of Manufacturer's factory(ies))

Do hereby authorize:

(Name of Bidder)

To submit a Bid, the purpose of which is to provide the following goods, manufactured by us:

(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.

Signature(s) and Seal:

*Signature(s) of the authorized Manufacturer's representative(s) or agent
Place for Seal*

Name(s):

Name(s) of the authorized Manufacturer's representative(s) or agent

Title(s):

Title(s) of the authorized Manufacturer's representative(s) or agent

Duly authorized to sign the Bid for and behalf of:

(Name of Manufacturer or Manufacturer's authorized agent)

Place and Date:

Place and date

6.9 Proposed Subcontractors for Major Items of Plant and Services

The following form shall be filled and attached to the bid.

Bidders are free to propose/list more than one Subcontractor for each item.

Quoted rates and prices shall be deemed to apply to whichever Subcontractor is appointed, and no adjustment of the rates and prices will be permitted.

In case that more than one Subcontractor has been proposed, the Employer have right to choose one or more of them, or can ask for replacement

Prior to signing the Contract, the corresponding Appendix to the Contract Agreement shall be completed, listing the approved Subcontractor for each item concerned.

If the Bidder will carry out any of the works and services, they shall put own name in the form

Subcontractors

The following Subcontractors are proposed for carrying out the facilities:

Item	Works and Service	Subcontractor's Name and Address	Nationality
11.	Design		
11.2	Civil works		
11.3	Electrical works / installation, testing and commissioning		
11.4	NLDC		
Name of Bidder:			
Signature of Bidder:			

Time Schedule

To be used by Bidder when alternative time for completion is invited in ITB 13.2.

Not applicable.

6.10 Environmental, Social, Health and Safety (ESHS) Methodology

6.10.1 Description

The Bidder shall provide an ESHS Methodology providing information on how he meets the requirements and objectives specified in the ESMP.

The submitted ESHS Methodology shall be in the form of a preliminary draft of the Project Area Environmental and Social Management Plan (CESSMMP), the content of which is detailed in Section VII (Employer's Requirements), Annex 1.

Information should be provided on all items of the above mentioned table of contents.

In order to address the highly sensitive ESHS issues highlighted during the project's environmental and social impact assessment, the ESHS Methodology shall provide detailed information on the management of the following items as per ESMP, but not limited to:

- ESHS resources and facilities, and organisation of ESHS monitoring,
- project area description (base camps, quarries, borrow pits, storage areas),
- health & safety in project areas,
- local recruitment and ESHS training of local staff (capacity building), ESHS training of subcontractors and local partners (transfer of knowledge),
- relations with stakeholders, information and consultation of local communities and authorities,
- traffic management,
- hazardous products,
- wastewater (effluents),
- protection of water resources,
- atmospheric emissions, noise and vibrations,
- waste management,
- biodiversity: protection of fauna and flora,
- site rehabilitation and revegetation,
- erosion and sedimentation,
- method statement of sustainable drainage of foundations
- control of infectious and communicable diseases (HIV / AIDS, malaria),
-

A bid for which the ESHS Methodology is evaluated as non-substantially responsive to the ESHS specifications (i.e. with material deviation, reservation or omission) shall be rejected.

6.10.2 ESHS Cost Schedule

Please refer to Volume 3, Schedule B: Bid Prices and Schedules.

Item No.	Description	Unit	Amount (xxx)
ESHS 1	Resources allocated to ESHS management	Lump sum	
ESHS 2	Drafting and updating the ESHS documentation, reporting, inspections	Lump sum	<i>[Costs for ESHS 1 should exclude all or part of the costs of these tasks]</i>
ESHS 3	Implementation of the H&S Plan: Meetings, health care centre, medical check-ups, emergencies and evacuations, safety protective equipment, hygiene	Lump sum	<i>[Costs for ESHS 1 should exclude all or part of the costs of these]</i>
ESHS 4	Accommodation, drinking water, meals and transportation of staff: The Bidder shall detail the financial conditions of the supply of accommodation, meals and transport to its staff:		<i>[The cost for site mobilisation should exclude all or part of the costs of these tasks]</i>
	• Accommodation	Lump sum	
	• Meals	Lump sum	
	• Transport	Lump sum	
ESHS 5	Training and local recruitment management costs	Lump sum	<i>[Costs for ESHS 1 should exclude all or part of the costs associated to these tasks]</i>
ESHS 6	Protection of adjacent areas, biodiversity, prevention of erosion and wastewater management	Lump sum	
ESHS 7	Traffic, noise and atmospheric emissions management, land take	Lump sum	
ESHS 8	Waste and hazardous products management	Lump sum	
ESHS 9	Vegetation clearing and site rehabilitation	Lump sum	<i>[The cost for site mobilisation should exclude all or part of the costs associated to these tasks]</i>
Total for ESHS			

ESHS costs are deemed to cover operations on all sites (as defined in the ESMP).

Interim payment certificates shall include the portion of each ESHS cost amounting to the percentage of the actual progress achieved in executing the ESHS measures in compliance with the ESMP and approved by the Engineer.

7. Bidders Qualification

To establish his qualifications to perform the contract in accordance with Volume 1 - Section 3 (Evaluation and Qualification Criteria), the Bidder shall provide the information requested in the corresponding information sheets included hereunder.

7.1 Form ELI-1: Bidder's Information Sheet

Bidder	
Bidder's legal name	
In case of Joint Venture / Consortium, 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(s)	
Name(s)	
Title(s)	
Address(s)	
Telephone numbers, fax numbers, e-mail addresses	
<input type="checkbox"/> Attached are copies of the following original documents. <ol style="list-style-type: none"> 1. In case of single entity, articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and 4.2. 2. Authorization to represent the firm or Joint Venture / Consortium named in above, in accordance with ITB 22.2. 3. In case of Joint Venture / Consortium, letter of intent to form Joint Venture / Consortium or Joint Venture / Consortium agreement, in accordance with ITB 4.1. 4. In case of a government-owned entity, any additional documents not covered under 1 above required to comply with ITB 4.5. 	

7.2 Form ELI-2: Joint Venture / Consortium Information Sheet

Each member of a Joint Venture / Consortium must fill in this form.

Joint Venture, Consortium	
Bidder's legal name	
Joint Venture / Consortium partner's legal name	
Joint Venture / Consortium partner's country of constitution	
Joint Venture / Consortium partner's year of constitution	
Joint Venture / Consortium partner's legal address in country of constitution	
Joint Venture / Consortium Partner's Authorized Representative(s)	
Name(s)	
Title(s)	
Address(s)	
Telephone numbers, Fax numbers, E-mail addresses	
<input type="checkbox"/> Attached are copies of the following original documents: <ol style="list-style-type: none"> Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and 4.2. Authorization to represent the firm named above, in accordance with ITB 20.2. In the case of government-owned entity, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB 4.5. 	

7.3 Form LIT: Pending Litigation

Each Bidder or member of a Joint Venture / Consortium must fill in this form

Pending Litigation			
<input type="checkbox"/> No pending litigation in accordance with Criteria 2.2 of Volume 1 - Section 3 (Evaluation and Qualification Criteria)			
<input type="checkbox"/> Pending litigation in accordance with Criteria 2.2 of Volume 1 - Section 3 (Evaluation and Qualification Criteria)			
Year	Matter in Dispute	Value of Pending Claim in EUR Equivalent	Value of Pending Claim as a Percentage of Net Worth

7.4 Form FIN-1: Financial Situation

Each Bidder or member of a Joint Venture / Consortium must fill in this form

Financial Data for last Three Years (EURO Equivalent)	
Year 1:	
Year 2:	
Year 3:	
Information from the Balance Sheet	
Total assets	
Total liabilities	
Net worth	
Current assets	
Current liabilities	
Information from the Income Statement	
Total revenues	
Profits before taxes	
Profits after taxes	
<input type="checkbox"/> Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the last three years, as indicated above, complying with the following conditions. <ul style="list-style-type: none"> • All such documents reflect the financial situation of the Bidder or partner to a Joint Venture / Consortium, and not sister or parent companies. • Historic financial statements must be audited by a certified accountant. • Historic financial statements must be complete, including all notes to the financial statements. • Historic financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted). 	

7.5 Form FIN-2: Annual Turnover

Each Bidder or member of a Joint Venture / Consortium must fill in this form

The information supplied should be the Annual Turnover of the Bidder or each member of a Joint Venture / Consortium in terms of the amounts billed to clients for each year for contracts in progress or completed, converted to US Dollars at the rate of exchange at the end of the period reported.

Annual Turnover Data for the Last Three Years			
Year	Amount(Currency)	Exchange Rate	EURO Equivalent

7.6 Form FIN-3: Financial Resources

Each Bidder or member of a Joint Venture / Consortium must fill in this form.

Specify proposed sources of financing, such as liquid assets, unencumbered real assets, lines of credit, and other financial means, net of current commitments, available to meet the total construction cash flow demands of the subject contract or contracts as indicated in Volume 1 - Section 3 (Evaluation and Qualification Criteria).

Financial Resources		
No.	Source of Financing	Amount (EURO Equivalent)
1		
2		
3		

7.7 Form FIN-4: Current Contract Commitments

Each Bidder or member of a Joint Venture / Consortium must fill in this form.

Bidders and each partner to a Joint Venture / Consortium 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.

Current Contract Commitments		
1	Name of the contract	
	Employer (name, address, telephone, e-mail)	
	Value of Outstanding Work (Current EURO Equivalent)	
	Estimated Completion Date	
	Average monthly invoicing over last six months (Euro/month equivalent)	
2	Name of the contract	
	Employer (name, address, telephone, e-mail)	
	Value of outstanding work (current Euro equivalent)	
	Estimated completion date	
	Average monthly invoicing over last six months (Euro/month equivalent)	
3	Name of the contract	
	Employer (name, address, telephone, e-mail)	
	Value of outstanding work (current EURO equivalent)	
	Estimated completion date	
	Average monthly invoicing over last six months (EURO/month equivalent)	

7.8 Form EXP-1: General Experience

Evidence shall be provided as specific experience.

7.9 Form EXP-2(a): Specific Experience

Each Bidder must fill this form. **Three (3)** forms must be filled per contract.

Bidders are requested to submit documentation for not more than **six (6)** relevant contracts.

Contract of Similar Size and Nature	
Name of the contract	
Employer <ul style="list-style-type: none"> • Name, • Address, • Telephone, • E-mail 	
Country / Nationality of the Employer	
Is Project completed in Bangladesh or outside the Bidder's own country? (yes/no)	
Role of the Bidder (main contractor or partner of JV)	
In case of JV, indicate the % of the contribution (minimum 20 %)	
Contract value (EUR) (in case the contract is executed in other currency, please indicate the value in EUR)	
Contribution of the Bidder in the Contract value (EUR)	

Brief description of the works executed by the Bidder and similarity	
Project is construction of new substation or extension of existing substation?	
Substation is AIS or GIS type?	
Number of bays and voltage level (220 kV or above)	
Number of power transformers and rating (220/X kV or above)	
Starting date	
Date of commissioning / Date of commercial operation	
Supporting documents	

The Bidder shall submit end user's certificates as evidence of the above. These certificates shall be issued by the end user on his letterhead indicating address, telephone, fax number and e-mail of the end user. They shall be signed and sealed by the issuing authority and shall include the following details of each project that has been executed:

- name, address and nationality of customer
- details of contract, rated voltage, type, line length, etc. for transmission lines contracts and/or rated voltage, type of switchyard, transformer capacity, number of bays, etc. for substation contracts
- completion period
- commissioning date/commercial operation
- contract value

The Bidder is request only to provide within his bid offer documents only the mentioned numbers of similar completed contracts as mentioned under Section III: Evaluation and Qualification Criteria, 2.4 Experience, 2.4.2 Specific Experience. More than the requested numbers of similar completed contracts by the Bidder remains unconsidered.

7.10 Form EXP-2(b): Specific Experience in Key Activities

Not applicable.

Eligible Countries

Eligible Countries

All countries shall be eligible countries except if the country of origin is ruled out by sanctions issued by the UN Security Council or sanctions issued by the European Union, the German Government or the Government of the People's Republic of Bangladesh.

Section VI

Employer's Requirements



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List of Annexes

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1. Scope of Supply of Plant and Services

1.1 General Brief Description of the Scope

The number of the Invitation for Bids is:	IFB No. PGCB/KfW/2014.67.976/2018/Package 3
The Employer is:	Power Grid Company of Bangladesh Limited
The name of the ICB is:	Design, Supply, Installation, Testing & Commissioning of 132/33 kV Substations, on Turnkey Basis, Package 3 (Contract No. PGCB/KfW/BMZ.2014.67.976/2018/Package-3)
The identification number of the ICB is:	ICB No. PGCB/KfW/ BMZ.2014.67.976/2018/Package-3
The number of lots (contracts) comprising this ICB is:	1 (One)

1.2 Brief Description of the Scope of Works

Please refer to Volume 2 of the Bidding Document.

1.3 Type Test Requirements

Type test requirements for the major plant/equipment are as follows:

The type test certificates of the equipment of similar or higher specifications (voltage & capacity), required by the bid shall be submitted as per relevant IEC standards.

Type test certificates for power transformer shall be issued by a STL¹ member testing organisation/laboratory in the manner mentioned in the STL Guides or from the Manufacturer's own testing laboratory.

Tests carried out at the Manufacturer's own testing laboratory must have been witnessed and certified by a transformer-testing expert from a STL member testing organisation.

Type test certificates for GIS Equipment shall be issued by a STL¹ member testing organisation/laboratory in the manner mentioned in the STL Guides.

Type test certificates of surge arresters shall be issued by a STL¹ member testing organisation / laboratory in the manner as mentioned in the STL Guides.

¹ STL: Short-Circuit Testing Liaison (Refer to http://www.stl-liaison.org/web/02_About.php)

Type test certificates for other equipment shall be issued by an independent testing laboratory.

Power Transformer

- a. Temperature rise test.
- b. Dielectric tests (Induced over voltage test, Lightning impulse voltage withstand test, Separate source voltage withstand test).
- c. Short circuit withstand test (special test) /calculation

GIS Switchgear

All testing shall be performed in line with the requirements of this Article.

The following Standards shall apply in the main:

- group standard IEC 62271 for switchgear with
 - IEC 62271-1 for the switchgear
 - IEC 62271-100, IEC 62271-101, IEC 62271-110, IEC 62271-302 and IEC 62271-310 for the circuit-breakers
 - IEC 62271-104 for HV switches
 - IEC 62271-102 and IEC 62271-305 for disconnector and earthing switches
 - IEC 62271-203 for HV-GIS
 - IEC 62271-205 for compact switchgear
 - IEC 62271-209 for cable connections
- group standard IEC 61869 and BS 3938 for instrument transformer
- group standard IEC 60099 for surge arrester
- IEC 60137 for bushings
- IEC 61639 for direct connection between power transformers and GIS
- IEC 62063 for electronic equipment on switchgear
- IEC 62271-4, IEC 60376 and IEC 60480 for the SF₆ gas
- IEC 60060, IEC 60270 and others, as well as VDE standards, if applicable

Evidence shall be given that the proposed switchgear / switchgear components to be supplied under this Contract have been subjected to all tests required by applicable IEC standards.

In the event of test results not satisfying the requirements of the Technical Specifications or guaranteed performance, the Bidder/Contractor shall improve the equipment until satisfactory results are obtained and shall conduct retests at his own expense. All expenses incurred by the Engineer in attending the retest shall be borne by the Bidder/Contractor.

Should any one of the results of the tests prescribed in the Technical Specifications fails a third time to satisfy the requirements of the Specifications, or if the Equipment does not satisfy the guaranteed performance, the Engineer may at his own volition and option re-fuse acceptance of the equipment and require the equipment to be replaced or alternatively accept the Equipment upon reduction in the Contract Price.

The Bidder/Contractor shall furthermore advise and guarantee the minimum number of switching operations for the conditions as mentioned above within the arrangement as designed by him.

Complete IEC Type Tests Report for GIS 245 kV and 145 kV respectively, shall be submitted, as part of bidding documents.

No.	Description of Tests	Compo- nents	Sub-Clause as per IEC 62271-203	145 kV/40 kA/ 3150 A	245 kV/50 kA/ 3150 A
1	Tests to verify the insulation level of the equipment and dielectric tests on auxiliary circuits	GIS	6.2	BIL 650kV	BIL 1050kV
2	Tests to prove the temperature rise of any part of the equipment and measurement of the resistance of the main circuit	GIS	6.4 & 6.5	3150A, 50 Hz	
3	Electromagnetic compatibility tests (EMC)	CB Drive	6.9	Immunity & Emission tests on auxiliary and control circuits	
4	Tests to verify the making and breaking capacity of the included switching devices	Circuit Breaker	6.101	T10,4kA	T10,5kA
				T30, 12kA	T30, 15kA
				T60 , 24kA	T60 , 30kA
				T100s ,40kA	T100s , 50kA
				T100a , 40kA	T100a , 50kA
				Short Line fault tests (L75), 30kA	Short Line fault tests (L75), 37.5kA
				Short Line fault tests (L90), 36kA	Short Line fault tests (L90), 45kA
				Out of Phase switching (10kA)	Out of Phase switching (12.5kA)
				Capacitive Current Breaking (C2 Class & Voltage Factor of 1.2.)	
		Disconnect- or		Bus transfer current switching test (1600 A, 10 V)	Bus transfer current switching test (1600 A, 20 V)
				Class 'B' as per IEC 62271-102	
		High Speed Earthing Switch		Short circuit making test- Class E1.	
5	Tests to prove the satisfactory operation at limit temperatures	CB	6.102.2	Low & High Temperature tests	
6	Tests to prove performance under thermal cycling and gas tightness tests on insulators	Partitions	6.106	Thermal Performance & Tightness test	

Type tests shall have been performed by an internationally accredited independent testing laboratory as e.g. KEMA or equivalent not associated with the manufacturers. Also tests performed at manufacturer's laboratory and witnessed by accordingly accredited independent third party are acceptable. Accreditation to the testing laboratory/ third party shall be given by an according signatory member of International Laboratory Accreditation Co-operation (ILAC).

Type test reports shall be subject to the approval of Employer/ Engineer. Type-test reports shall not be older than ten (10) years at the time of their submittal. Compilation of type test protocols shall be covered by a table of contents, clearly structured by the relevant standards, their sub clauses and designation of the relevant test.

The CTs and VTs shall have successfully passed the dielectric tests according to IEEE C57.13, 8.8., for the impulse tests positive waves shall be used.

Circuit Breaker (AIS)

- a. Lightning impulse voltage withstand dry test.
- b. Power frequency voltage withstand dry test.
- c. Out of phase switching test.
- d. Short time withstand current test.

Disconnecter (AIS)

- e. Lightning Impulse voltage withstand dry test.
- f. Power frequency voltage withstand dry test.
- g. Short time withstand current test.

Current Transformer (AIS)

- h. Short time current test.
- i. Impulse voltages withstand tests for current transformers for service in exposed installation.
- j. Power frequency voltage withstand test.
- k. Temperature rise test.

Voltage Transformer (AIS)

- l. Temperature rise test.
- m. Impulse voltages withstand tests for voltage transformers for service in exposed installation.
- n. Short circuit test
- o. Short time over voltage test

Lightning Arrester (AIS)

- p. Power frequency voltage withstands and lightning impulse voltage withstand tests on complete arrester housing.
- q. Operating duty test.
- r. Long duration current impulse withstand test.
- s. Residual voltage test.
- t. Pressure relief test.
- u. Artificial pollution test.

Insulator Units

Type test certificates shall be from an independent and reputed testing laboratory for insulator units and shall include the following tests performed on all offered types of insulators as per IEC.

- Dry lightning impulse voltage withstand test;
- Wet power frequency voltage withstand test;
- Electro-mechanical failing load test;
- Thermal mechanical performance test;
- Impulse voltage puncture test;
- Power arc test.

Substation Automation System and Protection Relays

- Type test certificates from independent reputed testing laboratory for protective relays as per IEC 61850.

XLPE Power Cable

Complete IEC Type Tests Report for XLPE cables 145 kV, as per IEC 60840/62067, shall be submitted, as part of bidding documents.

- Bending test on Cable
- Ten Delta measurement test
- Heating cycle voltage test
- Partial discharge tests:
 - At ambient temperature, and
 - At high temperature.
- Switching impulse voltage test
- Lightning impulse voltage test followed by a power frequency voltage test

Especially the **integration test sequence for the combination of cables and accessories, as per IEC 60840/62067**, shall be submitted, as part of bidding documents.

For each equipment, the Bidder shall provide the List of performed Type tests as following

Equipment					
No.	Type test	Name of Type test laboratory	Number of Type test report	Date of report	Number of pages

2. Specifications

Please refer to Volume 2 of the Bidding Document.

3. Drawings

Please refer to Volume 2 of the Bidding Document.

4. Supplementary Information

4.1 Project Country

The works will be performed in Bangladesh.

4.2 Contract Site

The project spreads over following regions, i.e. Shahajibazar, Sathkira, Sylhet, Bhandaria, Barisal.

4.3 Port Facilities and Transport to Site

Chittagong, 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.

All necessary access roads, jetties or offloading points etc. required for the transport of the plant etc. to site will be the Contractor's responsibility.

Where heavy loads are to be moved the Contractor shall be responsible for performing surveys of the routes 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.

5. Bank Guarantees and Certificates

5.1 Form of Performance Security

Address of guarantor bank:

Address of beneficiary (contracting agency):

On _____ you concluded with _____ ("Contractor") a contract for _____ (project, object of contract) at a price of _____.

In accordance with the provisions of the contract the Contractor is obliged to provide a performance bond for _____ % of the contract price.

We, the undersigned _____ (Guarantor), waiving all objections and defences under the aforementioned contract, hereby irrevocably and independently guarantee to pay on your first written demand an amount up to a total of _____ (in words: _____) against your written declaration that the Contractor has failed to duly perform the aforementioned contract.

In the event of any claim under this guarantee, payment shall be effected to: KfW, Frankfurt am Main, BIC: KFWIDEFF, BLZ 500 204 00, account no. 38 000 000 00, IBAN: DE53 5002 0400 3800 0000 00, for account of _____ (contracting agency/project-executing agency).

This guarantee shall expire no later than the earlier of:

- (a) twelve 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 that the Facilities are ready for commissioning, and stating that fourteen days have elapsed from receipt of such notice (or seven days have elapsed if the notice was a repeated notice) and the project manager has failed to issue a Operational Acceptance Certificate or inform the Contractor in writing of any defects or deficiencies; or
 - (iii) a registered letter from the Contractor stating that no Operational Acceptance Certificate has been issued but the Employer is making use of the Facilities; or
- (b) no later than _____

By this date we must have received any claims for payment by letter or encoded telecommunication.

It is understood that you will return this guarantee to us on expiry or after payment of the total amount to be claimed hereunder.

This guarantee is governed by the laws of _____.

Place, date

Guarantor

5.2 Form of Advance Payment Security

Address of guarantor bank:

Address of beneficiary (contracting agency):

On _____ you concluded with _____ ("Contractor")
a contract for _____ (project, object of contract)
at a price of _____.

In accordance with the provisions of the contract the Contractor receives an advance payment in the
amount of _____, which represents _____ % of the order value.

We, the undersigned _____ (Guarantor),
waiving all objections and defences under the aforementioned contract, hereby irrevocably and inde-
pendently guarantee to pay on your first written demand any amount advanced to the Contractor up to
a total of _____ (in words: _____) against
your written declaration that the Contractor has failed to duly perform the aforementioned contract.

This guarantee shall come into force and effect as soon as the advance payment has been credited to
the account of the Contractor.

In the event of any claim under this guarantee, payment shall be effected to KfW, Frankfurt am Main,
BIC: KFWIDEFF, BLZ 500 204 00, account no. 38 000 000 00, IBAN: DE53 5002 0400 3800 0000 00,
for account of _____ (contracting agency/project-executing agency).

This guarantee shall expire no later than _____.

By this date we must have received any claims for payment by letter or encoded telecommunication.

It is understood that you will return this guarantee to us on expiry or after payment of the total amount
to be claimed hereunder.

This guarantee is governed by the laws of _____.

Place, date

Guarantor

5.3 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 GC 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, in accordance with the terms of the Contract.

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

5.4 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 GC Sub-Clause 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, 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 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

6. Change Orders

6.1 Change Order Procedure

6.1.1 General

This section provides samples of procedures and forms for implementing changes in the Facilities during the performance of the Contract in accordance with GC Clause 39 (Change in the Facilities) of the General Conditions.

6.1.2 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, as Annex 8. 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.

6.1.3 References for Changes

- (1) Request for Change as referred to in GC Clause 39 shall be serially numbered CR-X-nnn.
- (2) Estimate for Change Proposal as referred to in GC Clause 39 shall be serially numbered CN-X-nnn.
- (3) Acceptance of Estimate as referred to in GC Clause 39 shall be serially numbered CA-X-nnn.
- (4) Change Proposal as referred to in GC Clause 39 shall be serially numbered CP-X-nnn.
- (5) Change Order as referred to in GC 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.

6.2 Change Order Forms

6.2.1 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 to us 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 completion of the requested change.
 - (c) If you have any critical opinion regarding 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 of your opinion 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]

6.2.2 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 of preparing the below-referenced Change Proposal in accordance with GC Sub-Clause 39.2.1 of the General Conditions. We acknowledge that your agreement to the cost of preparing the Change Proposal, in accordance with GC Sub-Clause 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 _____ hrs x _ rate/hr = _____

(ii) Draftsperson _____ hrs x _ rate/hr = _____

Subtotal _____ hrs _____

Total Engineering Cost _____

(b) Other Cost _____

Total Cost (a) + (b) _____

[Contractor's Name]

[Signature]

[Name of signatory]

[Title of signatory]



6.2.3 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 preparation of Change Proposal described in your Estimate for Change Proposal mentioned in para. 3 above in accordance with GC Clause 39 of the General Conditions.

[Employer's Name]

[Signature]

[Name of signatory]

[Title of signatory]

6.2.4 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 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	_____
Procurement: ____hrs @ ____ rate/hr	_____
Draftsperson: ____hrs @ ____ rate/hr	_____



		Amount
		(Insert amounts in the currencies of the contract)
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 GC Clause 39 of the General Conditions]

[Contractor's Name]

[Signature]

[Name of signatory]

[Title of signatory]

6.2.5 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 GC 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: _____ Date: _____
Employer

Accepted by: _____ Date: _____
Contractor



6.2.6 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 GC 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]



6.2.7 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 below-mentioned work 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]

7. Form-JV: Form of Joint Venture Agreement

To: The Company Secretary
Power Grid Company of Bangladesh Ltd.

Address:

THIS JOINT VENTURE AGREEMENT is made and entered into this ...th day of....., 2016 of the Christian Era.

BETWEEN

M/s., a company organized and existing under the laws of with its registered office located at....., hereinafter called as "the Partner of the FIRST PART".

AND

M/s., a company organized and existing under the laws of with its registered office located at....., hereinafter called as "the Partner of the SECOND PART".

1. Formation of the Joint Venture

1.1 The partners aforesaid herewith forms a Joint Venture ("Joint Venture") with the following objectives:

- to prepare and submit a joint bid ("bid") to Power Grid Company of Bangladesh ("PGCB") in respect of construction of....., Contract No. ("Project") to be implemented by PGCB.
- to entirely and completely execute and perform the contract concluded between PGCB and the Joint Venture ("Contract").
- to comply with all the relative provisions as set out in the bidding documents of the Project.

1.2 The Joint Venture operates under the name of "....." (PGCB.....Project). The seat of the Joint Venture Partner in Charge shall be at..... Its address is: (PGCB.....Project)

1.3 The Partner of the..... part is the Partner-in Charge of the Joint Venture.

1.4 The percentage of share of the Partner-in Charge of the Joint Venture is more than 50% of the Bid Price of this Contract. The percentage of share of each partner in this Joint Venture Agreement is as follows:

- a) First Part:.....% of the Bid Price
- b) Second Part:.....% of the Bid Price
- c)

1.5 Joint Venture's local address shall be:

2. Supplies and service ("Works")

- 2.1 The partners of the Joint Venture shall be jointly and severally responsible for successful execution of the aforesaid Project of PGCB.
- 2.2 Allocation of supplies and services ("Works") between/among the partners to prepare and submit the bid/offer and to perform the Contract shall cover value and scope as defined in clause 4 and 5 of this Joint Venture Agreement.

3. Principles of Cooperation

- 3.1 Each partner shall be responsible for the completeness of its scope of work and shall bear all risks including commercial and technical risks.
- 3.2 Each partner shall provide the entirety of supplies and services required for the fulfilment of its share of work.
- 3.3 Each partner will be totally (technically/commercially) responsible for its own part and will execute its part and shall also be responsible for getting its part tested and approved by PGCB as per contract. It shall also be responsible for removing any and all deviations/deficiencies, which may occur or may be pointed out by PGCB or its Consultant up-till Final Acceptance Certificate (FAC) about the Project.
- 3.4 Each partner shall contribute working capital for equipment, labour and materials or any expense to be incurred for execution of the Project or any other investment required in connection with implementation of the Project work in proportion to its participation ratio.
- 3.5 Each partner shall be fully responsible for the fulfilment of all obligations jointly and severally for execution of the contract in the event the Project is awarded to the Joint Venture and shall hold each other harmless and indemnify against any damage arising from its default or non-fulfilment of obligations to perform the respective share of responsibilities as per this Joint Venture Agreement.
- 3.6 Each partner shall assist each other to the best of its ability and protect mutual interest as if it were its own.

4. Responsibilities of the Partner in Charge

In addition to its scope as defined in clause 2.1 hereof

- overall responsibility.
- coordination and supervision of the time schedule, as well as of all technical questions and queries of interest to the partners.
- bidding, commercial negotiation, signing and execution of contract.
- incur liabilities, receive payments, take in instruction for and on behalf of any or all partners during entire execution of the Contract.

5. Responsibilities of the Partner of.....Part

In addition to its scope as defined in clause 2.1

- it shall keep the Partner in Charge informed of any matter in due time, that may affect performances of the Contract.

6. Joint Venture Partner's Authority

- 6.1 Mr..... and Mr.....shall represent the Partner of thePart and the Partner of the.....Part, respectively, and Mr.....shall be the Project Manager in charge.

7. Liability and Warranty

7.1 Liability Arising out of PGCB's Claims

- 7.1.1 The partners shall be jointly and severally liable to PGCB for the performance of the Contract. With respect to one another, each partner shall be solely responsible for its share of the work.

- 7.1.2 If PGCB claims penalty or liquidated damages for delay, the partner responsible for the delay shall be solely liable without prejudice to the PGCB's further right to hold the other partner responsible.

- 7.1.3 Any defect and damage resulting from such defect shall immediately be rectified by the partner in whose share of the work it is located or occurs. These costs shall also include of experts for establishing the defect, for additional measures necessitated as a result of the defect, for changes in the share of the work of another partner necessitated by correction of such defect and for repeat inspections or acceptance tests.

7.2 Liability Arising out of 3rd Party Claims

In case of 3rd party claims, the partner responsible for the event causing the claim shall be solely liable.

7.3 Liability of the Partner with Respect to each other

With respect to claims of the partner against each other, unless governed by Article 6.1 and 6.2 hereof, the following shall apply:

- 7.3.1 Each partner shall be liable to the other partner for damages which it, its employees, agent or subcontractor, if any, wilfully or negligently cause to the other partner.

8. Insurance

The Joint Venture shall arrange all insurance including Erection All Risk insurance for the whole Project as per provisions of the bidding document of PGCB.

9. Finance and Securities

Each partner shall bear the cost for any financing of its scope of supplies and services, where PGCB requires guarantee, securities or any other securities, the partner shall share such cost to the extent of the value of their respective scope of supplies and services.

10. Invoicing and Payment

The Partner in Charge shall invoice for the Joint Venture's scope of supplies and services to PGCB and receive payments directly.

11. Bid Security, Performance Bond and Advance Payment Bond

Bid Security, Performance Bond, Advance Payment Bond etc. will be issued in the name of the Joint Venture or the Partner in Charge. The partners shall bear the costs and risk in the proportion to their participation ratio.

12. Scope of Joint Venture's Activities

The activities of the Joint Venture are limited to the bidding and, on being awarded, to the performance of contract with PGCB for execution of the Project.

13. Arbitration

Any/all disputes arising out of this agreement shall be amicably and promptly settled upon direct negotiation between/among the parties; otherwise, the dispute shall be referred to arbitration for settlement under the Rules of Arbitration of the International Chamber of Commerce, Paris.

14. Governing Laws

This Joint Venture Agreement, supplements and arrangements regarding its performance shall be governed, construed and enforced in accordance with the substantive laws of _____ without reference to other laws.

15. Supplementary

The partners may sign supplementary agreement as an amendment to this agreement concerning the relevant matters arising from the performance of the Project. Such supplementary agreement shall come into force with the ratification of PGCB.

16. Miscellaneous

No partner shall disclose or divulge this Joint Venture Agreement to any other third party except to PGCB nor shall it assign, pledge, sell or otherwise dispose of or part with all or part of its designated responsibility to the others without the agreement of PGCB in writing.

17. Commencement and Validity of the Agreement

17.1 This Agreement shall come into force upon signing of the partners.

17.2 This Agreement shall terminate:

- when the Project is awarded by PGCB to a bidder other than this Joint Venture.
- in the event of an order, after total performance of the Contract (expiry of period of warranty, payment of the last instalment, return of equipment etc.) and after fulfilment of all obligations of the partners as provided for in this Agreement.

In witness whereof, the partners hereby have caused this Joint Venture Agreement to be executed by their duly authorized representatives as appear below on the day, month and the year first above written.

Signed by:

.....

On behalf of:

.....

Witness

.....

Signed by:

.....

On behalf of:

.....

Witness

.....

8. Environmental and Social Management Plan (ESMP)

EIA studies were prepared and approved by the DoE separately for each component of the project. The Contractor shall take all reasonable steps to protect the environment and to limit damage and nuisance to people and property resulting from pollution, noise and other results of his operations.

During the construction period, the Contractor will be required to comply with requirements of Environment and Social Management Plan (ESMP), attached here below as annex 1, which covers all aspects of the project.

The Contractor will adopt the ESMP document, as part of his contractual obligations.

The Contractor shall prepare the Construction Environmental and Social Management and Monitoring Plan (CESMMP) complying with the ESMP and always within the framework of the Specifications for Environmental, Social, Health and Safety Management (ESHS) of the Works, attached here as Annex 2.

Annex 1

Environmental and Social Management Plan (ESMP)



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Abbreviations and Acronyms

BDT	Bangladesh Taka
BMD	Bangladesh Meteorological Department
BNBC	Bangladesh National Building Code
BOD ₅	5-day Biochemical Oxygen Demand
CESLACMP	Contractor's Environmental, Social, Land Acquisition and Compensation Management Plan
CESMMP	Contractor's Environmental and Social Management and Monitoring Plan
CM	Construction Manager
DoE	Department of Environment
DIA	Direct Impact Area
EA	Environmental Assessment
ECA	Ecologically Critical Area
ECC	Environmental Clearance Certificate
EHS	Environment, Health & Safety
EI	Environmental Inspector
EIA	Environmental Impact Assessment
EMF	Electro-Magnetic Fields
EMMP	Environmental Mitigation and Monitoring Plan
EMP	Environmental Management Plan
EMU	Environmental Management Unit
ERP	Emergency Response Plan
ESA	Environmental and Social Assessment
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
GoB	Government of Bangladesh
GIA	General Impact Area
GRC	Grievance Redress Committee
HMMP	Hazardous Materials Management Plan
HSE&S	Health, Safety, Environmental & Social Management
HSMP	Occupational Health and Safety Management Plan
ICNRP	International Commission on Non-Ionizing Radiation Protection
IDA	International Development Association
IEC	Education and Consultation Communication
IEE	Initial Environmental Examination
IEF	Important Environmental Features
IFC PS	International Finance Standard Performance Standard
ILO	International Labour Organization
KfW	Kreditanstalt für Wiederaufbau
LFMP	Labour Force Management Plan
MoEF	Ministry of Environment and Forests
MSDSs	Material Safety Data Sheets
OP	Operational Policy
OP	Operational Procedures
PAP	Project Affected Person
PD	Project Director
PESLACM	Project Environmental & Social & Land Acquisition & Compensation Manager
PESMP	Project Environmental and Social Management Plan
PESMPM	Project ESMP Manager



Section VI: Employer's Requirements

PGCB	Power Grid Company of Bangladesh
PGCB	Power Grid Company of Bangladesh
PM	Project Manager
PMT	Project Management Team
PPE	Personal Protective Equipment
PSCP	Pollutant Spill Contingency Plan
RA	Risk Assessment
RAP	Resettlement Action Plan
REB	Rural Electrification Board
RoW	Right of Way
SC	Safety Coordinator
SCC	Site Clearance Certificate
SI	Safety Inspector
SIA	Social Impact Assessment
SMF	Social Management Framework
SMP	Social Management Plan
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infections
TL	Transmission Line
TMP	Traffic Management Plan
ToR	Terms of Reference
WB	World Bank
WMP	Waste Management Plan



1. Preface

The Department of Environment (DoE) of Bangladesh issued the Site Clearance Certificate (SCC) after presentation of the IEE report and approved the Terms of Reference for the EIA studies for the Energy Efficiency in Grid Based Power Supply Project (EEGBPSP). EIA studies were prepared by PGCB separately for each component of the project, i.e. Dhaka, Rajshahi, Rangpur, Chittagong, Khulna and Barisal Divisions. Finally the Department of Environment (DoE) issued Environmental Clearance Certificate (ECC) on 10.03.2016 vide DoE/Clearance/5504/2015/121 and after several renewals it shall remain valid up to 09.03.2019.

The Environmental and Social Management Plan (ESMP) shall be implemented in order to avoid or minimise environmental and social impacts during the construction works of the 230 kV and 132 kV transmission lines and substations in Dhaka, Rajshahi, Rangpur, Chittagong, Khulna and Barisal Divisions. The ESMP presents an overview on required measures and sub-plans and provides guidance for the development of the detailed environmental and social management and monitoring plan for construction of the project.

For the construction period, the Contractor will have to comply with the requirements of the ESMP as part of his contractual obligations, which covers all aspects of the project. The Contractor will be further required to customize the overall ESMP and to develop a site- and works-specific Construction Environmental and Social Management and Monitoring Plan (CESMMP), including all necessary sub-plans as indicated in the ESMP.

The Employer may check all activities at all times to ensure that adverse effects during the construction phase are avoided and the ESMP / CESMMP are duly implemented.

The Contractor shall deliver a monthly report, which includes detailed information on the implementation of the CESMMP, including monitoring results and covering amongst others safety issues, incidents / accidents, need for corrective measures, conflicts amongst construction workforce or with local residents, grievances of workforce or stakeholders, any other details related to the social and environmental management and performance. Subcontractor-related issues shall also be included.

The development of an ESMMP for the operation period of the project is task of the Employer and not considered in this document.

2. Introduction

This ESMP covers Package No. 3 (Subproject) which includes Renovation/ Upgrading of existing substations and new substations in Shahjibazar, Satkhira, Sylhet, Bhandaria and Barisal. The ESMP document outlines management measures to be implemented by the Contractor and his Subcontractors to avoid and/or minimize social, environmental, health and safety impacts and risks associated with the construction phase of the project. The Contractor shall comply with the existing statutes and regulations of Bangladesh concerning the execution of works as per requirements of the Department of Environment (DoE). In addition, the Contractor and all Subcontractors shall comply with the WB environmental and social safeguards, the IFC / WB general EHS guidelines as well as IFC/WB sector-specific EHS guidelines on power transmission and distribution (as referred to in KfW's sustainability guidelines). Furthermore, the Contractor and all Subcontractors shall comply with and adhere to the ILO's core labour conventions and IFC PS 2 (labour and working conditions).

The ESMP is binding for the Contractor and all Subcontractors. The Contractor has to monitor and report on the E&S performance of the Subcontractors.

The following ILO core labour conventions were ratified by Bangladesh:

- Forced Labour Convention,
- Freedom of Association and Protection of the Right to Organise Convention,
- Right to Organise and Collective Bargaining Convention,
- Equal Remuneration Convention,
- Abolition of Forced Labour Convention,
- Discrimination (Employment and Occupation) Convention,
- Worst Forms of Child Labour Convention.

Bangladesh did not ratify ILO convention no. 138 on the minimum age for admission to employment and work. Hence, the ESMP for the construction period must contain respective provisions to avoid child labour. The Contractor must ensure and follow up that no child or forced labour will be employed by the project. This refers not only to work sites, but also to campsites and to the supply chain. The Contractor will strictly adhere to this provision and the Implementation Consultant will monitor it during the construction period. In case workers below the age of **18** are employed, these shall not be involved in heavy or dangerous work. Furthermore, according to ILO, "The minimum age shall not be less than the age of completion of compulsory schooling and, in any case, shall not be less than 15 years". This has to be ensured by the provisions of the construction ESMP.

The provisions of the CESMMP regarding occupational health and safety and labour conditions shall be consistent with the requirements set out in Section 6 "Staff and Labour" of the FIDIC "Pink Book" - Conditions of Contract for Construction, MDB Harmonised Edition, 2010, and with the standards set out above.

This ESMP document has the following objectives:

- to ensure that all construction activities are carried out in compliance with relevant national standards and regulations and in compliance with international environmental and social safeguard requirements as described above,
- to outline appropriate management and mitigation measures referring to the key environmental and social risks and impacts of the project as per the results of the ESIA studies, including monitoring requirements,

- to provide guidance to the Contractor's overall management team and specifically to the environmental and social management team regarding procedures for protecting the environment and promoting worker's health, safety and welfare as well as public health, safety and security,
- to ensure that social and environmental impacts are avoided to the extent possible and if avoidance is not possible, these are minimised during construction activities.

As per the ESMP, the Contractor, after the contract award and prior to start work, will develop the Construction Environmental and Social Management and Monitoring Plan (CESMMP), comprising at a minimum the following specific sub-plans and any additional other sub-plans deemed necessary as part of the overall CESMMP:

- Traffic Management Plan and Waste Management Plan
- Air Quality and Noise Management Plan
- Soil and Erosion Management Plan
- Watercourse Management Plan
- Labour Force Management Plan; including grievance mechanism for workers, workers' accommodation plan and water management plan
- Environmental Mitigation and Monitoring Plan including sub-plans such as biodiversity management plan, bird protection and monitoring plan with the respective measures, vegetation management and re-vegetation plan
- Occupational Health and Safety Management Plan
- Hazardous Materials Management Plan
- Emergency Preparedness and Response Plan Public Health and Safety Management
- Construction Stakeholder Engagement Plan, including an accessible, culturally appropriate and transparent grievance mechanism
- Local Recruitment Plan
- Code of conduct for workforce

The Contractor will have to provide evidence in his bid that he has an environmental and social management system established and ready for operation in order to implement the CESMMP (i.e. appropriate staff, procedures, routines and processes).

Relevant management plans to be **provided by the Employer** for the construction phase are, but may not be limited to:

- Community Liaison Plan
- Land Acquisition and Compensation Plan/Resettlement Action Plan (RAP)
- Stakeholder Engagement Plan
- Avian Protection Plan
- Sensitive Habitat/Biodiversity Management Plan
- Chance Find Procedure

The Contractor is required to comply with the management plans provided by the Employer as listed above and to integrate the provisions into the overall CESMMP. Regarding land acquisition and compensation, it is the Employers' responsibility to establish and to implement the RAP. However, it will be the Contractor's responsibility to compensate affected parties for any damage and losses from construction works in line with the provisions of the RAP, e.g. for temporary land take for lay down areas or workers' camps, for any crop damage due to construction works or any damage from construction activities to physical structures.

In addition, the Contractor is (financially) responsible to manage any temporary and permanent land take for the construction of access roads and the resulting losses for local communities in compliance with the provisions of the RAP.

3. Project Description

3.1 Project Objective

The objective of this subproject is renovation and extension of existing substations, rehabilitation/renovation/extension and construction of new substations in Shahjibazar, Satkhira, Sylhet, Bhandaria and Barisal. It is part of the Energy Efficiency in Grid Based Power Supply Project envisaged to strengthen the 132 kV transmission system of three divisions i.e. Sylhet, Barisal and Khulna Division. The aim of the project is:

- to contribute to an efficient power transmission in PGCB's transmission system
- to eliminate the operational bottlenecks shown in the load flow analysis
- to provide an adequate infrastructure for future power sector development

3.2 Project Scope

Please refer to Volume 1, Section 6, Employer's Requirements.

This sub-project would consist of the following components

- Renovation/New 132/33/11 KV GIS Substation at Shahjibazar (Sylhet Division)
- Renovation/Upgrading of existing 132/33 KV AIS Substation at Satkhira (Khulna Division)
- Renovation/New 132/33 KV GIS Substation at Sylhet (Sylhet Division)
- Extension of existing 132/33 KV AIS Substation at Bhandaria (Barisal Division)
- Extension of existing 230/132 KV AIS Substation at Barisal (Barisal Division)

3.3 Project Activities

The phasing of construction works for the substation is indicated in Table 3-1 below.

Table 3-1: Components of Construction Works

Components	Activities	
	Preconstruction	During Construction
Substation	Topographical Survey	Establishment of material storage areas and work sites
		Establishment of construction camps for workers
		Establishment of temporary access tracks
		Transport of materials and equipment to site
		Clearing site
		Civil works (land filling, foundation, RCC work)
		Equipment installation
		Testing and commissioning


The main project activities are:

- Transportation
 - To transport labourers to the project sites
 - To transport construction materials and equipment to stores and project sites
- Labour Camp
 - To set up a labour camp to accommodate skilled labour, and to reinstate the camp areas after completion. In compliance with international standards, follow the guidance note by IFC and the EBRD "Workers' Accommodation: Processes and Standards" document
 - To set up the labour camps close to the transmission line corridor
 - To hire casual labour from surrounding local communities and to transport them to and from the work site. Priority employment mechanisms shall be developed in order to provide construction jobs to affected people
- General Construction
 - To construct access roads.
 - Clearance activities within the right of way or clearance activities on the provided site
 - To rehabilitate the existing roads by filling inundated portions
 - To compact all roads to allow passage of heavy vehicles such as cranes and lorries
- Foundation Construction
 - To restore the sites after the works, and hand back any temporarily used areas
 - To modify areas with high water table by sustainable draining away the water
 - To fill the foundation pits with concrete so as to reinforce the steel
 - To backfill the foundations with excavated soil
 - To clear the construction site of debris and to level it
 - To reinstate affected areas to the conditions prior to use for construction and to the satisfaction of the owners/users of the affected plots
- Tower Erection
 - To do grounding
 - To prepare a method statement for scaffolding
 - The use of a crane during erection
 - Work done by hand where the crane cannot be used
- Stringing
 - Pilot wire paring by tractor
 - The use of tension stringing equipment (TSE) for stringing of conductors
- Testing and commissioning

3.4 Environmental and Social Features of the Subproject

This package describes the construction/renovation of substations at six different geographical locations. In general the study area will include the following areas which will benefit from the subproject, or which may be directly affected in a negative way, by any of the components of the Subproject. Relevant features of each subproject area that may influence social and environmental issues are summarized in the following Table.

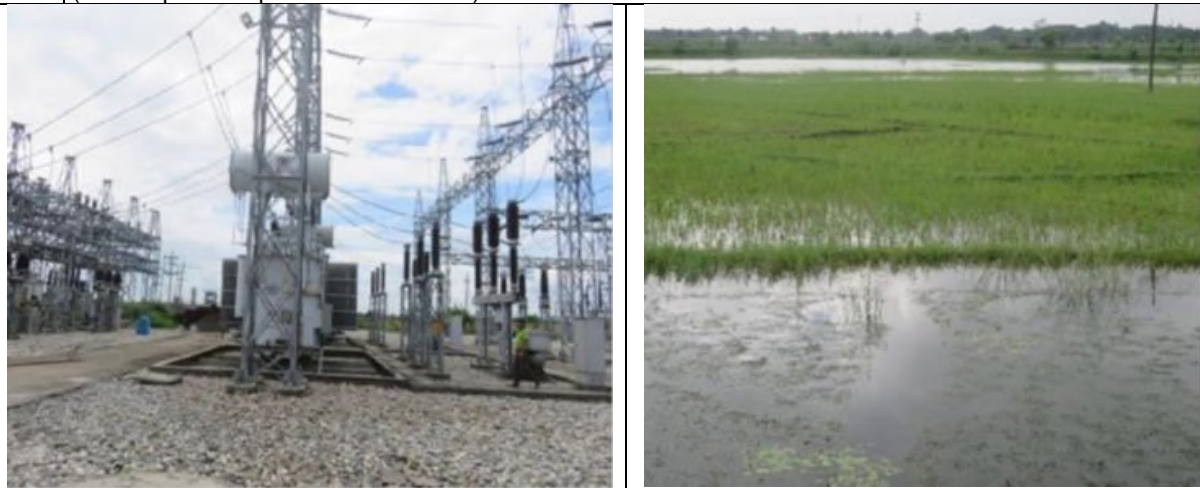
Table 3-2: Summary of Important Features of Shahjibazar Substation Area

No.	Parameter	Description
A. Environmental Setting		
1	Location	<p>Located at Fatehpur Mouza under Madhabpur Upazila of Habiganj District. This place is about 21 km away from Habiganj District headquarter and about 135km away from Dhaka, the capital city of Bangladesh by road. This proposed extension work for the substation is located to the north-west region of Bangladesh. The GPS Coordinates are given below:</p> <p>North East- 24°15'13.9"N; 91°22'44.7"E North West- 24°15'13.5"N; 91°22'42"E South East- 24°15'9.8"N; 91°22'43.8"E South West- 24°15'10.1"N; 91°22'42.41.4"E (See maps in chapters 12.1 and 12.2.)</p>
		
2	Climate	<p>The climate of the project area is tropical monsoon with hot summer and cool dry winter. The hot summer season from March to mid-June, a maximum temperature is raised up to close to 40°C and occasional thunderstorms. The highest rainfall concentrated during monsoon usually May-October and dry period consists four months usually November-February. The wet season: between mid-June and October, experiences about 80% of annual rainfall and also marked by flash floods.</p>

No.	Parameter	Description
3	Ecologically Critical Area	No ecologically Critical areas found in the periphery of the project area. Hakaluki Haor is 64 km away from the site area (cf. chapter 12.3)
	Reserve/Protected Forests	No Reserve/Protected Forests found in the periphery of the project area. Satchari National Park is about 5 km away from the site area. Rema-Kalenga WS is about 23 km away from the site area.
4	Predominant Geological Formations	Geo-tectonically, Shaistaganj is situated on the northeastern side of Bengal Basin of Bangladesh. This part is known as Surma Basin (Sylhet Trough).
	Topography	The general topography of the scheme area is flat. The average ground elevation of the scheme area is about 14-22 m
	Major Physiographic Units	The Project area lies under the Surma-Kushiyara Flood Plain
	Major Soil Type	The area is occupied by grey, heavy silty clay loams on the ridges and by clays in the basins. Non-calcareous Gray Floodplain Soils and Acid Basin Clays are the major components of the general soil types.
5	Principal crops	The Direct Impact Area (DIA) of this substation proposed for renovation is placed inside the existing Shahjibazar power plant. General Impact Area (GIA) of this proposed substation is a rapid growing industrial area. There are 4 (four) power plants within the half kilometre radius from the centre of the proposed substation. However, the principle crops grown within 500m circular area is paddy that is situated besides the Dhaka-Sylhet Highway. This paddy fields are at almost at the border of half kilometre radius. There is no vegetable cultivation within this area
6	Major Water Bodies	There is no water body within the project site but there are two ponds besides the proposed project area. Each ponds are approximately 5000 sq. meters in size.
7	Flooding	This area is not a flood prone area.
8	Seismicity	The project area falls in Zone I, i.e. moderate to high seismic zones of the country. (Ref: Bangladesh National Building Code)
9	Environmental Hotspots	There is no environmental hotspot in the study area.
10	Major Settlements	Major settlement within the half kilometre circle is mixed in nature. Major portion of the area is occupied by industries and government owned power plant's staff quarter. Besides these, there are some private houses, mess and quarters. Shahjibazar Railway Station is adjacent to the power plant boundary.
11	Major Industries/ Business Entrepreneurs	There are 4 (four) power plants, hotel, restaurant, local shops, few under construction industries and some existing small industries are located in the 500 m radius of the project area.
12	Archaeological sites	There is no archaeological site both in DIA or in GIA
13	Major Roads	Dhaka- Sylhet Highway is situated to the west of the proposed substation. LGED road from Shahjibazar to Saiham Nagar is situated to the east of the existing substation.
B. Socioeconomic Profile(Source BBS- 2011, estimated 2018 & Field Survey)		
1	Population	Total 2733; Male 1416 & Female 1318
2	Household	586 nos.
3	Average Household Size	4.7 person per household

No.	Parameter	Description	
4	Sex Ratio (male/Female)	107 (107 male against 100 female)	
5	Literacy Rate	Total 64%; Male 70%, Female 58%	
6	Land use Pattern Land use within DIA-(Direct Impact Area means only the proposed substation area) and GIA (General Impact Area means within 500 m distance from the substation) is the following:	DIA	GIA
	Agricultural:	0%	10%
	Fallow land :	89%	45%
	Residential/Commercial :	0%	10%
	Vegetation/Garden:	10%	30%
	River/Water bodies:	1%	5%
7	Affected Land by Type Land Type: Mango garden; Cropping intensity of land -Once a year		
8	Major Occupation Pattern among HH Members	Agricultural Business Service Wage earner Rickshaw puller Other	10% 30% 40% 20% - -
9	Types of Housing Structure in Proportion	Pucca	70%
Semi Pucca		20%	
Kutcha		10%	
10	Ethnic Community	No ethnic community within the Project area	
11	Women involvement in economic activity	In general, women are involved in agricultural and Day Labourer.	
C. Ecological Features			
1	Flora and Fauna	The floral and faunal assemblages change depending on the hydro-logical regime.	
2	Terrestrial Flora	The area is densely vegetated in the monsoon period and moderately vegetated round the year. There are twenty full grown mango trees in the Direct Impact Area (DIA) and a garden of mango saplings is situated in 50 meter distance from proposed project site.	
3	Aquatic Flora	Some aquatic plant species are distributed in the wetlands and marshy lands area. Shapla (water Lily),Kalmi lata, Halench, Ko-churipana etc.	
4	Faunal distribution - Birds, Wildlife and Wetland Habitats	Mongoose (<i>Herpestes edwardsii</i>), Bengal fox (<i>Vulpes bengalensis</i>), Bengal Monitor (<i>Varanus bengalensis</i>), Checkered Keelback (<i>Xenochrophis piscator</i>) is found in the GIA and DIA and Bengal Monitor (<i>Varanus bengalensis</i>) is one of the endangered wild animals of the area.	
5	Fish Habitat	There is no fish habitat in the site but two ponds are situated adjacent to the boundary of the project site.	


Table 3-3: Summary of Important Features of Satkhira Substation Area

No.	Parameter	Description
A. Environmental Setting		
1	Location	Upazila of Satkhira district and it is about 4 km distance by road from Satkhira district head quarter and 252 km distance in the north-east side of the capital city Dhaka. GPS Coordinates are given below: North East- 22°44'37.18"N; 89°05'35.1"E; North West- 22°44'37.48"N; 89° 5'34.08"E South East- 22°44'36.90"N 89° 5'34.02"E South West- 22°44'37.21"N; 89° 5'33.68"E (See maps in chapters 12.4 and 12.5.)
		
2	Climate	Climate of the project area is typical monsoon considering three seasons: Summer (pre-monsoon) - March to May; Rainy season (monsoon) - June to October; and winter season - November to February. The annual average maximum temperature reaches 35.5°C ; and minimum temperature is 12.5°C . The annual rainfall is 1710 mm.
3	Ecologically Critical Area	No ecologically critical areas found in the periphery of the substation area. Sundarban Mangrove Forest is about 44 km away from the site area. Marjit Baor is about 65 km away from the site area. (See ECA Map)
	Reserve/Protected Forests	No Reserve/Protected Forests found in the periphery of the substation area.
4	Predominant Geological Formations	Geology of scheme area is composed of Tidal Deltaic.
	Topography	The general topography of the scheme area is flat. The average ground elevation of the scheme area is about 2 m.
	Major Physiographic Units	Ganges Tidal Floodplain according to agro ecological region.
	Major Soil Type	Soil types include Non-calcareous Grey Floodplain.
5	Principal crops	The main fruit trees noted within proposed substation area are Mango, Jujube and Guava. But no seasonal agricultural crops are grown within this project site. In the project surrounding area, major agricultural crops cultivated are Aman, Boro etc.

No.	Parameter	Description
6	Major Water Bodies	The major water bodies in the project surrounding area are River Betna River flowing about 1.5 km away from the proposed project site and one gher which is located within project surrounding area outside proposed project site.
7	Flooding	The substation area is partially flood prone area and becomes flooded due to excessive rainfall. The flooding depth is about 1.0 ft (30cm).
8	Seismicity	The Substation area falls in Zone III, i.e. Low intensity seismic zone of the country (Ref: Bangladesh National Building Code).
9	Environmental Hotspots	There are one school (1 no.) and one college (1 no.) found within project surrounding area (in the general impact area). But only one health centre found within the surrounding 500 m distance area of the proposed project site.
10	Major Settlements	The Southern side of the proposed project site is Gopinathpur village and Magura- Taltoli village is on the western side. Satkhira-Dhaka high way road is adjacent road. But other side (north and east)
11	Major Industries/ Business Entrepreneurs	There are no industries found within and around 500 m area of the proposed project site and hence no industrial pollution is expected within and around project site.
12	Archaeological sites	There are no archaeological sites both in DIA or in GIA
13	Major Roads	Satkhira -Dhaka high way road is main road that passes by the side of the proposed project site. In addition, Satkhira - Sundarban parjatan road is also passes by the side of the proposed project site..
B. Socioeconomic Profile(Source BBS- 2011, estimated 2018 & Field Survey)		
1	Population	Total 5178, Male 2677 & Female 2501
2	Household	1225 nos.
3	Average Household Size	4.2 person per household
4	Sex Ratio (male/Female)	107 male against 100 female
5	Literacy Rate	Total 60.1%, Male 66.1%, Female 53.7
6	Land Use Pattern	<div style="display: flex; justify-content: space-between;"> DIA GIA </div> Agricultural land - - 80% Fallow Land - 45% 10% Residential - 40% - Vegetation - 10% - River/Water bodies 5% 10%
7	Affected Land by Type	Non Cultivable
8	Major Occupation Pattern among HH Members	<div style="display: flex; justify-content: space-between;"> <div> Agricultural Business Service Wage earner Rickshaw puller/E bike puller Other </div> <div> 60 % 5% 30% - 5% - </div> </div>
9	Types of Housing Structure in Proportion	<div style="display: flex; justify-content: space-between;"> <div> Pucca Semi Pucca Kutchha Jhupri </div> <div> 11% 33% 48% 8% </div> </div>
10	Ethnic Community	No ethnic community within the Project area

No.	Parameter	Description
11	Women involvement in economic activity	No activity in DIA & GIA due to DIA is substation area and GIA area is urban area. Labour are not sale and not hired labour but area is social conservative. During visited time, no involvement in women have found that area and no women involved data found from consulted participant.
C. Ecological Features		
1	Flora and Fauna	The study area of proposed substation location falls inside of Ganges flood plain Bioecological zones
2	Terrestrial Flora	Proposed substation site is located within the existing ground of PGCB. Most of the site have no vegetation except few fruit trees such as guava and kul as these places have already been developed and paved by the existing infrastructures of PGCB and roads and high way. In addition, it has been observed that the project area have no roadside plantation as well.
3	Aquatic Flora	A major portion of the study area is flooded in every monsoon and become seasonal wetlands
4	Faunal distribution - Birds, Wildlife and Wetland Habitats	During field survey few local birds like vaat salik, gobure salik, doel and kokil, bulbul are found in the proposed project area. Bengal fox and Bengal monitor are rarely seen in the study area
5	Fish Habitat	The study area of proposed Substation comprises of both capture and culture. Fishery resources. The floodplain is mainly cultured with major carp, exotic, Tilapia and other fast growing fish species in the homestead fish ponds.


Table 3-4: Summary of Important Features of Sylhet Substation Area

No.	Parameter	Description
A. Environmental Setting		
1	Location	<p>Located at Toker bazar Mouza under Sadar Upazila, Sylhet. This place is about 7.60 km away from Sylhet City (zero point) and about 246 km away from Dhaka, the capital City of Bangladesh. The proposed extension work of the existing substation is placed at the north-eastern region of the country. The GPS Coordinates are given below:</p> <p>North East- 24°54'36.1"N; 91°49'49.3"E North West- 24°54'36.4"N; 91°49'47.6"E South East- 24°54'31.8"N; 91°49'48.5"E South West- 24°54'31.92"N; 91°49'46.38"E (See maps in chapters 12.6 and 12.7.)</p>
		
2	Climate	<p>The maximum daily temperatures recorded as 33.96 °C and the minimum daily temperatures recorded as 12.16 °C. The mean annual rainfall of the project area is 3784 mm. About 85% of the total annual rainfall occurs in the period from May through October. The highest rainfall occurs mostly in the month of July and sometimes in June. Generally all months have the days with a monthly maximum humidity of more than 95% and the lowest daily humidity recorded is 10%. It is reported that wind speeds are at their maximum in the early part of the monsoon, but drop substantially by the start of the dry season.</p>
3	Ecologically Critical Areas	No ecologically Critical areas found in the periphery of the project area. Hakaluki Haor is about 26 km away from the substation area.(See ECA Map)
	Reserve/Protected Forests	No Reserve/Protected Forests found in the periphery of the project area. Khadimnagar National Park is about 8 km away from the site area.
4	Predominant Geological Formations	No Reserve/Protected Forests found in the periphery of the pourashava.
	Topography	Geology of substation area is composed of alluvial silt and clay. Surface geology is consisted of sedimentary rocks originated by revere processes.
	Major Physiographic Units	Project area falls in Physiographic Unit Surma-Kushiyara floodplain
	Major Soil Type	This area is occupied by grey, heavy silty clay loams on the ridges and clays in the basins. Organic matter content of the soil is moderate. Soil reaction ranges from strongly acidic to neutral.

No.	Parameter	Description
5	Principal crops	The major crops grown within GIA (General Impact Area; 500m radius from the substation centre) is paddy, which is yielded once in a year. Mango Ginger (<i>Curcuma amada</i>) is also cultivated in small amount. Principle fruits within the GIA are jackfruits, jujube, hog plum, coconut, guava, betel nut, mango, etc. Bottle gourd (<i>Lagenaria siceraria</i>), Cucumber (<i>Cucumis sativus</i>) and Papaya (<i>Carica papaya</i>) are main vegetables produce here. A little amount of Onion and Jute are cultivated also during Robi and Kharif-1 seasons respectively.
6	Major Water Bodies	There is no prominent water body within the substation area, except Surma River, the main river of Sylhet. It is flowing through the south side of the existing power plants and substation.
7	Flooding	North-east region including Sylhet is predisposed to flash flood and the study area is not an exception. The substation area falls under medium flood prone area. But there was no devastating flood occurred in recent years of last ten years' span.
8	Seismicity	The project area falls in Zone I, i.e. high intensity seismic zone of the country. (Ref: Bangladesh National Building Code). No major earthquake has been reported in the project area in recent years or recent past.
9	Environmental Hotspots	There is no environmental hot spot in the GIA area.
10	Major Settlements	Major settlement within the half kilometre (0.5km) circle is diverse in nature. The eastern and northern sides of the station are mainly urban area and the western and southern sides are rural (village) area. SUST (Shahajalal University of Science and Technology), Banishail, Tapoban and Sheikh Para are situated to the north, south, east and west respectively.
11	Major Industries/ Business Entrepreneurs	There is no major industry within the GIA area but there are two power plants within 500 m radius of the substation; one is 50 MW and another one is 10 MW. Beside these, there is another 150 MW (150 MW Sylhet Combined Cycle Power Plant) power plant situated to the west of the existing Substation. There are many shops and auto repairing car and welding workshops besides the Sylhet - Sunamganj highway.
12	Archaeological sites	There are no archaeological sites both in DIA or in GIA
13	Major Roads	Sylhet - Sunamganj highway is situated to the north of the substation.
B. Socioeconomic Profile (Source BBS- 2011, estimated 2018 & Field Survey)		
1	Population	Total 21,404, Male 11,046 & Female 10,358
2	Household	3,498 Nos
3	Average Household Size	6.1 person per household
4	Sex Ratio (male/female)	107/100 (107 male against 100 female)
5	Literacy Rate	Total 62.5%, Male 66.8%, Female 57.9%
6	Land use Pattern	<p>DIA GIA</p> <p>Agricultural land - 0% 10%</p> <p>Fallow Land - 100% 65%</p> <p>Residential/Commercial 0% 15%</p> <p>Vegetation -</p> <p>River/Water bodies 0% 10%</p>
7	Affected Land by Type	<p>Land type-Fallow land</p> <p>Cropping intensity of Land-Not Applicable</p>

No.	Parameter	Description
8	Major Occupation Patterns among HH Members within GIA area	<div>Agricultural</div> <div>Business</div> <div>Service</div> <div>Other (Begger, Handicraft, Day labor etc.)</div> <div>6 %</div> <div>5%</div> <div>4%</div> <div>85%</div>
9	Types of Housing Structure in Proportion	<div>Pucca</div> <div>Semi Pucca</div> <div>Kutchra</div> <div>Jhupri</div> <div>29%</div> <div>40%</div> <div>30%</div> <div>1%</div>
10	Ethnic Community	No ethnic community within Project area
11	Women involvement in economic activity	<div>Agricultural- Low</div> <div>Day Labourer- Moderate</div>
C. Ecological Features		
1	Flora and Fauna	The residing water body (Surma River) is more significant for the aquatic flora and fauna including fishes. The study area was the proposed location of existing 132/33 kV Substation, exists inside Surma - Kushiya floodplain bio-ecological zone.
2	Terrestrial Flora	Trees growing at homesteads provide easy access to wood, fruit and other products. A large number of multipurpose trees (fruit, timber, medicine) are grown in the area. As it is an existing power production area, there are no crops grown inside the direct impact area (DIA). Whereas, few vegetables are grown privately at riverside site adjacent to substation/direct impact area
3	Aquatic Flora	The substation is beside Surma River. Water hyacinth (<i>Kochuripana</i>), Water cabbage (<i>Topa pana</i>) and Duckweed (<i>Khudipana</i>) are common free floating community during monsoon period. In the dry period, water level of the perennial wetland is decreased for few months. In this time, river bank area belongs to different grasses like Durba (<i>Cynodon dactylon</i>), Kaisa, Kolmi (<i>Ipomoea aquatica</i>), Dhol Kolmi (<i>Ipomoea carnea</i>), etc.
4	Faunal distribution - Birds, Wildlife and Wetland Habitats	According to the local respondent there are many type of local wild and domestic animal. The defendant also ensured the presence of local and migratory birds in the study area. However, the Common urban birds like Crows (<i>Corvus splendens</i>), Sparrows (<i>Passer domesticus</i>), Common Myna (<i>Acridotheres tristis</i>), Oriental Magpie Robin (<i>Copsychus saularis</i>), Pigeon /Rock Dove (<i>Columba livia</i>) etc. are found in the area. Some migratory birds are also visible during winter in this area. Local people informed that the plant and animal species are decreasing day by day due to urbanization, expansion of power plant and mobile phone network radiation
5	Fish Habitat	There is no fish habitat in the project area as there is no water body in the substation site. Due to presence of Surma River, aquatic habitats are common in 500 m radius. Fish diversity in river is decreasing due to pollution in the aquatic bodies from domestic and industrial effluent.


Table 3-5: Summary of Important Features of Bhandaria Substation Area

No.	Parameter	Description
A. Environmental Setting		
1	Location	<p>Located at ward no. 6 of Bhandaria union under Dakshin Bhandaria Mouza, within Bhandaria Upazila of Pirojpur district and it is by road about 22 km distance from Pirojpur district head quarter and 246 km distance in the north-east side of the capital city Dhaka. GPS Coordinates are given below:</p> <p>North East- 22°28'51.28"N; 90° 4'10.78"E; North West- 22°28'51.92"N; 90° 4'9.43"E South East- 22°28'50.76"N; 90° 4'10.49"E South West- 22°28'51.12"N; 90° 4'9.24"E (See maps in chapters 12.8 and 12.9.)</p>
		
2	Climate	<p>The climate of the project area is tropical monsoon typical of the south central region of Bangladesh. Mean monthly temperature of project area varies in the range of 18.79-29.33° C. The average rainfall of project area is recorded as 2148 mm. About 88% of the total annual rainfall occurs in the period from May through October. Driest months altogether get less than 5% of the annual precipitation. The maximum humidity is recorded as 100% and the minimum humidity is recorded as 17%. Maximum wind speed recorded is 45 knots.</p>
3	Ecologically Critical Areas	No ecologically critical areas found in the periphery of the substation area. Sundarban Mangrove Forest is about 32.62 km away from the project area. (See ECA Map)
	Reserve/Protected Forests	No Reserve/Protected Forests found in the periphery of the substation area.
4	Predominant Geological Formations	Project area belongs to Geosynclinal basin and falls in Barisal Gravity High.
	Topography	The general topography of the project area is flat. The average ground elevation of the project area is about 2-11 m.
	Major Physiographic Units	This pourashava area is located on the southern part of Bengal Basin making a part of Barisal Gravity High.
	Major Soil Type	The soil of the areas is olive brown, silt loams and silty clay loams on the upper layer.
5	Principal crops	The main fruit trees noted within proposed substation area are Mango, Jujube, Sofeda, Adam apple and coconut but no seasonal agricultural

No.	Parameter	Description
		crops are grown within this area. The major agricultural crops grown within surrounding proposed project site (general impact area) area are T. Aman, Chilli and Pulses etc.
6	Major Water Bodies	The proposed project site is a low land and does not contain any water body within the site. There are two khals located at the surrounding area of the proposed project site. One khal is Rayer khal and the other one is Kocha River which are about 0.5 km and 0.8 km away from the substation area.
7	Flooding	The substation area is partially flood prone area. As the proposed project site is a depressed land, it becomes flooded due to excessive rainfall and flooding depth is 2.0 ft. (60cm).
8	Seismicity	The Scheme area falls in Zone III, i.e. low intensity seismic zone of the country. (Ref: Bangladesh National Building Code)
9	Environmental Hotspots	There are two. Schools (2 nos.) and two Mosques (2 nos.) found in the surrounding area (general impact area) of the proposed project site. But no hospital and health centre found within the surrounding 500 meter distance area of the proposed project site.
10	Major Settlements	The southern side of the proposed project site is Jamirtola village and Gouripur village is on the western side whereas Poitkhali village and Kaikar par are on the northern and eastern side of substation area respectively.
11	Major Industries/ Business Entrepreneurs	There are no industries found within and around 500 m area of the proposed project site and hence industrial pollution is not expected within and outside project area.
12	Archaeological sites	There are no archaeological sites both in DIA or in GIA
13	Major Roads	There are one high way Bhandaria -Dhaka road is main road passes by the side of the proposed project site. In addition, Bhandria-Sundarban national road and Bhandaria -Kanthalia road (internal upazila road) are also passed by the side of the substation boundary.
B. Socioeconomic Profile(Source BBS- 2011, estimated 2018 & Field Survey)		
1	Population	Total 3013, Male 1538 & Female 1475
2	Household	667 nos
3	Average Household Size	4.5 person per household
4	Sex Ratio (male/female)	104 male against 100 female
5	Literacy Rate	Total 77.7%, Male 80.4%, Female 75.0%
6	Land use Pattern	DIA GIA Agricultural land - - 60% Fallow Land - 85% - Residential - 10% 20% Vegetation/garden 5% 10% River/Water bodies 10%
7	Affected Land by Type	Land Type - Non Cultivable
8	Major Occupation Patterns among HH Members	Agricultural 50% Business 5% Service 5% Wage earner 30% Rickshaw puller/E-bike puller 10%

No.	Parameter	Description
9	Types of Housing Structure in Proportion	Pucca 13%
		Semi Pucca 26%
		Kutchra 60%
		Jhupri 1%
10	Ethnic Community	No ethnic community within Project area
11	Women involvement in economic activity	No activity in DIA & GIA due to DIA is substation area and GIA area is urban area. Labour are not sale and not hired labour but area is social conservative. During visited time, no involvement in women has found that area and no women involved data found from consulted participant.
C. Ecological Features		
1	Flora and Fauna	The study area of proposed substation site is located within Ganges flood plain Bio-ecological zones.
2	Terrestrial Flora	The proposed project site is mainly comprised of herbs and grasses with two trees, one Mahagoni and another is Boroi tree. In addition, Kochu, Upotlungra, kokasanda, Shetdoron, Kanybasi, shetgovodi, asamlota, cypress grass are notable. There is no orchard in the study area. Only guava, kath badam and amra are found in homestead area. This may be noted that there no designated forest area within and outside project area.
3	Aquatic Flora	The adjacent substation location is low land as well as floodplain area, which is use for single crop cultivation i.e. paddy. Water hyacinth (Kochuripana), Water cabbage (Topapana) and Duckweed (Khudipana) are common free floating community during monsoon period. In the dry period, this seasonal wetland in these areas remains completely or partially dry.
4	Faunal distribution - Birds, Wildlife and Wetland Habitats	Common birds within project area are dove, black drongo, common myna, kingfisher etc. Domestic cattle were found within and around project site. Few amphibians and reptiles such as toad and snake are common in the surroundings of the proposed project area. However, no wild animals were found within the proposed project site
5	Fish Habitat	The study area of proposed Substation comprises both capture and culture fishery resources. The capture fishery of the study area comprises Flood plain, Khals and the culture fishery comprises homestead aquaculture ponds.

Table 3-6: Summary of Important Features of Barisal Substation Area

No.	Parameter	Description
A. Environmental Setting		
1	Location	<p>Located at ward no. 30 of Barisal City Corporation under Kaladema Mouza within Sadar Upazila of Barisal district and it is by road about 236 km on the north-west of the capital city Dhaka. GPS Coordinates are given below:</p> <p>North East- 22°45'17.62"N; 90°18'27.36"E; North West- 22°45'18.07"N; 90°18'25.50"E South East- 22°45'14.64"N; 90°18'27.45"E South West- 22°45'12.27"N; 90°18'24.65"E (See maps. in chapter 12.10 and 12.11.)</p>
		
2	Climate	<p>The climate of the project area is described as Tropical Monsoon - characterized by warm, humid summers and cool, dry winters. The areas, however, experience noticeable spatial variations in temperature and rainfall. The average monthly maximum temperature of project area varies in the range 18°C to 29°C. The average monthly minimum temperature of project area varies in the range 6°C to 11°C. The mean annual rainfall is 2148mm. The peak rainfall months in the scheme area are June, and July. The maximum relative humidity varies from 17- 100% throughout the year.</p>
3	Ecologically Critical Area	No ecologically critical areas found in the periphery of the substation area. (See ECA Map)
	Reserve/Protected Forests	No Reserve/Protected Forests found in the periphery of the substation area.
4	Predominant Geological Formations	Geology of scheme area, which is in Barisal District, belongs to Geosynclinal basin. The basin in the southeast is characterized by the huge thickness of clastic sedimentary rocks, mostly sandstone and shale of Tertiary age.
	Topography	The general topography of the scheme area is flat. The average ground elevation of the scheme area is about 5 m.
	Major Physiographic Units	Ganges River Flood Plain
	Major Soil Type	The soil of the areas is olive brown, silt loams and silty clay loams on the upper layer. The soil is neutral.
5	Principal crops	The main fruit trees noted within proposed substation area are Mango, Jackfruit, Adam apple and Banana. But no seasonal agricultural crops

No.	Parameter	Description
		are grown within this project site. In addition, the major agricultural crops grown within surrounding proposed project site area are T.Aman, Boro, Maize and Pulses
6	Major Water Bodies	There are few privately owned ponds ranging from medium to large found surrounding the proposed substation site. In addition, Kirtankhola River passes 12 km away from the sub-station area.
7	Flooding	The substation area is not located within flood prone area and hence historically no flood water retention reported within proposed project site.
8	Seismicity	The project area falls in Zone III, i.e. low intensity seismic zone of the country (Ref: Bangladesh National Building Code)
9	Environmental Hotspots	There are two Schools (2 nos.), one Madrasa (1 no.) and two Mosques (2) found about 500 m distance from the proposed project site (general impact area). But no hospital and health centre found within the surrounding 500 meter distance area.
10	Major Settlements	The Northern side of the proposed project site is Gopinathpur village while Monudia village and Soralata Society are on the eastern side. Monahor and Ghughudia village are located on the South and Western side of the proposed substation respectively.
11	Major Industries/ Business Entrepreneurs	The Northern side of the proposed project site is Koladema village. Goriarpar bus stoppage including Goriar par village are on the eastern side. Whereas Kolosh gram and Koladema paschim para village are located on the South and Western side of the proposed substation respectively.
12	Archaeological sites	There are no archaeological sites both in DIA or in GIA
13	Main Road	There are one high way road, Dhaka- Barisal is main road passes by the side of the proposed project site. In addition, Barisal - Kuakata - Parjatan road national road and Banoripara - Sarupkathi road (internal upazila road) also passes by the side of the proposed project site.
B. Socioeconomic Profile (Source BBS- 2011 (estimated 2018 & Field Survey))		
1	Population	Total 4175, Male 2066 & Female 2109
2	Household	865 no.
3	Average Household Size	4.8 person per household
4	Sex Ratio (male/female)	98 male against 100 female
5	Literacy Rate	Total 70.6%, Male 73.0%, Female 68.3%
6	Land use Pattern	DIA GIA Agricultural land - - 40% Fallow Land - 100% - Residential - - 30% Vegetation - - 20% River/Water bodies - 10%
7	Affected Land by Type	Land Type- Not-cultivable; So, no effect of land type.
8	Major Occupation Patterns among HH Members	Agricultural 50 % Business 20% Service 20% Wage earner 5% Rickshaw puller/E bike puller 5%

No.	Parameter	Description
9	Types of Housing Structure in Proportion	Pucca
		16%
		Semi Pucca
		14%
		Kutchra
		68%
		Jhupri
		2%
10	Ethnic Community	No ethnic community within the Project area
11	Women involvement in economic activity	No activity in DIA & GIA due to DIA is substation area and GIA area is urban area. Labour are not sale and not hired labour but area is social conservative. During visited time, no involvement in women has found that area and no women involved data found from consulted participant.
E. Ecological Features		
1	Flora and Fauna	The study area of proposed substation is located within Ganges flood plain Bio-ecological zones
2	Terrestrial Flora	During field survey, one tree of Sisso (dalbergia sissoo), Akasmoni (acacia mangium), dumur (ficus racemosa) and Silkori (abegia procera) are noted at the proposed project site. In addition, major herbs dominating the proposed project area are chon, grasses, climbers, herbs and sapling of some woody species such as hazardana, kesordam, terris, kakmachi, asam lota, basket grass, shetgovodi, cypress, chatidhora etc. The ecological setting of the study area is typical homestead and roadside vegetation.
3	Aquatic Flora	The proposed substation area is medium high land, and does not contain any water body. However, adjacent khal outside the project site is moderately rich in aquatic plant. In addition, there are ponds and ditches which are dominated by Water hyacinth (Kochuripana), Water cabbage (Topapana) and Duckweed (Khudipana) as free floating community in monsoon seasons. In the dry season, these water bodies are partially or completely dried and gradually occupied by different grass species such as Durba (<i>Cynodondactylon</i>), Kolmi (<i>Ipomoea aquatica</i>), Dholkolmi (<i>Ipomoea carnea</i>) etc.
4	Faunal distribution - Birds, Wildlife and Wetland Habitats	During field survey common birds like dove, black drongo, common myna, kingfisher etc. and some domestic cattle's are found within and around proposed project site, but no wild animals are noted in the area. Aquatic habitats are common in the study area due to the freshwater lowlands, ponds, canals through the area.
5	Fish Habitat	The study area of proposed substation comprises of both capture and culture fishery resources. The capture fishery of the study area comprises Flood plain, Khals and the culture fishery comprises homestead aquaculture ponds.

4. Impact Matrix

Potential environmental impacts on the IECs* during the construction phase of the project are presented in a matrix in the Table below.

Table 4-1: Impact Matrix - Construction Phase

IECs/Issues	Potential Impacts	Probability	Magnitude	Significance Prior to Mitigation
Physical-Chemical Environment and Water Resources				
Ambient air quality	Suspended particulate matter from excavation works and land clearing, including vehicular emissions, may affect workers and community.	Medium	Moderate	Moderate Adverse
Ambient noise	Mobilization of heavy equipment and machinery, use of construction vehicles, transport of materials, and construction activities may increase ambient noise level. Exposure to high level ambient noise may cause anxiety and disturbance to workers and community.	Medium	Moderate	Moderate Adverse
Quality of surface and groundwater	Potential for siltation due to construction works near river.	Medium	Moderate	Moderate Adverse
Riverbank erosion	Potential erosion due to ground movements along the riverbank	Medium	Major	Moderate Adverse
Land and Agricultural Resources				
Soil quality for agricultural purposes	During construction, top soil at the tower footings may be eroded during excavation.	Medium	Major	Moderate Adverse
Soil/Land contamination	N/A	N/A	N/A	N/A
Land use	Would be partially impacted as agricultural land may be permanently lost due to the tower footings.	Medium	Moderate	Moderate Adverse
Crop production	May be moderately affected due to crop loss at the tower footings and in the clearing for RoW.	Medium	Moderate	Moderate Adverse
Change in topography/terrain	Excavation works for the transmission towers may affect topography.	Low	Minor	Minimal Adverse
Impairment of visual aesthetics	Main impact is caused by transmission lines to the landscape.	High	Minor	Moderate impact
Fisheries Resources				
Fish habitat	Construction activities may temporarily affect fish habitat	Medium	Minor	Minor Adverse

IECs/Issues	Potential Impacts	Probability	Magnitude	Significance Prior to Mitigation
Fish Production	Fish production not likely to be affected	Low	Minor	Minimal Adverse
Terrestrial Resources (Flora and Fauna)				
Terrestrial vegetation	Vegetation clearing may be required at the tower footings and RoW	Medium	Moderate	Moderate Adverse
Wildlife habitat and their disturbance	Route will be mainly in urban or peri-urban areas. Habitat in the areas affected may not host wildlife.	Medium	Moderate	Moderate Adverse
Socioeconomic Resources				
Compensation for crop damage	Standing crops at the tower footings and RoW may be damaged.	Medium	Moderate	Moderate Adverse
Land price	Value of land may be temporarily affected.	Medium	Moderate	Moderate Adverse
Temporary employment opportunity	Both technical and non-technical labourers will be required	Medium	Moderate	Moderate Adverse
Human health and safety	Workers may be exposed to occupational health risks and safety hazards.	Medium	Moderate	Moderate Adverse
Employment opportunities and Income generation	Employment opportunities will be created for people in the immediate area, as well as increased capital income and productivity of the local people	Medium	Moderate	Moderate Beneficial

*IEC- Important Environmental Components

5. Contractor's Obligations

During the construction phase, the Contractor takes the responsibility of the majority of the environmental and social mitigation and monitoring actions. Under these situations, **intec** will oversee the implementation of the ESMP and maintain a monitoring and oversight capability to ensure that contractors are fulfilling their obligations.

The Contractor has the following obligations:

- to submit a methodology statement on his general and planned procedure on the below requirement already during the bidding stage as per Volume I, Section IV, item 6.2,
- to submit work method statements with reference to the requirements of the ESMP, outlining the CESMMP with sub-plans;
- to submit a work plan for the establishment of the CESMMP during the bidding stage;
- to submit the CESMMP including all required sub-plans earlier than 30 days after contract effectiveness, and before the works start;
- to adhere at all times to national environmental, social and health and safety legislation;
- to adhere to the ILO core labour standards as set out above and to the requirements as set out in Section 6 "Staff and Labour" of the FIDIC "Pink Book" - Conditions of Contract for Construction, MDB Harmonised Edition, 2010;
- to adhere to the provisions as set out in the ESMP below and to the international standards as set out above (WB E&S safeguards, IFC/WB EHS guidelines and EHS guidelines on power transmission and distribution);
- to develop a detailed Construction ESMP (CESMMP), comprising as minimum but not limited all issues as listed in the table in chapter 6;
- to review the provisions in the table in chapter 6 and to identify any additional measures as appropriate based on the results of the ESIA, to achieve full compliance with the applicable standards as listed above and to achieve full compliance with relevant national legislation; all sub-plans must comprise appropriate provisions for monitoring and reporting;
- to implement the provisions of the Avian Protection Plan, to be provided by the Employer;
- to implement the provisions of the Sensitive Habitat/Biodiversity Management Plan to be provided by the Employer;
- to comply with the provisions of the RAP, to be provided by the Employer;
- to integrate the relevant provisions of the Community Liaison Plan, Stakeholder Engagement Plan into the CESMMP;
- to consider information related to sensitive habitats from the ESIA's, to be implemented in the Vegetation Management Plan;
- to decide on the establishment of any additional management plan, if appropriate (e.g. Sensitive Habitat Management Plan, corresponding to information to be provided by PGCB);
- to establish, communicate and supervise adherence to a worker's code of conduct (aiming at ensuring public health, safety and security and maintain good community relations).

The CESMMP and all sub-plans and the costs will be subject to non-objection from the Employer and KfW.

The implementation of the CESMMP after approval will be subject to supervision and monitoring by the Employer / Implementation Consultant.

The Contractor will appoint a qualified team of environmental, social, community liaison and occupational health and safety experts, in compliance with Volume I, Section III, 2.5 Personnel.

The Contractor shall report quarterly on the progress. However, he has to provide to the Employer promptly, but in any event within 3 workdays after the occurrence of any of the events set out in this sub-clause:

- details of
 - any incident of environmental or occupational health and safety nature (including without limitation any explosion, spill or workplace accident which results in death, serious or multiple injuries or material environmental contamination), or
 - any incident of social nature (including without limitation any labour strike or violent labour unrest or dispute with local communities / community protests), occurring on or nearby any site, plant, equipment or facility of PGCB which has or is reasonably likely to have a material negative impact on the environment, the health, safety and security situation, or the social and cultural context, together with, in each case, a specification of the nature of the incident or accident and the on-site and off-site effects of such events, or
 - any action by the competent authorities / regulators leading to partial or complete stop of project activities, and
- details of any action the Contractor proposes to take in order to remedy the effects of these events, and shall keep the Employer informed about the progress of any remedial action.

The Contractor will develop the ESMP below to further detail and establish a site and work-specific Construction Environmental and Social Management and Monitoring Plan (CESMMP), with clear description of measures and tasks, responsibilities, timing of activities and monitoring and reporting routines.

Item	Topic/Potential Impact	Mitigation Measure	Responsibility for Implementation	Timing	Monitoring and Reporting Provisions
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6. ESMP

Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
1.	Environmental and Social Management System (ESMS)	Ensure acceptable overall system to manage environmental and social matters, including necessary management procedures, monitoring / reporting routines, training programs and stakeholder engagement procedures (i.e. communication with affected households and the public)	PGCB (with Consultant's support) Contractor	ESMS in place; Existing Management procedures, monitoring/reporting routines, etc.
2.	E&S Management Capacity	Appoint qualified person(s) to be responsible for and to oversee environmental, social, and occupational health and safety performance at the project site.	PGCB Contractor	Qualified managers/staff in all the organisation structure
3.	Emergency Preparedness and Response (EPRP)	Development and implementation of an Emergency Preparedness and Response Plan (EPRP) , engineering contingencies, collisions, natural hazards and other emergencies during construction to include at minimum: <ul style="list-style-type: none"> • The emergency response in the event of fire, accidents, earthquakes, floods; • Procedure for staff and subcontractors to report any incidents and the investigation, remediation and preventive actions taken, • Regular emergency response training; • Emergency communication procedure including local communities and authorities. 	Development: PGCB & Contractor Implementation: Contractor	<ul style="list-style-type: none"> • Plan approved • Minimum number of Emergencies identified • Orderly responses to emergencies they occur
4.	Public Health and Safety, Communication to Affected Communities	Development and implementation of a Public Health and Safety Management Plan , including relevant provisions from the Community Liaison Plan (to be provided by the Employer), addressing at minimum, but not be limited to the following issues: <ul style="list-style-type: none"> • Implementation of Stakeholder grievance mechanism • Regular stakeholder engagement activities in order to establish good community relations • Public education and outreach to enhance risk and hazard awareness, provide information about safety measures related to construction (incl. special attention to vulnerable groups, i.e. children) • Adequate security measures to prevent accidents and injury • Water spraying to control dust pollution 	Development: PGCB with support of the contracting and consulting engineer Implementation: Contractor	<ul style="list-style-type: none"> • Qualified manager/staff in charge for such matters • Plan approved • Grievance process in place (internal and external) • Management of change procedure in place

Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
		<ul style="list-style-type: none"> Noise levels (for residents, noise levels may not exceed 55 dB(A) during day time (07:00 - 22:00) and 45 dB(A) during night time (22:00 - 07:00) or result in a maximum increase in background levels of 3 dB(A) at the nearest receptor location off-site) Notification of nearby residents/businesses at least 24 hours in advance if particular noisy activities are anticipated Limiting noise generating activities to day time (working hours) Information to the public in advance in case of transporting heavy equipment Appropriate warning signage to identify work areas and hazardous equipment Warning signs at all towers to sensitize communities on dangers of electricity, and risks of electrocution Adequate security to prevent public access to substations, work sites, hazardous materials and waste Worker's code of conduct to prevent friction or conflict with communities Sensitizing of local communities on risks related to Sexually Transmitted Diseases (STD) and inform about appropriate avoidance and prevention Avoidance of gender based violence and sexual harassment, including strict provisions in the workers code of conduct and including an appropriate grievance mechanism, which would provide protected and confidential space for victims and which would constitute accessible avenues without risks that additional harm would occur to victims. Working hours (will be limited in sensitive areas (e.g. near settlements) Sensitizing and information of local communities on the provisions of the emergency preparedness and response plan Public awareness about the possible collapsing or toppling of towers. Quick information system will be developed while happening of such incident particularly during earthquake or thunder. The awareness raising actions to be described in the Community Liaison Plan Anti-climb guards to be installed at the base of each tower and an education programme for local schools will be developed to highlight the dangers of e.g. kite flying in proximity to the overhead lines 		

Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
		<ul style="list-style-type: none"> Monitoring and reporting provisions Any other issue as identified as appropriate by the Contractor 		
5.	Risk mitigation for Local Communities	Develop and implement measures to minimize risk to local communities, to include: <ul style="list-style-type: none"> Access controls at all work sites (fences, guards, barriers, signs, as needed to control access) Measures to discourage/prevent climbing on towers Consultation with local authorities on hazards, materials and training programmes for schools 	Contractor	No uncontrolled access to sites
6.	Stakeholder Engagement	Development and Implementation of a Stakeholder Engagement Plan for the construction period, including an accessible, culturally appropriate and transparent grievance mechanism	Development: PGCB with support of the contracting and consulting engineer	Stakeholder engagement per SEP
7.	Working Conditions	Develop and implement a Work Camp Management Plan (including major storage/laydown areas), to include requirements/definitions as needed for: <ul style="list-style-type: none"> Delineation of the boundaries of work areas and roads Definition and marking of discrete areas within the boundaries (e.g., accommodations, vehicle maintenance, fuel storage, materials storage, waste storage, offices, materials storage, etc.) Separation of accommodations (if any) and maintenance/storage areas Working hours Security and access control Fire safety Requirements for sanitation, potable water, site maintenance Requirements for grey water and sewage management Accommodations management (if the camp includes accommodations) 	Plan: PGCB or Contractor Implement: Contractor	Plan Developed and approved Work camp Organisation & Management according to Plan
8.	Management of Worker Relationships	Development and implementation of an overall Workforce Management Plan <ul style="list-style-type: none"> The Contractor is contractually obliged to abide by national regulations and the ILO Core Labour Standards The Workforce management shall fully comply with the requirements set out in Section 6 "Staff and Labour" of the FIDIC "Pink Book" - Conditions of Contract for Construction, MDB Harmonised Edition, 2010 The Contractor has to establish and implement provisions for workers' grievances 	Development & Implementation: Contractor	Workforce Management Plan in place

Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
		and will maintain a grievance log <ul style="list-style-type: none"> The Contractor has to ensure not to discriminate people based on their gender, caste, colour and place of origin. Similarly, priority for jobs will be given to vulnerable groups as per their ability and skills and willingness to work in the project area Workers' accommodation has to be provided in compliance with international best practice and international standards and guidance on workers accommodation All personnel has to be provided with valid work contracts and will have a health insurance Workers code of conduct shall be introduced to all workers 		
9.	Working Conditions and Management of Worker Relationships: Child Labour	Bangladesh did not ratify ILO convention no. 138 on the minimum age for admission to employment and work. Hence, the ESMP for the construction period must contain respective provisions to avoid child labour. The Contractor must ensure and follow up that no child or forced labour will be employed by the project. This refers not only to work sites, but also to camp sites and to the supply chain. This provision will be strictly adhered to and monitored during the construction period. In case workers below the age of 18 are employed, these shall not be involved in heavy or dangerous work.	Contractor	Limited use of workers below age of 18, Human Resources evidences and employee records to be kept on site
10.	Working Conditions and Management of Worker Relationships: Occupational Health and Safety	<ul style="list-style-type: none"> Appointment of qualified OHS supervisory staff on site Development and implementation of Occupational Health & Safety Plans that comply with national requirements and the health and safety provisions contained in the WB/IFC EHS guidelines for power transmission and distribution and the general WB/IFC EHS guidelines. All workers shall receive safety instructions; workers will be trained regarding working at heights, electrical and vehicular safety, handling of hazardous materials, PPE, hazard avoidance and reduction measures, use of first aid and rescue techniques, emergency response and any other issues as appropriate. Each working crew will have at least one person trained in first aid. First aid kits and fire extinguishers must be available at all work sites and in all vehicles. The transfer of injured workers to hospitals in case of serious accidents has to be 	PGCB & Contractor	Occupational Health & Safety plans in place; Evidences of trainings, instructions, reporting procedures and tools

Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
		<p>assured.</p> <ul style="list-style-type: none"> • Medial screening of workers. • Limit occupation exposure of workers to EMF by use of shielding materials, train workers accordingly. • Daily hired workers are to have the same rights and working conditions as other construction workers. • All Subcontractors will receive an EHS instruction prior to starting work, a work-site orientation and on-the-job or formal training prior to being assigned a job. • The Contractor shall apply best practice international standards of occupational safety with regard to the use of personal protective equipment, work procedures (for tower erection and maintenance, substation construction and maintenance) and equipment movement. • All employees will be provided with the necessary training and safety equipment as required for their respective responsibilities and duties. • Main Contractor(s) has(ve) to ensure that each Subcontractor submits, at the tender stage, proof of his good OHS practices in order to be shortlisted for the work. In case Subcontractors are required to execute specific specialist work on site (e.g., demolition, excavation, electrical work, welding), they will be required to describe a work method i.e. specifying how to reduce or eliminate potential risks. • Safety induction meetings will be regularly conducted, and incident statistics maintained. • Health and safety staff will be appointed and present on the construction site during working hours and will include an on-site first aid emergency capacity. • Sensitization regarding STD. • Worker Management Plan and Occupational Health and Safety Plan will at least contain, but may not be limited to the aspects/requirements listed above, the Contractor will establish additional measures as appropriate. • Worker Management Plan and Occupational Health and Safety Plan will comprise appropriate monitoring and reporting provisions (including recording of workhours, incidents and accidents). 		
11.	Local Recruitment	Develop recruitment procedure to ensure that unskilled workers will be recruited from		



Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
		within the Project area.		
12.	Supply Chain	No child or forced labour to be used in the Project supply chain.	Contractor	Human Resources evidences and employee (or child & forced labour policies)
13.	Noise from Vehicles and Equipment	<p>Develop a Noise Management Plan, implementing at minimum the following requirements (as measures in the Construction ESMP):</p> <ul style="list-style-type: none"> • Implement vehicle machinery and inspection programmes on own and Contractor's/third party's trucks and other machinery; identify e.g. noisy exhausts, engines, loose parts of machinery • Allow truck movements only during daylight time • Use low-sound mechanical equipment, wherever possible • Apply regular maintenance and service of machinery and vehicles during construction works • For workers, noise levels shall be kept below 80 dB(A), wherever possible. Where these values are exceeded, hearing protection must be provided to the workers and warning signs have to be installed • For residents, noise levels may not exceed 55dB(A) or result in a maximum increase of background noise levels of 3 dB(A) at the nearest receptor location off-site • Notify nearby residents/businesses at least 24 hours in advance if particular noisy activities are anticipated • Limit noise generating activities to day time (working hours) • The transmission line emits some noise, especially during wet weather conditions, due to the so-called corona effect. The corona effect can be reduced through design and this should be applied in the detailed design. • Any other noise management measures as identified as appropriate by the Contractor 	Contractor	Noise Management Plan prior to construction
14.	Waste Management	Development and implementation of a Waste Management Plan to ensure that all wastes (hazardous, non-hazardous, waste water) are all disposed of in an environmentally sound manner, considering the following principles:	Plan development: PGCB & Contractor Implementation in con-	<ul style="list-style-type: none"> • Plan(s) approved and implemented • All materials and



Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
		<ul style="list-style-type: none"> (i) waste management hierarchy of avoidance-minimization-reuse-treatment-disposal (ii) identification of and estimated amounts of materials to be used and wastes to be generated (iii) segregation of waste (iv) minimization of construction waste by good technical planning (v) methods and locations for storing and using each type of wastes and material (vi) permits for waste storage and disposal as required (vii) training of staff. <p>Where practicable, garbage and solid wastes generated in the project area will be converted into compost. Where this is not possible, those will be buried in designed landfill areas.</p> <p>Good construction practice and site management will be adopted to avoid affecting soil and ground water, and pollution of water bodies from accidental spills from fuels and lubricants etc.</p> <p>There will be training for the workers in order to ensure adequate waste management.</p>	struction: Contractor	<p>wastes managed according to applicable standards</p> <ul style="list-style-type: none"> • No uncontrolled releases of wastes or materials
15.	Traffic Management	<p>Develop and implement a Traffic Management Plan for construction phase, including at least:</p> <ul style="list-style-type: none"> • Forecast of vehicle/equipment journeys and timing, including routes, based on indicative construction schedule • Driver training requirements, licensing of drivers • Maintenance requirements, with particular attention to proper operation of noise controls and emissions controls, on-site speed limits • Training and licensing industrial vehicle operators in the safe operation of specialized vehicles, including safe loading/unloading and load limits • Preferred routes for specific activities, including restrictions/limitations to minimize disturbance to schools, hospitals, other sensitive areas • Timing of activities to minimize road closures and disruption to local residents • Consultations with local authorities and traffic authorities • Procedures for communication of start and duration of works to the public, includ- 	Development: Contractor Implementation: Contractor	<ul style="list-style-type: none"> • Plan approved by traffic/road authorities • No accidents • Minimal disturbance to normal traffic

Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
		<p>ing communication of abnormal load transports</p> <ul style="list-style-type: none"> • Collaboration with local authorities to improve signage, visibility and overall safety of roads, especially in the vicinity of schools or other locations where children may be present in advance of start of construction • Public awareness raising measures on traffic safety in the construction context • Provisions for appropriate signage of construction area • Monitoring provisions, incident reporting and response actions • Any other issues and specific provisions, as identified as appropriate by Contractor 		
16.	Hazardous Materials Management	<p>Development and implementation of a Hazardous Materials Management Plan to include but not limited to:</p> <ul style="list-style-type: none"> • measures to be implemented to prevent and control inadvertent spills of hazardous materials such as fuels and lubricants • all drivers, equipment operators, and other workforce as appropriate must be aware of and trained for spill prevention and control measures. • Waste oils and chemicals will be collected and stored in suitable storage tanks and will be disposed of by a certified company. • MSDS/fact sheets for all hazardous materials/wastes (fuels, lubricants, fluorescent, paints, epoxies, etc.) • Prohibition on use of transformers that contain polychlorinated biphenyls (PCBs) in transformer oils 	<p>Plan development: PGCB & Contractor</p> <p>Implementation in construction: Contractor</p>	<ul style="list-style-type: none"> • Plan(s) approved and implemented • All hazardous materials managed according to applicable standards • No uncontrolled storage of hazardous materials
17.	GHG Emissions	<p>In order to avoid any leakage of SF6, handling of SF6 during transportation to site, initial filling and maintenance of gas-insulated substations will be undertaken only by the GIS manufacturer or specialised companies mandated by him.</p>	Contractor	Inspection and maintenance logs of SF6-containing equipment
18.	Pesticide Use and Management	<p>No pesticides / herbicides will be used at all in any case.</p> <p>Where the application of pesticides/herbicides is required, ensure that no extremely or highly hazardous pesticides (WHO classes I a and I b, http://www.who.int/ipcs/publications/pesticides_hazard/en/) are utilized by any of the end-users. Moderately hazardous pesticides (WHO class II) can be used only after the end-user has appropriate controls established with respect to the manufacture, procurement, or distribution and/or use of these chemicals. These chemicals should</p>	Contractor	Pesticide use log

Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
		not be accessible to personnel without proper training, equipment, and facilities in which to handle, store, apply, and dispose of these products properly.		
19.	Air Quality	<p>Develop and implement an Air Quality and Emissions Management Plan/Procedure(s), to include:</p> <ul style="list-style-type: none"> • Requirements for dust control in dry conditions, including continual observations and wetting or other controls in case of visible dust • Reduced speed on dusty roads • Covers on earthen/dusty loads • Maintenance of all vehicle and equipment engines per manufacturers' instructions • Immediate removal from service and repair of any vehicle or equipment emitting black smoke 	<p>Development: PGCB or Contractor</p> <p>Implement: Contractor</p>	<ul style="list-style-type: none"> • Plan approved • No visible dust • Minimum emissions of pollutants and GHGs
20.	Compensation for Damage during Construction Land Use and Minimisation of Land Take	<p>Respective provisions in the CESMMP will address at minimum but not limited to the following issues:</p> <ul style="list-style-type: none"> • The Contractor should strictly adhere to the provisions of the RAP regarding compensation for damage caused by construction works (damage to crops, structures and other assets) • Establishment of monitoring/reporting procedure • Land fragmentation will be avoided as far as possible • The stringing of the line and other construction activities will be done in off-farm season • Wherever possible, the proposed transmission line will be aligned at the edges of the fields • Limitation of construction of access roads and careful routing to minimize impacts on agricultural land • Location of lay down areas close to existing roads in non-productive areas to minimize interference with agricultural activities and to facilitate site clean-up and rehabilitation • Affected people to have access to the grievance mechanism • Affected communities to be informed on compensation mechanisms by Contractors Community Liaison Officer 	Contractor according to RAP specifications	<ul style="list-style-type: none"> • Land acquired / used logs • Compensation at replacement cost evidences

Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
21.	Soil and Erosion	<p>Development and implementation of a Soil and Erosion Management Plan, at minimum addressing but not limited to the following aspects:</p> <ul style="list-style-type: none"> • The natural slope disturbances will be minimized during the construction of tower pads. • Erection of tower foundation in unstable land and/or near water bodies will be avoided (at least 100 m distance) to the extent possible. • Minimize removing topsoil at construction sites (i.e. tower sites and substation sites); appropriate storage of topsoil and reinstatement of construction areas after construction activities. • Avoid deposits of loose spoils on steep slopes and near water courses and drainage channels. • Protect excess spoils from runoff. • Excess spoil to be left in orderly piles, covered with topsoil, and re-vegetated with native species. • Minimize off-road vehicle and equipment use. 	Development and implementation: Contractor	<ul style="list-style-type: none"> • Plan developed and approved • No working outside boundaries • No loss of topsoil • No uncontrolled run-off, minimal erosion sedimentation • Disturbed areas restored to productive use immediately after disturbance
22.	Watershed	<p>Development and Implementation of a Water Course Management Plan, at minimum addressing but not limited to the following aspects:</p> <ul style="list-style-type: none"> • Erection of tower foundation near water bodies will be avoided (at least 100 m distance), wherever possible. • Avoid deposits of loose spoils on steep slopes and near water courses/water bodies and drainage channels. • Special technologies for foundation works like mat foundation will be selected of tower pads, which are near to the road, streams and other flood prone areas. Adequate drainage around all the towers pad area will be provided. • Approved sustainable drainage method shall be followed at tower foundations with high water table. • Safety training and equipment (e.g., life rings, barriers, no working alone) for workers who work near ponds/lakes or rivers 	Development and implementation: Contractor	<ul style="list-style-type: none"> • Minimal disturbance of banks • No water contamination • No worker incidents
23.	Vegetation Management / Vegetation Clearing /	Develop and implement an Environmental Mitigation and Monitoring Plan , including the Sensitive Habitat/Biodiversity Management Plan (to be provided by the Employer) and a Vegetation Management/Re-Vegetation Plan at minimum ad-	Develop the Plan: PGCB with support of the contracting and consulting en-	<ul style="list-style-type: none"> • Plan developed and approved • Minimal cutting and as-

Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
	Revegetation / Sensitive Habitats and Species	<p>addressing but not limited to the following aspects:</p> <ul style="list-style-type: none"> • Determination of necessary lay down areas together with the Environmental Site Manager to prevent cutting of trees and to avoid sensitive habitats/areas of high biodiversity areas. • Any felled tree will be replaced as per the provisions of the RAP • Any tree felled related to construction activities (lay down area, access, workers camp, etc.) shall be compensated (financially) and replaced as per the requirements of the RAP. • Any tree felled will be removed, counted, marked and harvested using proper management techniques and handed over to the relevant owner/user groups. • Protect large trees adjacent to construction sites with wooden barriers to avoid unintended destruction. • Protect root zones of large trees from excessive weight of machinery and excavated material. • Mark extent of lay down areas and construction sites. • Minimize construction of new access roads, use existing tracks/roads as far as possible. • Avoid introduction of alien invasive species. • Maximise the use of manual labour during construction to reduce requirements for path clearing for heavy plant equipment. • All natural habitats will be classified prior to removal by an Environmental Specialist, so that a correct species mix offset is established in the areas to be revegetated; the Employer to provide required baseline information from ESIA as part of the Sensitive Habitats and Biodiversity Management Plan. • Implement all provisions of the Sensitive Habitat/Biodiversity Management Plan (to be provided by Employer) including protection and management measures for flora, fauna and habitats, with respective monitoring provisions 	<p>gineer Implementation: Contractor</p>	sociated income loss
24.	Avian Protection	<p>The Contractor will adhere to the provisions of the Avian Protection Plan to be provided by PGCB, the plan will address at minimum, but not limited to the following aspects:</p> <ul style="list-style-type: none"> • Avoid construction in the breeding and nesting season in sensitive areas (i.e. for- 	<p>Develop the Plan: PGCB with support of the contracting and consulting engineer</p>	<p>Construction locations adjusted according to the Avian Protection Plan</p>

Item	Topic / Potential Impact / Issue	Mitigation Measure	Entity responsible	Monitoring Performance Indicators
		<p>ests, wetland) to be identified in the Avian Protection Plan, and where necessary, screens will be erected to prevent monkeys and other arboreal animals from climbing the towers. The exact locations of these will be set out in the Avian Protection Plan.</p> <ul style="list-style-type: none"> Against perching, suitable bird rejecters made of plastic rods should be arranged above the insulators to minimise the risk of arcing electrocution. 	Implementation: Contractor	
25.	Fire	<p>Fire Management Plan</p> <p>A fire management plan to minimise the risk of forest fires will be developed and implemented by the Contractors.</p> <p>The Contractor's tender documents will state that fire will not be used as a method of forest or vegetation clearance.</p>	Contractors	Plan in place
26.	Cultural Heritage	<p>Implement Chance Finds Procedure to be provided by PGCB. The Chance Finds Procedure will include:</p> <ul style="list-style-type: none"> training of all site personnel in the recognition and proper handling and custody of archaeological finds; establishment of protocols for responding to chance finds including cessation of works for finds and notification of PGCB who will advise the appropriate authorities; and expedited procedures for evaluation and treatment of significant chance finds in order to limit impacts to important resources while limiting construction delays. 	<p>Develop procedure: PGCB with support of the contracting and consulting engineer</p> <p>Implementation: Contractor</p>	<ul style="list-style-type: none"> Procedure developed Procedure approved by Lenders and authorities Training conducted No damage to artefacts

7. Implementation Organization and Structure

At the construction phase, the Project Management Unit (PMU) headed by the Project Director (PD) of PGCB in coordination with the Implementation Consultant shall comply with all construction requirements, and encourage the Contractor to fully understand the necessary mitigation measures and implement them.

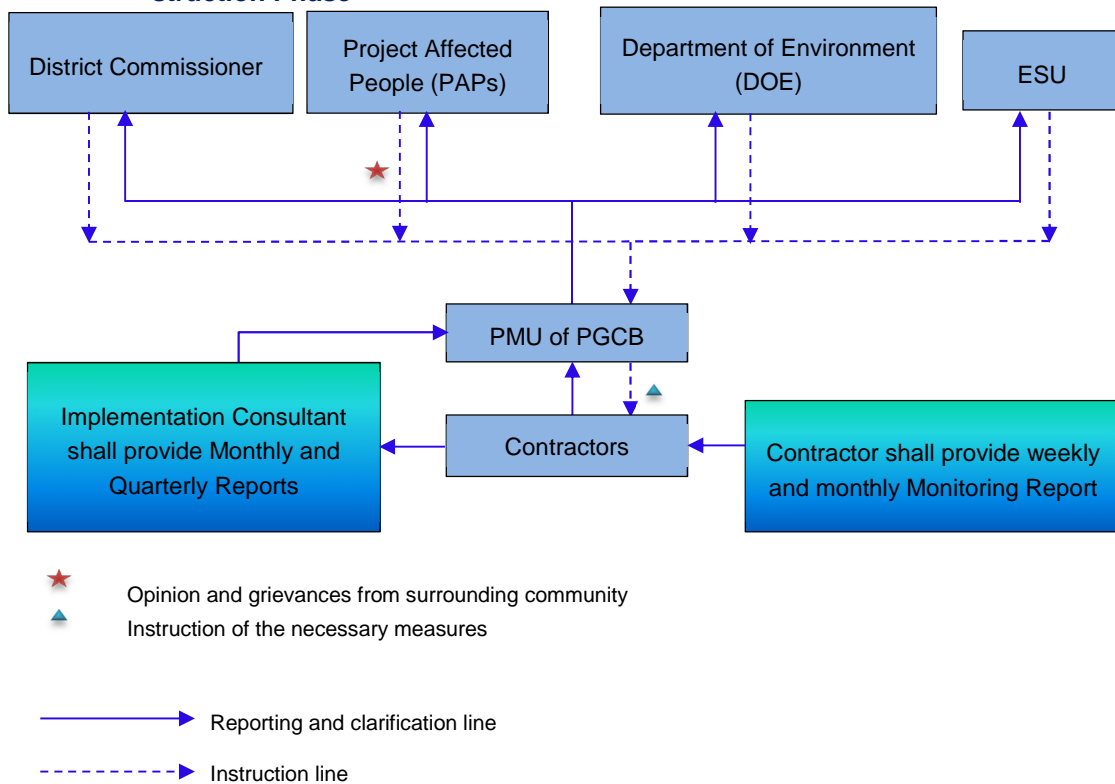
In this regard, an Environmental and Social Unit (ESU) under the PMU shall be organized prior to the start of construction. This unit will review with the Implementation Consultant the mitigation measures prepared by the Contractor in his CESMMP, prior to start of construction.

The ESU shall improve the understanding of the surrounding communities regarding construction details, schedule and mitigation measures, and shall obtain local people's opinion and change the mitigation measures as appropriate.

In order to confirm the implementation of CESMMP and to consider further mitigation measures, the Contractor should submit regular reports to the Implementation Consultant and the ESU on the implementation status of the CESMMP.

If environmental problems occur due to construction works, the Contractor shall confirm the cause and correct the problems as soon as possible. The PD shall instruct the Contractor regarding necessary measures. If the problem is serious, the PMU may order the contractor to halt construction works until the problem is resolved.

Figure 7.1 outlines the environmental management and monitoring implementation structure in accordance with the reporting flow during the construction phase.

Figure 7-1: Environmental Management and Monitoring Implementation Structure in Construction Phase

8. Personnel

8.1 Environmental & Social (E&S) Manager

The Environmental & Social (E&S) Manager is responsible for the day-to-day implementation of the CESMMP. Special attention is to be paid to the Public Health and Safety Management Plan, including community liaison measures to be taken over from the Community Liaison Plan of the Employer, the Local Recruitment Plan, and the Stakeholder Engagement Plan with management of grievances. This tasks specifically include, but will not be limited to the following:

- Ensure the implementation of the CESMMP and sub-plans;
- Provide advice on environmental aspects during the construction phase and provide for any necessary update of the CESMMP or any corrective actions, if required;
- Ensure the implementation and monitoring/reporting of the social components of the CESMMP, namely the Public Health and Safety Management Plan, the Stakeholder Engagement Plan, and the Local Recruitment Plan;
- Coordinate environmental mitigation and monitoring activities; ensure appropriate documentation of monitoring results;
- Promote regular environmental training and awareness raising among construction personnel;
- Monitor the application of environmentally sound and safe working practices and procedures;
- Participate in environmental meetings in the field;
- Ensure that the required environmental reporting is completed;
- Prepare other site-specific plans as required beyond the sub-plans of the CESMMP;
- Liaise and closely cooperate with the Employer's Social and Environmental Manager and Environmental Team Leader;
- Liaise and coordinate with the Employer's counterpart;
- Be responsible inter alia for the correspondent reports within the standard progress reporting of the project.

8.2 Health and Safety (H&S) Manager

The Health and Safety (H&S) Manager is responsible for occupational health and safety and workforce management in accordance with the contractual requirements and the Bangladeshi law. Tasks include but may not be limited to:

- Prepare and ensure implementation of the Occupational Health & Safety Management Plan;
- Ensure that medical facilities and emergency reaction plans are appropriate for the proposed work;
- Implement safety training requirements and meeting programs (i.e. toolbox meetings);
- Monitor health & safety matters related to activities carried out on site;
- Make personnel aware of project policies and of health and safety management measures and the respective obligations;
- Ensure that safety concerns are referred to management for action;
- Ensure that records of all safety concerns are maintained, monitored and resolved;
- Carry out analyses of accident/incident statistics, identifying trends, and make recommendations for any corrective actions;

- Conduct safety audits and organize safety meetings with the Contractor and Subcontractors; maintain emergency preparedness and initiate emergency response;
- Prepare accident statistics and monthly safety reports;
- Assess risks for critical activities and identify appropriate PPE required for the different tasks;
- Coordinate site and camp security;
- Be responsible for the preparation and implementation of the Traffic Management Plan, the Emergency Response Plan (ERP) and the Public Health and Safety Management Plan (this plan to be managed together with the social specialist);
- Ensure implementation of the workforce management plan, including the plan for accommodation in line with the national legislation and the international standards as set out above;
- Establish and maintain a workforce grievance mechanism, including documentation;
- Ensure monitoring, documentation and reporting related to all relevant sub-plans of the CESMMP.

Health Insurance

Workers' health insurance will be provided fully in accordance with Bangladesh regulations.

9. Health, Safety, Environmental & Social Management (HSE&S) Plan

9.1 Control and Use of Personal Protective Equipment (PPE)

The Contractor will provide his workers with the following personal protective equipment (PPE):

- head protection gear;
- goggles for eye protection;
- muffs for hearing protection;
- boots for foot protection;
- gloves for hand protection;
- mask for respiratory protection;
- helmets;
- high visibility vests;
- life jackets;
- heavy lift jackets;
- shields (i.e. for grinding and welding).

PPE will be supplied free of charge to all Contractor's personnel on the project. The Contractor will ensure that the PPE is:

- suitable for the intended use;
- clean and replaced when damaged or no longer effective;
- properly used and maintained by personnel.

The personnel will receive training, information, and instructions on the use and maintenance of the PPE and will be supervised to ensure that it is used correctly. Subcontractors are also required to provide appropriate PPE to their workers.

9.2 Visitors on Site

- All visitors must sign the Contractor/Visitor sign-in register on entering sites and sign off when leaving.
- All visitors should be given safety orientation and should be escorted at all times when on site. All Subcontractors should adhere to these procedures and should submit their training records.
- Visitors should be provided with a visitor's badge on all sites.

9.3 Work Method Statement

The Contractor must complete a Work Method Statement for all works including Subcontractors' works. This is a document which describes the job to be carried out, the steps involved, the hazards associated. The control is to be implemented to ensure that the work is completed safely including all required provisions for health and safety, and for environmental and social management.

9.4 Project Equipment

For all equipment on site, the Contractor must ensure that:

- the employees to use the equipment are licensed and have competency-based training,
- no electrically operated equipment/tools are used during working hours without permission,
- all equipment is operated without risk to employees or the public,
- equipment is stored, operated, and maintained in accordance with the national legislation,
- equipment is not left unattended and is out of reach of children,
- noise emission levels from equipment and working areas are in accordance with noise standards.

9.5 Electro-Magnetic Fields (EMF)

In order to fulfil the international standards referred to in the World Bank Group EHS guidelines, the project needs to be designed to comply with the thresholds for electric and magnetic fields as set out by the International Commission on Non-Ionizing Radiation Protection (ICNRP).

Transmission lines shall not be routed over houses and the distances to houses shall keep the ICNRP's EMF limits.

9.6 Conductor Stringing

Hazards including electric shock, persons/materials falling, injury to onlookers and workmen, and damage to public property require the following precautions:

- The Engineer in charge will ascertain that the necessary permits were issued and that earthing bonds were issued where applicable.
- All scaffolds shall be securely erected and positioned to the required clearances. They shall be checked for sufficient strength to withstand the applied loads and shall be earthed.
- Roadside scaffolds shall be provided with warning lights and signs.
- While stringing, both tensioner and puller should be suitably earthed.
- All workmen will use adequate PPE and body harness safety belts.
- Staying of towers or conductors shall be in accordance with approved techniques and shall be checked daily.
- In order to reduce the risk from lightning strikes, jumpers shall be left disconnected until conductor work of the whole line is complete.
- Adequate communication equipment shall be available to warn the stringing crew/gang about approaching storms.
- Spacing chairs shall be of approved design.
- Conductors shall not be left in position without adequate warning signs and lights.
- Onlookers shall not be allowed to come near tensioners/pullers and under moving stringing and sagging operations. Appropriate signalling signs and communications equipment shall be used during stringing and sagging operations.
- Periodic checks on all tools shall be ensured.

9.7 Power Tools

Hazards including electric shock, hitting by rotating objects or foreign bodies falling in the eye require the following precautions:

- An identified electrician at site shall check all portable power tools before releasing them to the site.
- In addition, it shall be ensured that the power tools are regularly inspected and record maintained.
- If during regular inspection a power tool turns out to be unsafe, it shall be marked/tagged to that effect and returned to stores for repair and replacement.
- All power cables shall be provided with industrial plug and sockets for power distribution.
- The guards provided in the power tool shall not be removed neither by technicians nor by maintenance electricians.
- Power tools shall be returned to the stores at the end of the day or shall be stored properly at site to prevent their damage.

10. Environmental Mitigation Monitoring Plan (EMMP)

The EMMP contains the following monitoring requirements during the construction phase:

Monitoring shall be conducted by accredited laboratories using properly calibrated and maintained equipment. The received data should be analysed and reviewed at regular intervals and compared with the operating standards so that any necessary corrective action can be taken.

On top of previous paragraphs, the Contractor shall clearly describe all monitoring procedures.

Table 10-1: Environmental Monitoring Plan for Substation Subprojects (Shahjibazar, Satkhira, Sylhet, Bhandaria and, Barisal)

Environmental Issues / Parameters	Monitoring Parameters	Means of Monitoring	Frequency	Location	Implementation Agency	Supervision Agency
Environmental and Social Management System (ESMS)	Check the Management procedures, monitoring/reporting routines, etc.	Inspection	Regular	PGCB HQ, Contractor sites	PGCB	Consultant/KfW
E&S Management Capacity	Qualified managers/staff in all the organisation structures	CV Checks/ Audits	Regular	PGCB HQ, Contractor sites	PGCB	Consultant/KfW
Emergency Preparedness and Response (EPRP)	Check the emergency response in the event of fire, accidents, earthquakes, floods	Inspection	Regular	Contractor sites	Contractor	IC/PGCB
Community health and safety	Awareness of local people and staying safety away from the project activities	Inspection	Regular	Contractor sites and camps	Contractor	IC/PGCB
Risk mitigation for Local Communities	Check site surroundings and access to sites	Inspection	Regular	Construction sites	Contractor	IC/PGCB
Stakeholder Engagement implementation	Follow the results of the stakeholder meetings, means of solving their issues, proactive measures and their follow-ups	Inspections	Quarterly	Communities in the vicinity of the sites	Contractor and PGCB	Consultant/KfW
Working conditions	Check the compliance with the Work Camp Management Plan requirements	Inspections	Regular	Contractor camps	Contractor	IC/PGCB
Management of Worker Relationships	Check the compliance with the Workforce Management Plan requirements	Document checks/Audits	Regular	Contractor sites	Contractor	IC/PGCB
Occupational health and safety	Checking health, use of PPE and first aid facilities, DWQ, sanitation and accommodation	Inspection and testing of DWQ	Regular	At construction site and camps	Contractor	IC/PGCB
Noise Pollution	Ambient Noise Level	Measurement	As and when required	At construction sites and camps	Contractor	IC/PGCB
Waste management	Checking collection, storage, transportation, and disposal of hazardous waste. Waste from construction sites to be collected and disposed safely to the designated sites. Waste from labour camp to be disposed properly at the designated sites.	Inspection	Regular	Construction Camps	Contractor	IC/PGCB

Environmental Issues / Parameters	Monitoring Parameters	Means of Monitoring	Frequency	Location	Implementation Agency	Supervision Agency
Traffic Congestion/Road Accident	Checking meeting points of existing road and access road	Inspection	Regular	Meeting point of existing road and access road	Contractor	IC/PGCB
Hazardous Materials Management	Check the compliance with the Hazardous Materials Management Plan requirements	Audits/Inspections	Regular	Construction sites	Contractor	IC/PGCB
Air Quality / GHG Emissions	Check the implementation of the procedures for dust control and vehicle air emissions. Dust should be controlled by water spraying regularly, especially during dry period	Audits/Inspections	Regular	Construction sites	Contractor	IC/PGCB
Compensation for Damage during Construction Land Use	Development and implementation of the RAP/LACP	Inspections	Regular (after the Consultant provides the final document)	Construction area	Consultant for development Contractor for implementation	IC/PGCB
Soil & Erosion and Water Course Management Plan	Checking the Implementation of the Soil Erosion Plans and Water Course Management Plan	Inspection	Regular during earthworks	Substation sites	Contractor	IC/PGCB
Clearing of Vegetation	Checking whether proper compensation as mentioned in the RAP is received by PAPs	Inspection	Regular frequency during site clearing operation	Within the substation land and access road sites	Contractor	IC/PGCB
Fauna (Wild Life)	Checking whether wildlife is disturbed / killed by the workers	Inspection	Weekly	Substation sites	Contractor	IC/PGCB
Fire	Check the compliance with the Fire Management Plan requirements	Audits/Inspections	Regular	Construction sites	Contractor	IC/PGCB
Surface Water Quality	pH, BOD5, COD, NH3-N, PO4	Sampling and Laboratory Analysis	Quarterly	Nearby waterbodies	Contractor	IC/PGCB
Ground water / Drinking Water quality	pH, Mn, Fe, As, TC, FC	Sampling and Laboratory Analysis	Quarterly	At Construction Camps	Contractor	IC/PGCB

As = Arsenic, BOD5 = five-day biochemical oxygen demand, COD = chemical oxygen demand, IC = Implementation Consultants, DWQ = Drinking Water Quality, FC = Faecal Coliform, Fe = iron, H&S = health and safety, HFL = highest flood level, NH3-N = ammonia nitrogen, PAP = project affected person, PGCB = Power Grid Company of Bangladesh, PO4 = phosphate, PPE = personal protective equipment, Mn = manganese, RAP = Resettlement Action Plan, TC = Total Coliform.



11. Lessons Learnt

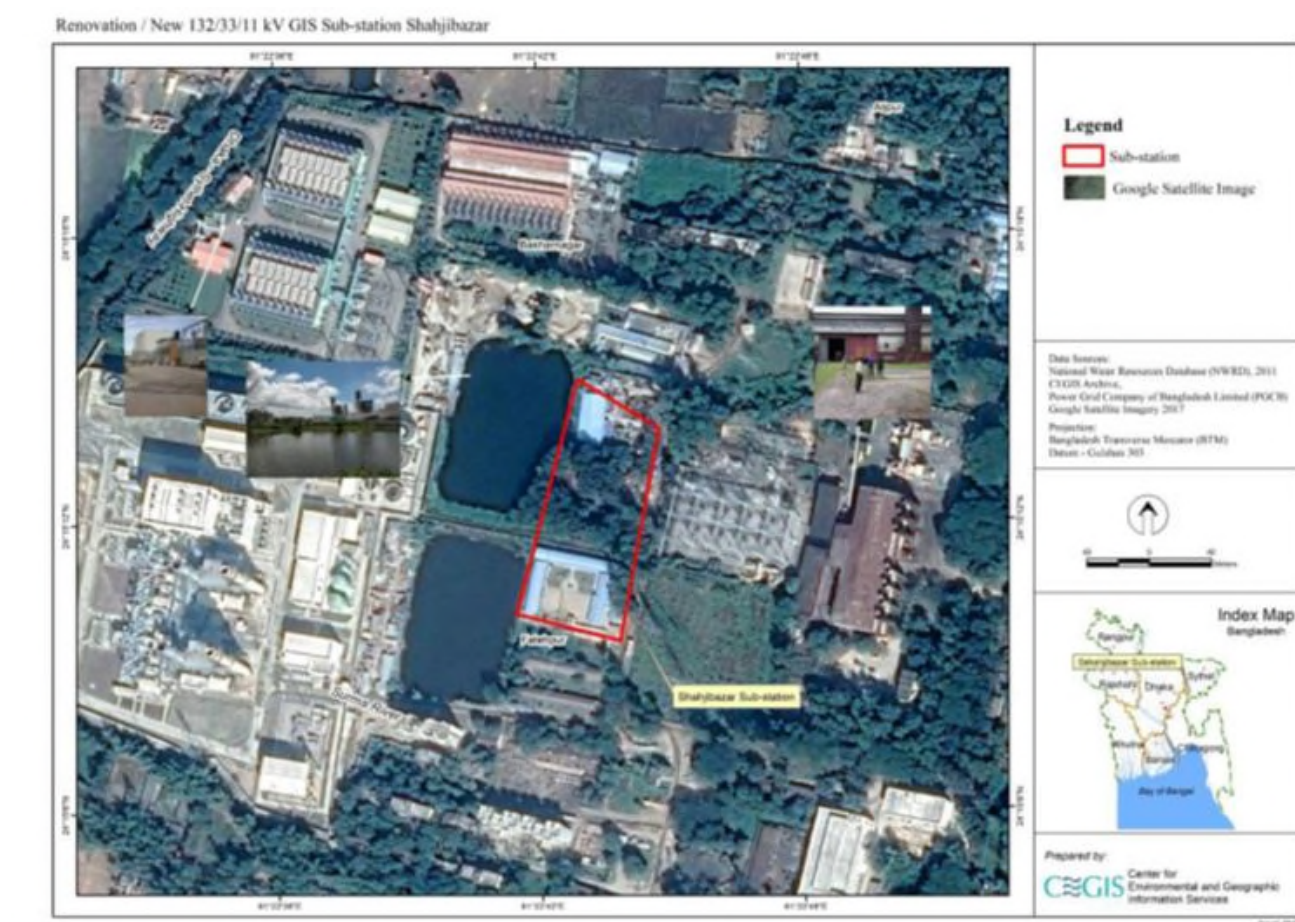
Based on the lessons learnt from the WGNDP project for the Improvement of the Transmission System in the Western Zone financed by KfW, Table 11-1 shows the minimum ESHS measures the WGNDP Contractors have followed:

Table 11-1: Minimum ESHS Measures to Follow by WGNDP Contractors

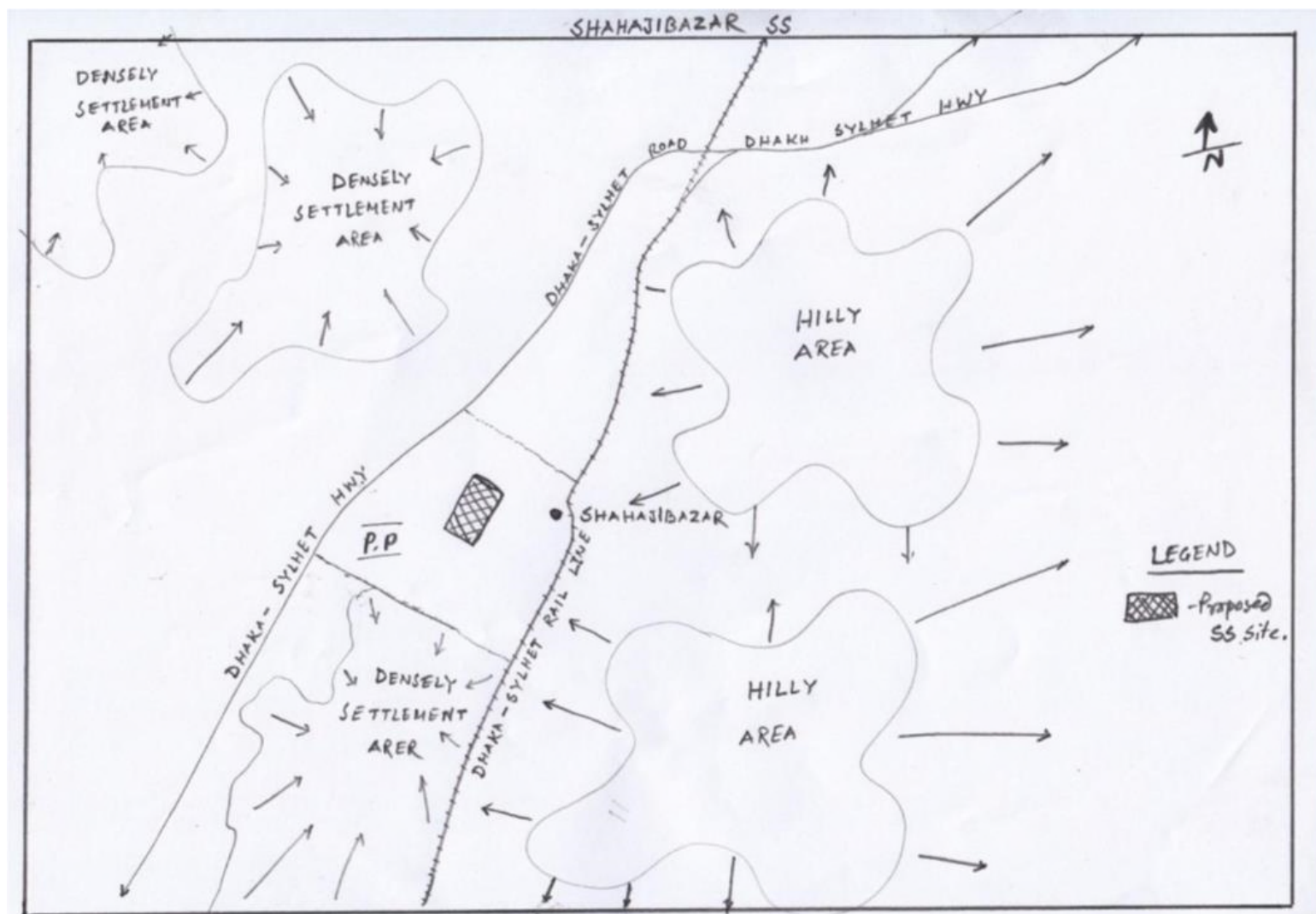
1.	All site workers wear helmets, safety shoes, jackets and gloves, as relevant (similar for noise cancellation)
2.	Site works are enclosed by appropriate fences (e.g. 9 ft. tin sheets); access on gate with barrier and site guard
3.	Office premises contain accessible toilet, water supply, fire extinguisher and first aid kit
4.	Safety instructions board with emergency telephone of Site Manager or HSE Manager
5.	Standard project board panel with contact details (telephone) of PGCB Grievance Contact Person (Site Engineer)
6.	Use of boats and life vests in pools with a depth of more than 1.5 m.
7.	For works located next to national roads, show safety signs for traffic. In no case, works, machinery or heaps of earth invade the roads.
8.	Removal of vegetation and other structures only if all permissions and authorizations are granted
9.	Stakeholder interaction log, safety induction, safety incident log
10.	Secure site working: surrounding barriers and signalling (e.g. excavation area)
11.	Labour compliance documents (e.g. excavator driving license & experience certificate, IDs, payroll list)

12. Maps

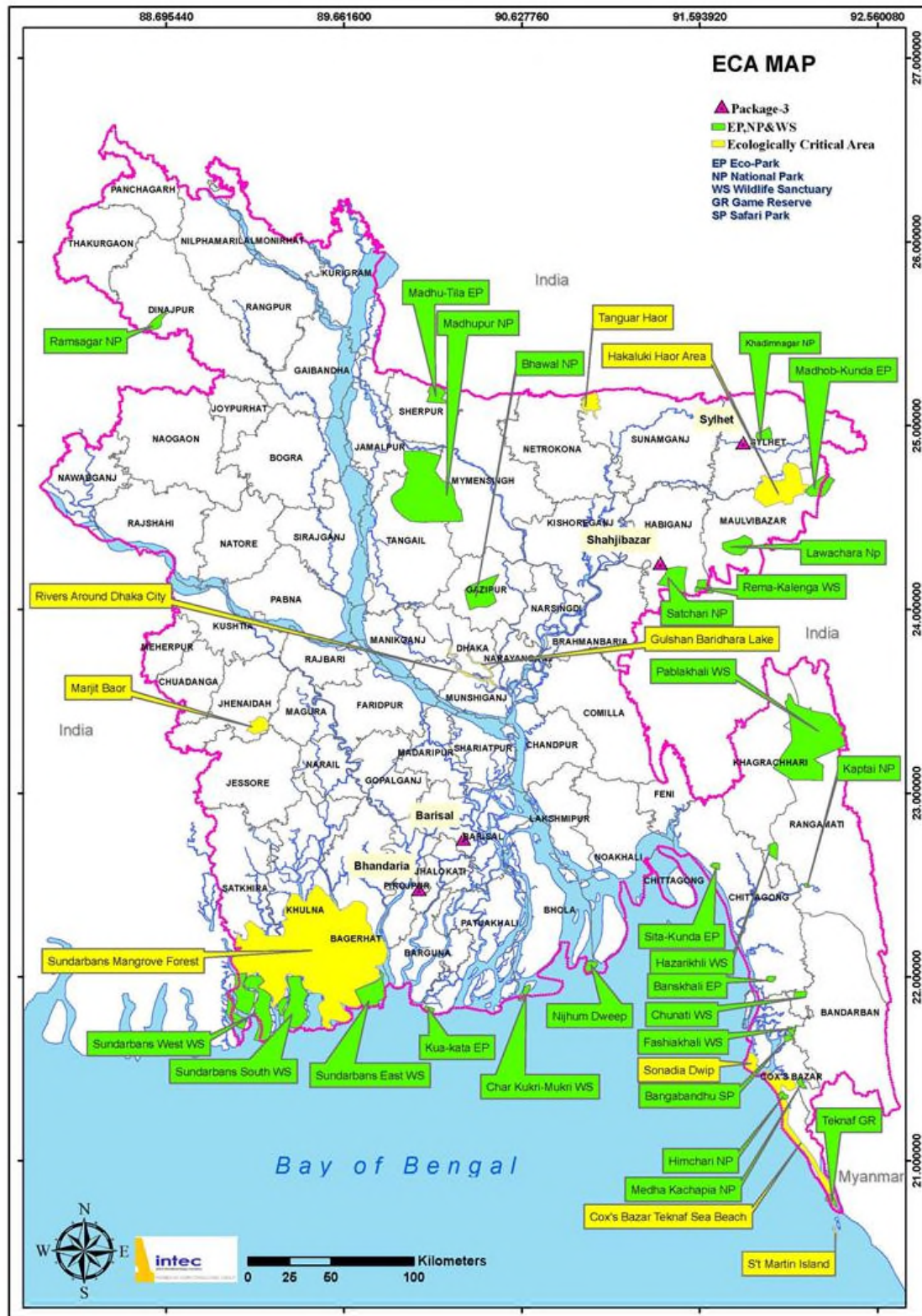
12.1 Location of GIS Substation Shahjibazar



12.2 Sketch Map for the Location of GIS Substation Shahjibazar



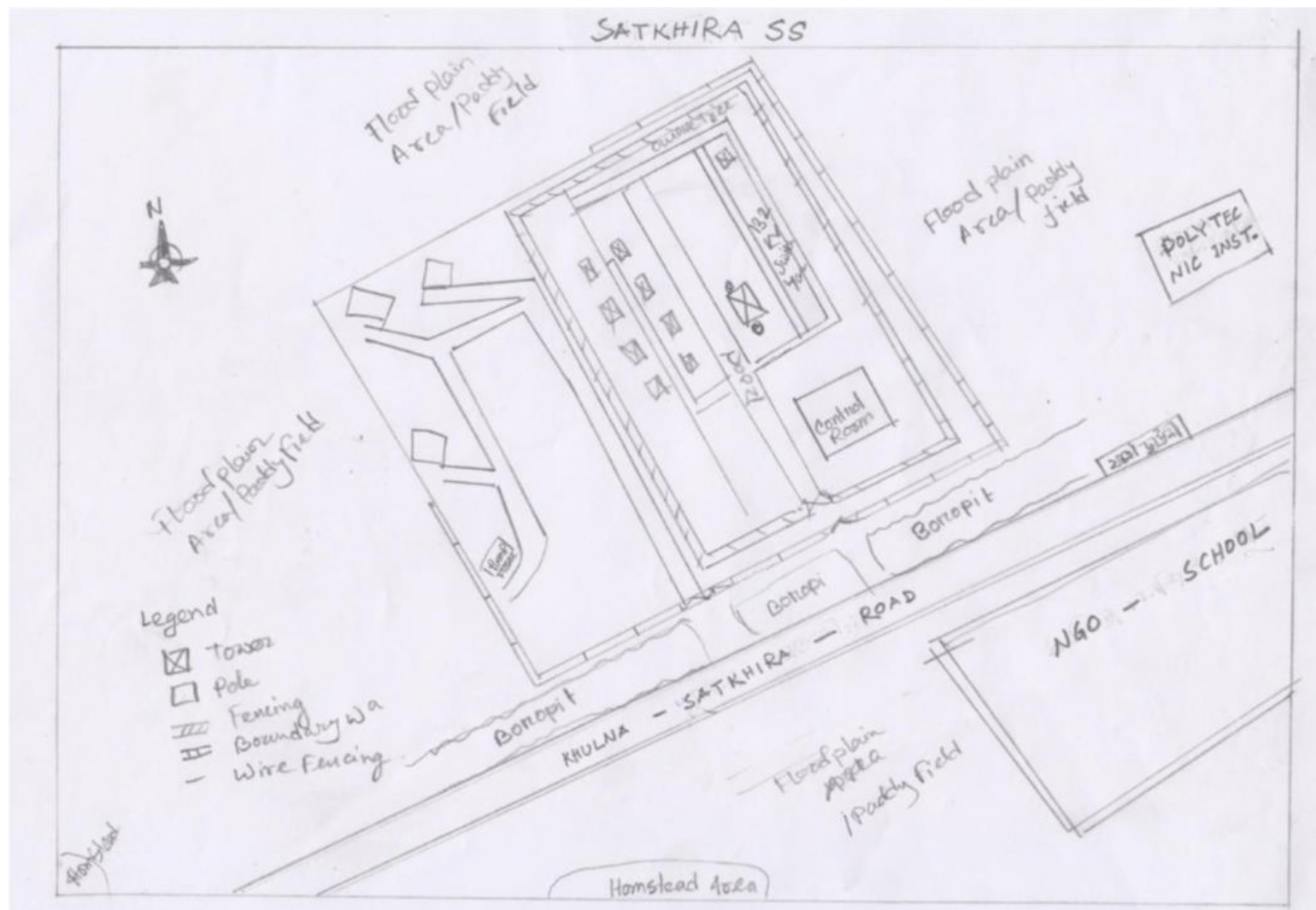
12.3 ECA Map showing Location of Package 3



12.4 Location of the Substation Satkhira



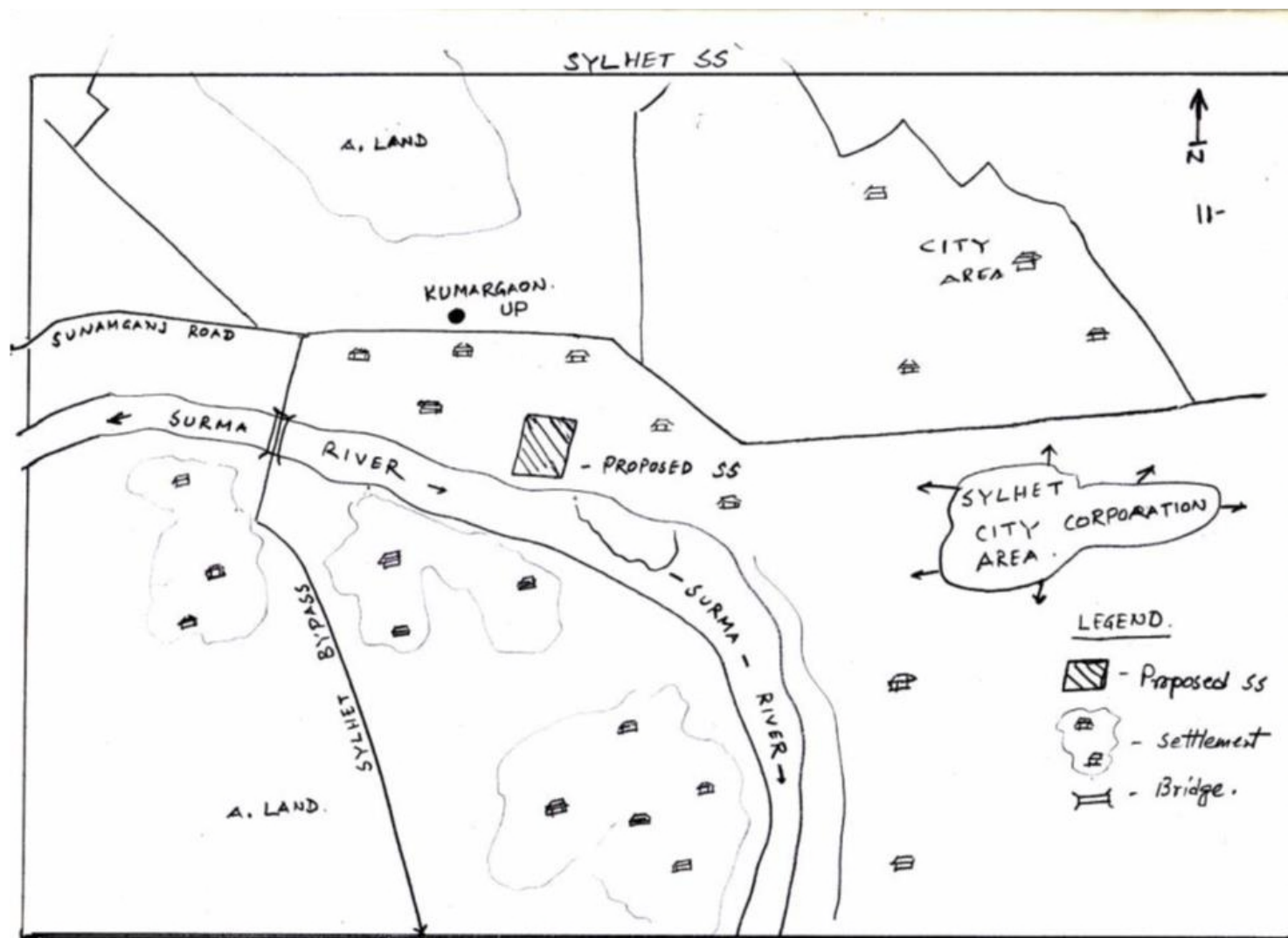
12.5 Sketch Map for the Location of Substation Satkhira



12.6 Location of Substation Sylhet



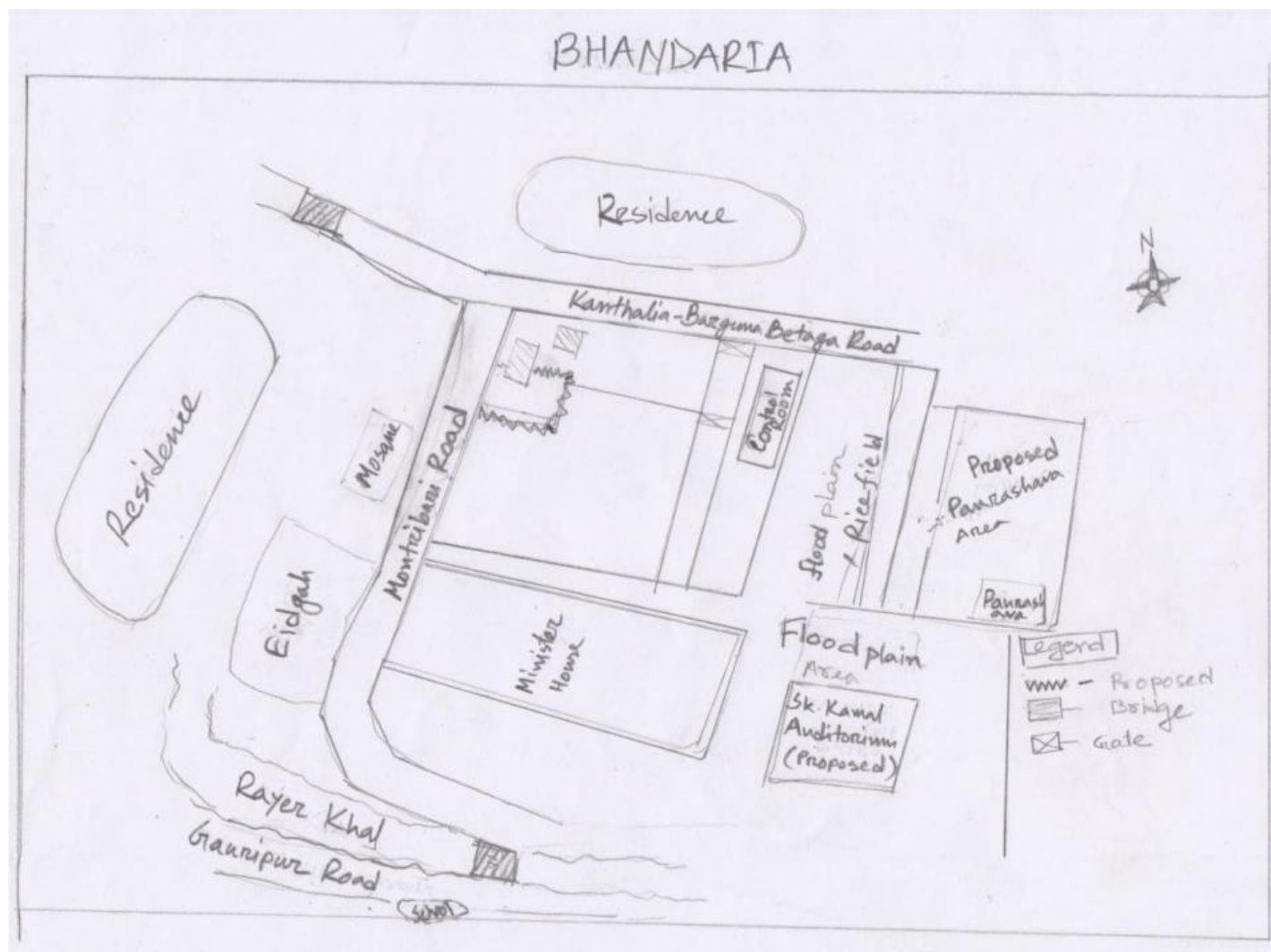
12.7 Sketch Map for the Location of Substation Sylhet



12.8 Location of Substation Bhandaria



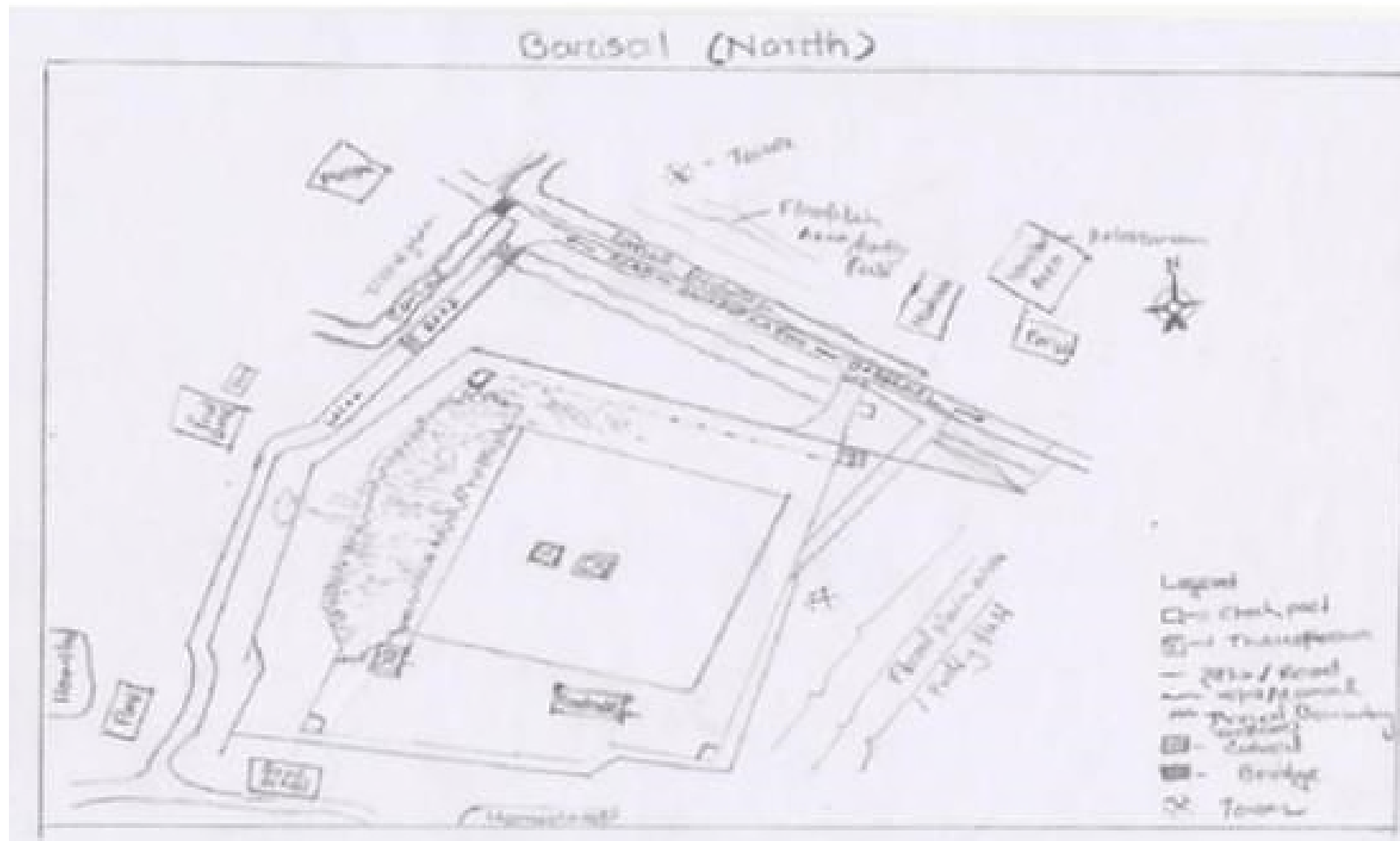
12.9 Location of Bhandaria Substation



12.10 Location of Barisal GIS Substation



12.11 Sketch Map for the Location of GIS Substation Barisal



Annex 2

**Specifications for Environmental, Social, Health and Safety Management
(ESHS) of the Works**



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Abbreviations and Acronyms

BDT	Bangladesh Taka
BMD	Bangladesh Meteorological Department
BNBC	Bangladesh National Building Code
BOD ₅	5-day Biochemical Oxygen Demand
CESLACMP	Contractor's Environmental, Social, Land Acquisition and Compensation Management Plan
CESMMP	Contractor's Environmental and Social Management and Monitoring Plan
CM	Construction Manager
DoE	Department of Environment
EA	Environmental Assessment
ECA	Ecologically Critical Area
ECC	Environmental Clearance Certificate
EHS	Environment, Health & Safety
EI	Environmental Inspector
EIA	Environmental Impact Assessment
EMF	Electro-Magnetic Fields
EMMP	Environmental Mitigation and Monitoring Plan
EMP	Environmental Management Plan
EMU	Environmental Management Unit
ERP	Emergency Response Plan
ESA	Environmental and Social Assessment
ESIA	Environmental and Social Impact Assessment
ESMF	Environmental and Social Management Framework
ESMP	Environmental and Social Management Plan
GoB	Government of Bangladesh
GRC	Grievance Redress Committee
HMMP	Hazardous Materials Management Plan
HSE&S	Health, Safety, Environmental & Social Management
HSMP	Occupational Health and Safety Management Plan
ICNRP	International Commission on Non-Ionizing Radiation Protection
IDA	International Development Association
IEC	Education and Consultation Communication
IEE	Initial Environmental Examination
IEF	Important Environmental Features
IFC PS	International Finance Standard Performance Standard
ILO	International Labour Organization
KfW	Kreditanstalt für Wiederaufbau
LFMP	Labour Force Management Plan
MoEF	Ministry of Environment and Forests
MSDSs	Material Safety Data Sheets
OP	Operational Policy
OP	Operational Procedures
PAP	Project Affected Person
PD	Project Director
PESLACM	Project Environmental & Social & Land Acquisition & Compensation Manager
PESMP	Project Environmental and Social Management Plan
PESMPM	Project ESMP Manager
PGCB	Power Grid Company of Bangladesh
PGCB	Power Grid Company of Bangladesh



Section VII: Employer's Requirements

PM	Project Manager
PMT	Project Management Team
PPE	Personal Protective Equipment
PSCP	Pollutant Spill Contingency Plan
RA	Risk Assessment
RAP	Resettlement Action Plan
REB	Rural Electrification Board
RoW	Right of Way
SC	Safety Coordinator
SCC	Site Clearance Certificate
SI	Safety Inspector
SIA	Social Impact Assessment
SMF	Social Management Framework
SMP	Social Management Plan
STD	Sexually Transmitted Diseases
STI	Sexually Transmitted Infections
TL	Transmission Line
TMP	Traffic Management Plan
ToR	Terms of Reference
WB	World Bank
WMP	Waste Management Plan



A. Environmental, Social, Health and Safety Management

1. Responsibilities and liabilities

- 1.1 In conjunction with his obligations defined under the Contract the Contractor will plan, execute and document construction works pursuant to the present Environment, Social, Health and Safety specifications (ESHS).
- 1.2 The Contractor is liable for all damages to the environment and people caused by the execution of the works or the methods used for execution, unless it is established that the execution or methods were necessary, according to the provisions of the Contract or an Engineer's instruction.
- 1.3. Under the Contract and as introduced by the present ESHS Specifications, the term "Project Area" means:
- a) The land where work will be carried out; or
 - b) The land necessary for the implantation of construction facilities (work camp, workshops, offices, storage areas, concrete production plants) and including special access roads; or
 - c) Quarries for aggregates, rock material and riprap; or
 - d) Borrow areas for sand and other selected material; or
 - e) Stockpiling areas for backfill material or other demolition rubble; or
 - f) Any other location, specifically designated in the Contract as a Project Area

The term "Project Area" encompasses any individual Project Area or all Project Areas.

Project Area defines an area within which the Contractor is to comply with environmental, social, health and safety obligations defined in the present ESHS Specifications. Project Area is a different concept than Site.

Site is the places where the Permanent Works are to be executed and to which Plant and Materials are to be delivered, and where right of access to, and possession of, is to be given by the Employer to the Contractor. The Employer is under no similar obligation for any area located outside the Site, even if within the Project Area, where access is at Contractor's risk.

In term of physical footprint, Site is included in the Project Area. The Project Area is then of greater geographical extent than the Site.

- 1.4 The ESHS Specifications refer to:
- a) Protection of the natural environment (water, air, soil, vegetation, biological diversity) in areas within any Project Area and its surroundings, i.e. including but not limited to access roads, quarries, borrow areas, stockpiling of backfill material, camps or storage areas;

- b) Health and safety conditions to be maintained for the Contractor's personnel and any other person present on the Project Areas, or along access routes;
- c) Working practices and the protection of people and populations living near the Project Area, but exposed to the general disturbance caused by works.

1.5. Subcontractors

The Contractor shall ensure that all Subcontractors and Suppliers (in particular those for major supply items) are familiar with the ESHS requirements and guidelines valid on Site and Project Area.

1.6 Applicable regulations

The Contractor must identify all applicable laws, permits and regulations in relation to the protection of the environment (water, air, soils, noise, vibration, vegetation, fauna, flora, waste, groundwater) and the protection of people (labour law, indigenous populations, standards on occupational exposure, other). The Contractor must list all texts, standards and other regulatory limitations in its Project Area Environmental and Social Management Plan (PA-ESMP) and specify the means taken for compliance.

2. ESHS Planning Documents

- 2.1 The Contractor prepares and ensures prior validation by the Engineer, implementation and regular update of the Project Area Environmental and Social Management Plan (PA-ESMP), which includes Health and Safety aspects.
- 2.2 The PA-ESMP represents the unique reference document in which the Contractor defines in detail all organizational and technical provisions implemented to satisfy the obligations of the present ESHS Specifications.
- 2.3. The Contractor defines in the PA-ESMP the number, the locations and the type of Project Area as defined in Specifications for Environmental, Social, Health and Safety Management (ESHS) of the Works, Sub-Clause 1.3. For each Project Area, unless otherwise agreed by the Engineer, the Contractor establishes site specific management strategies and implementation and monitoring plans to manage and monitor Environmental, Social, Health and Safety (ESHS) risks, depending on the type, scope and risks of the project and as assessed in the project's Environmental and Social Impact Assessment (ESIA). These sub-plans shall be included in the PA-ESMP and include:
 - Health and Safety Plan
 - Traffic Management Plan (to ensure safety of local communities from construction traffic)
 - Boundary Marking and Protection Strategy (for mobilization and construction to prevent offsite adverse impacts)
 - Biodiversity Action Plan
 - Worksite Management Plan

- Site Emergency Plan
 - Accommodation Plan
 - Waste Management Plan
 - Hazardous Materials Management Plan
 - Specific mitigation plan for endangered species in the wider area
 - Emergency plan
- 2.4 The PA-ESMP (and the sub-plans) are structured according to the plan specified in Appendix 1 of the present ESHS Specifications.
- 2.5 PA-ESMP covers the entire period from the Contract Agreement signature date to the date of issue of the Performance Certificate by the Engineer.
- 2.6 Unless agreed otherwise by the Engineer, the PA-ESMP is written in the language of communication defined under Sub-Clause 1.5 of the PCC.
- 2.7 The first draft version of the PA-ESMP is to be provided by the Contractor to the Engineer within 28 days from the date of execution of the Contract Agreement.
- 2.8 The Contractor shall proceed in accordance with the programme, subject to the Engineer's approval of the PA-ESMP. The Employer's Personnel shall be entitled to rely upon the programme when planning their activities.
- 2.9 No physical work or activity shall commence on any Project Area until such time when the PA-ESMP is approved by the Engineer.
- 2.10 During the execution of the works, whenever instructed by the Engineer, the PA-ESMP will be updated by the Contractor and reissued to the Engineer. The revised version shall highlight the new elements incorporated in the document. Such approval shall only be withheld if the PA-ESMP shows substantial deficits.
- 2.11 Related to the PA-ESMP, the Contractor will be responsible for:
- a) communicating the contents of the ESMPs to their Subcontractors and Suppliers (in particular those for major supply items) and workers and training them to ensure that they understand their respective responsibilities
 - b) ensuring that adequate resources are mobilized to implement the specific Plans, including input from any specialist resources necessary to ensure effective planning and implementation of measures
 - c) ensuring that the procedures established in the PA-ESMPs are complied with by their workers and Suppliers (in particular those for major supply items)
 - d) implementing effective monitoring measures listed in the PA-ESMP to ensure that the effectiveness of the activities are assessed and any issues are promptly detected and addressed

- e) ensuring that lessons are learned and corrective actions are taken
 - f) keeping the Engineer fully informed of any Project Area ESHS issues.
- 3. Management of Non-Conformities**
- 3.1 Non-conformities detected during inspections carried out by the Engineer shall be addressed through measures adapted to the severity of the situation and which include, but are not limited to the suspension of works in accordance with PCC 41.
- 4. Resources allocated to ESHS management**
- 4.1 ESHS supervisors and managers
- 4.1.1 Pursuant to Sub-Section 2.5 Personnel of Section III Evaluation and Qualification Criteria, the Contractor appoints at one or several competent Environment, Social, Health and Safety manager in charge of implementing the present ESHS Specifications.
- 4.1.2 The appointment of the ESHS Manager shall include specific instruction to enforce regulations and delegated authority to take any action, measure or to issue instructions regarding their enforcement. All staff and labour within the Project Area shall be made aware of the name and authority of the ESHS managers and supervisors.
- 4.1.3 The ESHS manager holds the power within the Contractor's organisation to suspend the works if considered necessary in the event of severe non-conformities, and allocate all resources, personnel and equipment required to take any corrective action considered necessary. The ESHS Manager speaks fluently the language of communication of the Contract, and the official language of the Employer's country, if the language of communication of the Contract is not the official language.
- 4.2 Personnel in charge of relations with external stakeholders
- 4.2.1 The person responsible for relations with external stakeholders can also be the ESHS Manager appointed, providing that the latter speaks the local population language fluently.
- 4.2.2 If so required, the Contractor shall appoint several subject specific Community Liaison Officers.
- 4.2.3 Personnel in charge of relations with external stakeholders will be based on or near the Project Area on a permanent basis.
- 4.2.4 Administrations and local authorities will be informed of the existence of this person as of the start of works and will be provided with telephone contact details so as to be able to contact this person if a problem arises during the execution of works, or concerning the behaviour of the Contractor's Personnel, inside or outside the Project Area.
- 4.3 The team, including the ESHS supervisors and manager, and the person in charge of relations with external stakeholders, will be equipped with the necessary resources to operate independently and get to all location of the Project Area without delay.
- 5. Inspections**
- 5.1 The ESHS Manager will carry out an ESHS inspection of the facilities and Project Area on a weekly basis. A written report of reasonable length will be drafted for each weekly inspection, in a format approved by the Engineer, addressing non-conformities detected on the Project Area.



- 5.2 Any non-conformity shall be immediately addressed by corrective actions, which will be mentioned in the reports to the Engineer.
- 5.3 Each non-conformity will be documented by a digital photograph with captions to provide a visual illustration, explicitly indicating the location, date of inspection and the non-conformity in question.

6. Reporting

- 6.1. The Contractor includes a summary of ESHS activities implemented in relation to the execution of the works during the reporting period in the monthly Progress Report. The Contractor shall report on compliance with applicable laws, permits and regulations and the project related ESHS requirements. For example, key issues shall include: monitoring results, covering amongst other issues, safety issues, incidents/accidents, need for corrective measures, conflicts amongst construction workforce or with local residents, grievances of workforce or stakeholders, any other details related to the social and environmental management and performance. Issues related to Subcontractors and Suppliers (in particular those for major supply items) shall also be included.
- 6.2 The ESHS progress report is written exclusively in the language of communication defined under Sub-Clause 1.5 of the PCC.

7. Code of Conduct

- 7.1 A Code of Conduct is established by the Contractor for the Project Areas, addressing the following: safety rules, zero tolerance for substance abuse, environmental sensitivity of areas around the Project Areas, the dangers of STDs and HIV/AIDS, gender issues (in particular sexual harassment) and respect for the beliefs and customs of the populations and community relations in general (drawing special attention to the risks of prostitution and human trafficking).
- 7.2 The rules are clearly displayed at the different Project Areas and posted in the Contractor's vehicles and machinery driving cabs.
- 7.3 The rules confirm the Contractor's commitment to implementing the ESHS provisions provided for in the Contract.
- 7.4 New Contractor's Personnel and existing Contractor's Personnel are made aware and acknowledge their understanding of the rules of procedure and the associated provisions. Rules of procedure document are initialled by all Contractors' Personnel prior to the start of any physical work at any Project Area.
- 7.5 Pursuant to Sub-Clauses 6.1 and 6.2 of the Section VIII GCC, the rules of procedure include a list of acts considered as serious misconduct and which must result in dismissal from any Project Area by the Contractor, or by the Engineer if the Contractor is not acting in due course, should a Contractor's Personnel repeatedly commit an offence of serious misconduct despite awareness of the rules of procedure, and this is without prejudice to any legal action by any public authority for non-compliance with applicable regulations:
 - a) Drunkenness during working hours, leading to risks for the safety of local inhabitants, customers, users and personnel;
 - b) Punishable statements or attitudes, and sexual harassment in particular;

- c) Violent behaviour;
 - d) Intentional damage to the assets and interests of others, or the environment;
 - e) Repeated negligence or imprudence leading to damage or prejudice to the environment, the population or properties, particularly breaching provisions intended to prevent the spreading of STD and AIDS;
 - f) Drug use;
 - g) Possession and/or consumption of meat or any other part of an endangered animal or plant as defined in the Washington convention (CITES) and national regulations
 - h) Entering property of neighbouring people without permission of the landowners or those cultivating/renting the land
- 7.6. Serious misconduct, such as organization of sex trade (pimping), committing paedophilia, physical aggression, drug trafficking, deliberate and severe pollution, trading and/or trafficking in all or part of protected species, shall lead to immediate dismissal as of the first report of misconduct is detected, in application of the rules of procedure and labour laws.
- 7.7. The Contractor establishes a record for each case of serious misconduct, and a copy will be provided to the Contractor's Personnel in question, indicating all action taken to terminate the misconduct by the Contractor's Personnel in question and to bring the attention of other Contractor's Personnel to the type of incident detected. This record will be provided to the Engineer as an attachment to the ESHS progress report.
- 7.8. The Contractor shall without delay inform the Engineer who in case of serious misconduct shall immediately inform the Employer.

8. ESHS Training

- 8.1 The Contractor prepares a training programme adequate for the works to be performed within the Project Areas and the personnel engaged in the works.
- 8.2 The Contractor ensures that Employees with direct responsibility for activities relevant to the Project's ESHS performance are adequately qualified and trained so that they have the knowledge and skills necessary to perform their work.
- 8.3 Training sessions are two-fold: introductory sessions for starting work at the Project Area, and technical training as required in relation to the execution of the works.

Starting work sessions are organised for each Contractor's Personnel and shall cover as a minimum:

- a) Rules of procedure;
- b) Safety rules on Project Areas;
- c) Protection of areas adjacent to Project Area;
- d) Risks relating to sexually transmitted diseases, prostitution, human trafficking, and sexual harassment;



- e) Basic health: combating malaria and waterborne diseases, improving hygiene;
 - f) HIV/AIDS sensitization training,
 - g) Gender sensitization;
 - h) Emergency response procedures or evacuation;
 - i) Community relations training for workers interacting with local communities;
 - j) Communication of the contents of the Employment, Training and Worksite Management Plans to workers and all Subcontractors and Suppliers (in particular those for major supply items) and training them to ensure they understand their responsibilities with respect to employment, training and worksite management, incident reporting and response.
 - k) Health and Safety awareness training
 - l) The Contractor shall be responsible for informing all workers of the Worker Grievance Mechanism at the time of hiring.
- 8.4 The Contractor shall ensure that adequate resources are mobilised for these trainings, including input from any specialist resources necessary to ensure effective planning and implementation of measures and that trainings are delivered in a timely manner.
- 8.5 Technical training:
- a) Training in the skills needed for tasks requiring a work permit
 - b) Training in first aid and transporting the injured
 - c) If applicable: appropriate driving skills
 - d) a matrix of training requirements showing the training frequency and interval between refresher courses and covering
- 8.6. The Contractor details in the training programme the actions and ESHS training for all Subcontractors and Suppliers (in particular those for major supply items) or personnel of a joint venture when applicable.
- 8.7. The Contractor prepares an awareness program for local communities on the risks of prostitution, human trafficking and other forms of illegal trafficking.
- 8.8. The Contractor shall develop means of confirming that the training system is effective.

9. Standards

- 9.1 The Contractor complies with all applicable norms, standards and discharge limit values defined in the national regulations of the Employer's country regulations.
- 9.2 In the event of discrepancies in between international standards and national regulations, the Contractor shall comply with the most stringent requirements.
- 9.3 The specialised international organisations affiliated to the United Nations referred to in ESHS Specifications Sub-Clause 9.2 include:

- a) World Bank, including the IFC and its Environmental, Health and Safety Guidelines available from <http://www.ifc.org/ehsguidelines>;
For matters not addressed in the above mentioned IFC document, the most stringent of the norms, standards of the following institutions shall apply:
- b) World Health Organization (WHO);
- c) International Labour Organization (ILO):

B. Protection of the Environment and People

10. Protection of adjacent areas

- 10.1 The Contractor shall be responsible for any foreseeable adverse environmental and social impacts arising from its activities and operations and for putting in place any necessary measures to avoid or if not possible mitigate them.
- 10.2 Pursuant to Sub-Clause 9.11 of the PCC, and unless instructed otherwise by the Engineer, the Contractor uses construction methods and means of protection in order to avoid or minimize adverse effects that are incurred on vegetation, soils, groundwater and surface water, biodiversity, natural drainage and the water quality in areas within any Project Area and its surroundings for the entire duration of the works.
- 10.3 Prior to the start of Project activities, the Contractor will stake out the alignments, boundaries and limits of Project sites in accordance with plan(s) agreed upon in advance with the Engineer. Contractor will establish the working strip to restrict the area of impacts to within the working corridor and limit personnel and vehicle movements to only within working areas.
- 10.4 All project work activities will stay within the staked out alignments and boundaries, and outside the designated ecologically and archaeologically sensitive areas unless specifically authorised by the Employer as part of the Project.
- 10.5 Prior to construction, the Contractor shall place signs with environmental protection information in areas identified as environmentally sensitive, and other areas where sensitive flora and fauna species are situated immediately adjacent to construction areas and that may be inadvertently disturbed or damaged during construction. Sensitive areas may include, but are not limited to, nest sites, plant and wildlife species of high conservation value, site-specific habitat features to be protected.
- 10.6 Wetland areas include marshes, fens or natural or artificial bodies of water, whether permanent or temporary, where water is stagnant or flowing, fresh, saline or briny, including seawater with a low-tide depth of six metres or less. Filling of all or part of a wetland area is not permitted, unless the works are necessary according to the provisions of the Contract or the instructions of the Engineer.

- 10.7 With the exception of access roads, or unless instructed otherwise by the Engineer, the entire perimeter of land sites with a surface area of less than 2 hectares is physically demarcated with a fence or tape. For Project Area with a surface area of more than 2 hectares, the perimeter will be physically demarcated by a perimeter track, road, signs or any other means leaving no possible ambiguity as to the location of the Project Area perimeter.
- 10.8 Unless otherwise specified, the perimeter of the Project Area is at a distance of at least:
- 50 m from any permanent water course and outside of floodable areas;
 - 300 m from sensitive urban services and buildings (health centre, school, water supply for populations);
 - 200 m from any housing
- 10.9 If the footprint of the works are located in the situations a) to c) of the ESHS Specifications Sub-Clause 10.8 above, and unless agreed upon otherwise by the Engineer, the Contractor will contract a bailiff to make a sworn statement regarding the existence and conditions of residential buildings situated around the site with a distance specified in Sub-Clause 10.8 above.
- 10.10 The Contractor shall perform a topographic survey of all additional areas and facilities, including ground elevations in order to reinstate the land after termination of the works; this includes recording all perimeter GPS coordinates; and ensuring that the entire area proposed for land take or temporary usage is included in the survey and recorded via photographs. Access roads shall be identified as new, upgraded or existing. All data, including GPS coordinates, shall be provided electronically to the Engineer.
- 10.11 The bailiff's sworn statement is prepared and provided to the Engineer with the Site Environmental Plan.
- 11. Selection of borrow areas, backfill material stockpile sites and access roads**
- 11.1 The Contractor will submit to the Engineer for prior approval, including but not limited to (i) the location of proposed borrow areas or areas to be excavated, or (ii) proposed backfill material stockpile locations or zones designated for the rubble from demolition works; maintenance facilities, storage areas, etc.
- 11.2 This requirement also applies to the side casting during the construction of transmission lines.
- 11.3 The opening or rehabilitation of all access routes between Project Areas will be shown on a map and approved by the Engineer prior to the start of the corresponding works.
- 12. Pollution prevention**
- 12.1 The Contractor shall take the necessary measures to ensure that pollution to air, water or land is prevented or, where this is not possible, reduced and mitigated as far as practicable during the construction phase. If required in the PA-ESMP the Contractor will develop a pollution prevention Plan for managing:



- a) liquid effluents (see Clause 15 of these ESHS specifications)
- b) air emissions
- c) noise and vibration management
- d) vehicle and equipment maintenance and selection
- e) fuel, oil and chemical storage and handling.

12.2 Environmental and/or occupational health and safety regulators will be notified and informed as required by applicable laws about any Environmental pollution. The Contractor shall ensure that all appropriate environmental protection measures are adopted during the clean-up process after termination of works and that clean-up activities are appropriately documented.

13. Effluents

13.1 Effluents consist of liquid discharges, including infiltration, from Project Area, transporting a pollutant (dissolved, colloidal or particles).

13.2 A pollutant is a given chemical compound that is at a concentration greater than the limit value established for that compound according to the Clause 9 of the present ESHS Specifications.

13.3 If no recognized threshold exists for a chemical compound pursuant to ESHS Specifications Sub-Clause 12.2, the Contractor provides proof that the concentrations of the chemical in effluents released (discharged) to the environment are harmless to it and human beings.

13.4 Wastewater run-off

13.4.1. The Contractor will take appropriate measures to ensure that discharges of process wastewater, sanitary wastewater, wastewater from utility operations or stormwater to surface water will not result in contaminant concentrations in excess of local ambient water quality criteria or, in the absence of local criteria, other sources of ambient water quality.

13.5 Rainwater run-off

13.5.1. Run-off consists of the rainwater flow on the surface or the soil and other technical surfaces at Project Areas.

13.5.2. In the context of the Contract, surface run-off is considered as an effluent unless demonstrated otherwise.

13.5.3. All platforms where generators, hydrocarbon storage tanks and refueling stations are installed have impervious and chemical resistant surfaces are drained separately and equipped with an oil removal treatment (oil-water-separator) to prevent pollution pursuant to ESHS Specifications Sub-Clause 12.4 above. For concrete batching plants, run-off will be drained to settling basin, where the pH will be buffered.

13.6 Contractors shall prohibit its workers and its subcontractors from bathing or washing clothes and vehicles/equipment in rivers or watercourses.

14. Atmospheric emissions and dust

14.1 Emissions refer to any discharge into the air of solid emissions and substances, aerosols, gases, radiation, or energy, whether point sources (e.g. incineration stack) or diffuse (e.g. fugitive dust emissions from road use by trucks.).

- 14.2 The Contractor will use equipment and adopt construction and transport methods with atmospheric emissions which are not in excess of the threshold emission values recommended by the Employer's country standards, or the organisations mentioned in Clause 9.
- 14.3 Once having received the agreement from the Engineer, the Contractor will document the maintenance records for its fleet of vehicles, machinery and equipment. The records will be in the language of communication of the Contract, or any other language approved by the Engineer, and will be at the disposal of the Engineer.
- 14.4 The fleet of vehicles or equipment emitting combustion gases will be maintained at the intervals and according to the methods specified by the manufacturer.
- 14.5 The Contractor shall exercise care to minimize emissions of dust from its activities, including traffic, at work sites, in residential areas and on access roads. Where it is deemed that dust is impacting or may have an impact on human, plant or animal receptors or where dust may cause sedimentation of watercourses/water bodies or unacceptable levels of soil loss, the Contractor shall apply water to the area creating the dust and consider implementing other dust control measures such as using windbreaks, netting screens or semi-permeable fences; controlling vehicle speeds to reduce traffic-induced dust dispersion and resuspension by setting and enforcing speed limits.
- 14.6 This shall include: posting speed limit signs in sensitive areas; ensuring trucks hauling sand, dirt or other loose materials are covered (sheeting trucks); suspending topsoil stripping and replacement during strong winds; using a dust collection system for bulk materials unloading; wet suppression (as needed, depending on the soil type) in the dry season, where unpaved roads and/or the working strip is located <200 m from settlements taking appropriate abatement measures.
- 14.7 The Contractor describes in the PA-ESMP the road sections designated for the application of dust suppression agents and the methods and frequencies programmed. The Contractor will implement the measures approved by the Engineer.
- 14.7.1. Where applicable, visual inspections of atmospheric emissions shall be conducted, especially dust and emissions from vehicles and machinery as agreed with the Engineer. The inspections shall identify areas where the implementation of dust reduction measures is required,
- 14.7.2. When storage, transport and handling of bulk materials is made in the open air and exposed to the wind, the Contractor implements the necessary dust abatement measures.

15. Atmospheric emissions and dust

- 15.1 The Contractor uses equipment and adopts construction and transport methods so not to generate noise levels in excess of values recommended by the Employer's country regulations and organisations mentioned in Clause 9.
- 15.2 The Contractor will plan high noise generating works (e.g. pile driving, blasting, rock clearing, drilling, percussion drilling) in line with national regulations and respect maximum ambient noise-levels and night time



rest hours at the nearest receptor area. A receptor is defined as an area used for nocturnal socioeconomic activities (e.g. accommodation camps, residential areas, hotels, health centres).

- 15.3 The Contractor shall locate stationary equipment (such as power generators and compressors) as far as possible from nearby receptors (e.g. worker resting areas, populated areas and environmentally sensitive areas). Equipment known to emit noise strongly in one direction, whenever possible, will be orientated so that the noise is directed away from sensitive receptors.
- 15.4 The use of heavy vehicles at night is specified in ESHS Specifications Sub-Clause 50.9.
- 15.5 Standard noise abatement equipment shall be fitted to equipment by the Contractor, used and maintained in accordance with manufacturers' instructions.

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- 15.5 Standard noise abatement equipment shall be fitted to equipment by the Contractor, used and maintained in accordance with manufacturers' instructions.

16. Waste

- 16.1 The Contractor is responsible for identifying; collecting, transporting and treating all waste produced on the Project Areas.
- 16.2 The Contractor shall minimize the generation of waste and reuse, recycle and recover waste in a manner that is safe for human health and the environment.
- 16.3 The Contractor shall establish a Waste Management Plan which details a concept to manage non-hazardous and hazardous waste in line with the local legislations and adapted to the level of danger for human health or the natural environment. In absence of adequate legislation, waste shall be managed according to the guidance provided in the respective sections of the General World Bank Group EHS Guidelines with the ob-



jective of protecting soil and water resources. The Waste Management Plan shall include provisions for the training of workers.

16.4 Waste register and categorization

16.4.1 The Contractor establishes and maintains a waste register, which is at the disposal of the Engineer. This register will record all waste management operations: production, collection, transport, treatment. It will be available as of the Contractors mobilisation to any Project Area. Waste shall be categorized according to the following definitions:

- a) Non-hazardous solid waste generated at construction and de-commissioning sites includes excess fill materials from grading and excavation activities, scrap wood and metals, and small concrete spills. Other non-hazardous solid wastes include office, kitchen, and dormitory wastes when these types of operations are part of construction project activities.
- b) Hazardous solid waste includes contaminated soils, which could potentially be encountered on-site due to previous land use activities, or small amounts of machinery maintenance materials, such as oily rags, used oil filters, and used oil, as well as spill clean-up materials from oil and fuel spills.
- c) Hazardous liquid waste includes effluents and waste material containing "free liquids" (e.g. used cutting oil or wastewater mixed with oil after cleaning machinery).

16.5 The following aspects are documented in this register:

- a) Type of waste, using the nomenclature specified in Sub-Clause 16.4.1 above;
- b) Waste quantities;
- c) Name and address of the third party waste management facilities receiving waste or parties taking possession of the substances no longer considered as waste;
- d) Name and address of waste transport Contractors;
- e) Planned waste treatment.

16.6 In accordance with national regulations, the Contractor files and maintains at the disposition of the Engineer the waste manifests for the collection, transport, treatment and/or elimination of waste.

16.7 The Contractor assesses, document and effectively implements any local recycling or re-use options for its waste.

16.8 Waste is stored separately prior to removal from the Project Areas, depending on the level of danger, phase (liquid, solid or gas), the waste management solution to be applied and its potential in terms of recycling or reuse.

16.9 Waste is collected from each Project Area at the same rate that it is produced and is placed in temporary locations meeting the following criteria:

It shall be located at a distance of over 100 m from any natural sensitive area and over 500 m from any socioeconomic sensitive area (school,

market, healthcare centre, water well or catchment area), with the exception of waste storage area in camps; and on a flat impervious surface to prevent infiltrations.

- 16.10 Unless otherwise specified in the Contract or instructed by the Engineer, waste incineration is prohibited on Project Areas. Two exceptions are medical waste and green waste, which unless instructed to the contrary by the Engineer, are managed pursuant to Clause 16.3 of the present ESHS Specifications.
- 16.11 The use of third party waste management services is subject to a documented prior audit of the treatment, storage and recycling facilities by the Contractor, to guarantee the conformity with the provisions of the present ESHS Specifications on waste.
- 16.12 Pursuant to Sub-Clause 1.5 of the present ESHS Specifications, the provisions applicable to the Contractor regarding waste management also apply to any third party waste management Subcontractor. The Engineer reserves its right to inspect third party waste management facilities and prohibit the Contractor from using the facilities if considered unacceptable.
- 16.13 The management of non-hazardous waste shall comply with the following conditions:
- a) The Employer will communicate information to the Contractor about the location of and distance to the nearest landfill area and the disposal conditions.
 - b) If no landfill area exists nearby, the Employer will communicate to the Contractor where the Contractor shall establish a temporary landfill area. The Employer is responsible for obtaining the respective permits.
- 16.14 Hazardous waste management
- 16.14.1 The Contractor shall develop a Hazardous Materials Management Plan for those hazardous materials the Contractor is directly responsible for, and detailed procedures for working with chemical products and hazardous materials and handling hazardous waste.
- 16.14.2 Hazardous materials are those that pose a potential risk to human health or the environment and include cleaning chemicals, solvents and fuels.
- 16.14.3. Fuel and hazardous chemicals/materials shall be stored in designated areas, pursuant to Sub-Clause 26.8 of the present ESHS Specifications, except for quantities generated or required for the daily construction activities. Fuel, oil or hazardous materials required to be temporarily stored onsite shall be stored within secondary containment located greater than 100m from a watercourse or water body.
- 16.14.4 Fuel and hazardous chemical storage areas shall not be allowed within 30m of a minor watercourse, within 100m of a major watercourse, within a floodplain or where there is the potential for spilled fuel to enter groundwater

- 16.14.5 All fuel and hazardous chemical storage facilities shall be located on flat or gently sloping ground and shall be contained within a bund designed to contain at least 110% of the total capacity of the storage containers plus 10% of the aggregate tank volume within the containment area or as otherwise specified by regulatory requirements. The bund walls and floor shall be constructed of concrete or other suitably impermeable material. The filling connection must be within the bund. No drain valves or other connections through the bund walls shall be permitted. Tanks shall be fitted with a gauge to allow the fill level to be monitored during refilling and preferably with a high-level alarm.
- 16.14.6 When the Contractor's hazardous waste management is conducted by third parties, they must be reputable and accredited in the Employer's country for this activity.
- 16.15 If applicable and in the absence of an existing waste management solution for hazardous waste, the Contractor takes the following action:
- 16.15.1. Hydrocarbons, lubricants, paints, solvents and batteries are transported in drums to suitable waste management facilities available, if available.
- 16.15.2 Prior approval from the Engineer is required before implementing waste management solutions on any other hazardous waste.
- 16.15.3 Prior to the issue of the Taking Over Certificate for the Works, the Contractor provides documentation on hazardous waste, produced by the Contractor's works, landfilled at other sites than accredited third party waste management facilities. The documentation includes a plan showing the location of landfill sites. The document is provided to the competent local authorities whose jurisdiction covers the landfill sites.

17. Vegetation clearing

- 17.1 The works, including the opening up of the right of way and other worksites (e.g. camps, access roads, storage yards) may require vegetation clearance in work areas. Vegetation includes crops, trees, shrubs, bushes, grasses and other minor vegetation. Supervisors shall be trained in the controlled felling of trees to prevent impacts beyond worksites. They shall also be trained on the importance of identification and preservation of wild fauna encountered and disturbed during the stripping operation.
- 17.2 The Contractor describes in the PA-ESMP the planned methods and schedule for vegetation clearing. Specific agreement from the Engineer is obtained prior to any clearing works.
- 17.3 Vegetation clearing using chemicals is not permitted.
- 17.3.1 Vegetation clearing using bulldozer is not permitted in zones less than 30 m from areas designated as sensitive by the Engineer, where only manual clearing is authorised.,
- 17.3.2. Where it is not possible to restrict the timing of construction practices, vegetation shall be removed outside the breeding period so that works can carry on into this period unhindered.
- 17.3.3 The felling of trees shall be avoided where possible. Felled trees may be used for building gabions if required for land stabilization. Vegetative ma-



terial (slash) is not to be used for construction purposes and shall be stockpiled at the edge of worksites. Areas of gathered plant material shall be separated to prevent flames spreading in the event of a fire,

17.3.4. Unless otherwise specified in the Contract or if otherwise instructed by the Engineer, burning vegetation is not permitted. Green waste can be burnt with prior approval from the Engineer regarding the location, method and schedule

17.3.5 The collection of wild plants is prohibited.

17.3.6. Lighting fires in work areas is prohibited unless specifically authorised by the Employer.

17.3.7. It is prohibited to introduce foreign/non-adapted vegetation to the worksites.

17.3.8. Removed vegetation will be placed far from surface water. Large woody debris will be stored along the outside edge of worksites in clear areas. Small twigs, branches and pieces of vegetation shall be used for composting along with biodegradable waste generated in the camp and work areas.

17.3.9. Clearing of vegetation shall be limited to that which is strictly necessary.

17.3.10. Where possible, cutting of vegetation on steep hillsides will be minimal.

17.4 Areas cleared prior to undertaking earthworks are shown on a plan with a minimum scale of 1/10,000. Plans are submitted to the Engineer, for validation prior to starting clearing works.

17.5 The Contractor undertakes physical demarcation of zones to be cleared using a method approved by the Engineer.

17.6 The characteristics (location, species, diameter at chest height) of trees not to be cut down are defined by the Engineer in coordination with the Employer. Such trees are marked with paint and protected against clearing machinery using a method approved by the Engineer.

17.7 Trees and areas to be cleared are to be marked precisely so that clearing is undertaken without damage to adjacent non-cleared areas. Topsoil is stored within the cleared areas at the edge of the cleared zone. Clearing is undertaken working from the edge of the zone inwards.

17.7.1 During clearing, the Contractor stockpiles separately:

- a) tree trunks with a diameter at chest height greater than the size defined by the Engineer, and
- b) trunks with a smaller diameter, branches, leaves, stumps and roots.

17.7.2 Unless instructed otherwise by the Engineer the trunks of trees exceeding the diameter defined by the Engineer are the property of the Contractor.

18. Biodiversity

- 18.1 The Contractor shall ensure that all personnel are informed and aware of the importance to protect species, habitats, fauna and flora and are informed about wildlife encounter procedures. Information and awareness training is documented.
- 18.2 If applicable, the Employer will provide to the Contractor a range of ecological surveys prior to the start of construction, conducted by the Employer. These will include but not be limited to the type and location of identified species and habitats of conservation interest within the Project Area, and any resulting measures that are required by Contractor.
- 18.3 The Employer will provide to the Contractor a constraints map, showing the areas where sensitive, endangered or breeding species are known to occur, including protected areas, sites of importance for nature conservation, wildlife refuges, nature and national parks, important bird areas.
- 18.4 The Employer will inform the Contractor about seasons for the protection of birds and wildlife. If applicable, the Employer will inform the Contractor if, as a result of protecting birds and wildlife, construction is restricted during a certain period and/or the Contractor must take precautionary measures in compliance with respective national laws and/or as stipulated by the respective local authorities.
- 18.5 The Employer may update information on the presence of wildlife or sensitive or endangered species' in the Project Area following any additional wildlife/endangered species' survey. If any are identified, the Employer will notify the Contractor who will ensure that all personnel are informed and aware of the required mitigation procedures as communicated by the Employer.
- 18.6 The Contractor shall apply the Contracting Authority's procedures with regards to fauna and flora management prior to clearing activities
- 18.7 The Employer will communicate to Contractor his specific responsibilities related to protecting endangered species, biodiversity and wildlife, present within the Project Area. Responsibilities may include but not be limited to the following measures:
- a) The Contractor's personnel shall not approach, injure, hunt, capture, possess, feed, transport, rear or trade wild animals and/or collect birds' eggs on the Project Areas
 - b) The Contractor's personnel shall avoid where possible breeding, feeding and nesting sites of endangered species, as identified by the Employer's environmental experts and as communicated to the Contractor by the Employer.
 - c) The Contractor personnel shall not collect flora or fauna species on the Project Areas.
 - d) The Contractor shall report any sighting or finding of dead wildlife killed by the works to the Engineer immediately.
 - e) The Contractor shall protect excavations with temporary fencing to prevent injury to animals.
 - f) The Contractor shall release any trapped uninjured animals im-



mediately.

- g) The Contractor shall report injured endangered and/or larger animals to the Engineer who will inform the appropriate Environmental Authority.
- h) The Contractor shall not disturb natural habitats outside the Project Areas.
- i) The Contractor shall only use designated roads or paths and abide by speed limits.
- j) The Contractor shall not start forest fires.
- k) The Contractor shall not introduce Invasive Alien Species (IAS)
- l) All construction machinery imported from overseas shall be inspected to detect IAS and washed before dispatching to the Project Areas.
- m) Where necessary, the Contractor shall develop IAS control procedures (e.g. physical removal, slashing, mulching, herbicides, etc.). Methods used to control or prevent such species shall not cause adverse impacts on the environment or communities.

18.8 For impacts to biological resources:

- a) development of a specific mitigation plan for endangered species in the wider area
- b) trenches or holes created during site works must be covered at night

18.9 Regarding habitat loss/degradation and habitat fragmentation Contractor will:

- a) site permanent infrastructure on unused land of no particular ecological value
- b) take no construction materials from the surrounding environment unless otherwise specified in the respective management plan
- c) monitor the impacts on flora and fauna at sensitive locations

18.10 The Contractor will adopt best construction site practices to minimize the risks of adverse effects on neighbouring habitats/species from construction activities (dust, noise, waste disposal etc.). This will include appropriate toilet and litter collection facilities as inspected by the environmental coordinator.

19. Erosion and sediment transport

19.1 Erosion and sediment control shall be taken into consideration from the beginning of the construction phase, i.e. from site clearance.

19.2 The Contractor plans earthworks and optimises the management of space to ensure that all cleared surfaces and areas exposed to soil erosion are minimised on all Project Areas and erosion is minimised as far as practical.

19.3 The Contractor shall determine the appropriate locations and the type of erosion control measures required, to be agreed with the Engineer.

19.4 If not instructed otherwise by the Employer, the Contractor shall install erosion matting to provide an immediate protection for slopes against erosion, prevent the washing-out of seeds and enhance the micro-climatic conditions in the soil for plant growth. Erosion matting is used to provide temporary protection of the soil surface until sufficient natural vegetation cover has been established.

19.5 Topsoil

19.5.1 Topsoil is the uppermost and most fertile portion of the soil (unless indicated otherwise, the top 25 centimetres), containing organic matter, seeds and nutrients that promote vegetation growth. Its presence is a key factor in promoting revegetation success. Consequently, preserving topsoil is a key component of revegetating worksites and restoring the soil's ability to protect itself against erosion. Contractor shall observe the following basic principles of good topsoil management:

19.5.2. Topsoil shall be removed from working areas only when absolutely necessary and in accordance with Project guidelines. Areas subject to topsoil stripping will be identified prior to grading activities.

19.5.3. Any plant, turf layer or root mass will be stripped together with the topsoil, except in wetlands where the turf will be stripped separately from the topsoil layer where practical. Topsoil will be removed using backhoes only.

19.5.4. Topsoil is stored according to the provisions approved by the Engineer to enable reuse during Project Area rehabilitation.

19.6 Draining rainwater run-off

19.6.1. Run-off from the working corridor will be intercepted. Surface water run-off will not be permitted to enter surface watercourses. Contractor will take appropriate measures.

19.6.2. The gradient of Project Areas allows the collection and drainage of rainwater from the entire surface area to one or several discharge points. No pools of water are created.

19.6.3. Suspended solids in rainwater are removed using sediment traps / settling ponds. Rainwater from vehicle parking areas, machinery areas, workshops is subject to treatment with oily water separators.

19.6.4. Rainwater pre-treatment units are sized, cleaned, maintained and accessible to ensure compliance with the effluent quality criteria defined in ESHS Specifications Sub-Clause 12.9 and to allow monitoring of performance.

19.7 Sediment control

19.7.1. The Contractor installs sediment control barriers to slow the flow of water and control sediment transport at Project Areas with (i) a gradient of more than 20%, and (ii) where land is disturbed by the works or where stockpiled mineral material exposed to sheet or rill erosion.

19.7.2. Sediment control barriers are installed on the slope or at the base of the slope to protect the natural drainage system from sediment accumulation at levels higher than the natural situation. These barriers comply with the

following principles:

- a) Made with geotextiles or straw bales or any other means pre-approved by the Engineer;
- b) Deployed before the start of works and removal of topsoil. Barriers can be used for the physical demarcation of working areas;
- c) Installed, cleaned, maintained and replaced according to manufacturer recommendations;
- d) If applicable, drainage surface area does not exceed 1,000 m² per 30 m of barrier. The length of the slope behind the barrier is less than 30 m, and is not used for flows in excess of 30 l/s.

19.8. Backfilling and stockpiling of backfill materials

19.8.1. In case mineral material stockpiles do exceed a height of 6 m, with a maximum slope of 3:2 (height: volume), the slope has to be crossed at a height of 3 m by a berm with a minimum width of 2 m and with a peripheral drainage trench, to ensure stability and resistance to rainwater runoff erosion.

19.8.2 For permanent backfill material stockpiles, the stockpile is shaped and compacted every 30 cm to ensure long-term stability.

19.8.3. Temporary stockpiles in place for more than 60 days are protected against runoff erosion by (i) revegetation using fast-growing grass species, either by direct seeding or by hydro-seeding, or (ii) using other natural anti-erosion cover with prior approval from the Engineer.

19.9 Side casting during the construction of transmission lines will be permitted in the following conditions:

19.9.1. For natural gradients with a slope <40%, the side cast materials are piled to create a slope of less than 2H:1V.

19.9.2. For natural gradients with a slope >40%, to ensure stability 3m wide berms will be installed perpendicular to the slope and onto which the side cast material is deposited. Regular earthworks to maintain the form of the side case and long-term stability of the side cast is carried out. The slope of the side cast in general does not exceed 3H:2V.

19.9.3. The provisions of Clauses 10 and 19.6 for the protection of water courses exposed to erosion induced by the works apply.

20. Site rehabilitation

20.1 Unless instructed otherwise by the Engineer, the Contractor will rehabilitate all Project Areas and landscapes disturbed by the works, to their original condition where possible upon completion of construction and prior to the provisional acceptance of the works. Close collaboration with all statutory stakeholders will be conducted in cooperation with the Employer during the reinstatement.

20.2 The Contractor describes in the PA-ESMP the planned revegetation works to ensure sustainable Project Area rehabilitation: methods, plant species to be used and their origins, activity schedule based on a progressive taking over of Project Areas.

- 20.3 As a minimum, the Contractor shall carry out the following reinstatement activities:
- 20.3.1. If not otherwise instructed by the Engineer, all buildings, campsites and free-standing and underground structures (e.g. piping, underground tanks, sumps and basins) are removed. All waste and rubble is removed in accordance to the provisions of Clause 16 of the present ESHS Specifications. After removal of buildings structures and rubble, the Contractor returns Project Areas to their original condition, according to the following provisions.
- 20.3.2. Land is levelled to ensure that run-off water drains without eroding soil or stagnating in pools.
- 20.3.3. Rehabilitated Project Areas do not represent hazards for people. Areas near steep drops at quarries are fenced off and indicated with permanent concrete warning signs. Holes are refilled. Sharp or unstable items are rendered inoffensive.
- 20.3.4. Unless specified otherwise in the Contract, or instructed otherwise by the Engineer, the Contractor undertakes revegetation of all Project Area disturbed by the works and bears the cost of such work.
- 20.4 Fertiliser application shall be limited to areas where it is necessary to establish a rapid vegetative cover for erosion control purposes in areas of high risk. Any fertiliser applications must be formulated and performed so that natural nutrient balances in adjacent ecosystems are not altered, particularly where there are nearby water bodies.
- 20.5 The Contractor shall perform routine maintenance of revegetated areas until such time that occupation of the land is officially handed back to the Employer or third parties.
- 20.6 The Contractor shall control noxious weeds and invasive species within revegetated areas.
- 20.7 Prior approval by the Engineer is required regarding the origin of seeds and plants proposed by the Contractor. The species used for revegetation must be suitable for the local environmental conditions, and selected according to the rehabilitation programme: stabilisation of backfill, landscaping, drainage, prevention of erosion, etc.
- 20.8 Revegetation is undertaken throughout the duration of construction works, and is not limited to the rehabilitation of Project Areas at completion of the works.
- 20.9 The present Clause applies to the side casting of waste mineral materials generated during the construction of transmission lines.

**21. Documentation
on site conditions**

- 21.1 The Contractor documents changes in condition of all Project Areas from the start of works until the Performance Certificate is issued. Documentation comprises dated and geo-referenced colour photographs taken from a constant angle and viewpoint.
- 21.2 The Project Area condition is documented as a minimum for the following stages:
- a) Before any Project Area disturbance at the start of works;



- b) On completion of works, but prior to starting rehabilitation;
 - c) On completion of rehabilitation and revegetation, if necessary, but prior to the Taking Over Certificate issuing;
 - d) After the end of the Defects Notification Period and prior to the Performance Certificate issuing.
- 21.3 The Contractor specifies in the PA-ESMP (i) the list of viewpoints to be used, (ii) areas to be photographed, and (iii) methods used for taking and archiving photographs, according to industry photographing and archiving standards.
- 21.4 Adjacent areas (100 m from the perimeter of the Project Area) are included in photographic documentation.

C. Health and Safety

22. Health and Safety Plan

- 22.1 The Contractor shall develop a Health and Safety Plan (HS Plan) section of the PA-ESMP, its organization for managing health and safety, pursuant to its Health and Safety Management system (HSMS).
- 22.2 The HS plan identifies and specifies:
- a) That Contractor understands and manages all health and safety risks relating to the execution of the works, including gender-specific risks;
 - b) Prevention and protection measures to control risks related to the execution of the works, by differentiating, where necessary, measures concerning the protection of women and men;
 - c) Human and material resources involved;
 - d) Works requiring a permit;
 - e) Emergency plans to be implemented in the case of an accident.
- 22.3 The Contractor implements prevention, protection and monitoring measures, as described in the health and safety plan.
- 22.4 The Contractor shall have in place a Behavioural Safety Based Programme. He will actively train and encourage Personnel to intervene on unsafe behaviours and situations and report on deviations.

23. Health and Safety Reporting

- 23.1 The Contractor shall document in a structured system (e.g. a Site Accident record sheet) all accidents, dangerous occurrences and investigations, which shall be available at all times for inspection by the Engineer.
- 23.2 The Contractor shall investigate any incident and record and report systematic follow-up of relevant findings and recommendations. Problem areas related to HS shall be recorded with information about status, responsible person(s) and alternative solutions.

23.3 The Contractor includes in the Progress Report to the Engineer a monthly HS Performance Report. The format and content of the HS Performance Report shall be agreed with the Engineer prior to the commencement of the works and report them to the Engineer.

23.4 This report shall contain the following data, as related to the works:

- a) Progress against implementation of the Contractor's HS Plan
- b) A list, including a brief description, of all incidents and dangerous occurrences
- c) Number of fatalities
- d) Number of serious incident frequency
- e) Total Recordable injury frequency
- f) Number and type of accidents with and without lost-time
- g) Serious illness
- h) Total number of 'near miss events;
- i) Number of theft incidents;
- j) Number of security and number and type of other incidents;

23.5 In the event that the Contractor receives communication from the Engineer on HS under-performance, the Contractor shall prepare and implement an HS Improvement Plan to rectify such.

24. Accident Reporting Procedure

24.1 The Engineer is informed within one hour day/night of any accident involving serious bodily injury to a member of personnel, a visitor or any other third party, caused by the execution of the works or the behaviour of the personnel of the Contractor.

24.2 The Engineer is informed as soon as possible of any near-accident (near misses) relating to the execution of the works which, in slightly different conditions, could have led to bodily injury to people, or damage to private property or the environment.

24.3 The Contractor shall prepare a report on each accident or dangerous occurrence and a copy of the report, together with witness statements and any other relevant information, shall be submitted to the Engineer as soon as possible.

24.4 A reportable accident shall include any accident to any person on Site requiring medical attention or resulting in the loss of working hours or any incident that resulted, or could have resulted in injury, damage or a danger to the Works, persons, property or the environment. Contractors will also notify and report of incidents of Subcontractors and Suppliers (in particular those for major supply items) and their Contractors Sites.

24.5 The Contractor shall report any HS accident, related to Contractor activities or personnel, to national or local authorities as required by relevant legislation. A copy of all such reports shall be provided to the Engineer.

24.6 The Contractor shall not notify or give any information to the media or other units or people without the Employer's consent.

- 24.7 The Contractor shall immediately rectify any situation or condition that could result in injury or a danger to the Works, person, property or the environment. If the situation or condition cannot be corrected immediately, the Contractor shall provide temporary barriers and appropriate warning signs and devices and/or take other appropriate action necessary for the protection of persons, property and the environment.

25. Health and Safety Meetings

- 25.1 Contractor shall ensure efficient and effective HS communication and consultation with all Personnel involved in the Work. This includes but is not limited to toolbox meetings prior to the start of the Work, worksite HS meetings on a regular basis with all parties involved (including Subcontractors, the Engineer and third parties). It may also comprise other forms of communication.
- 25.2 Contractor shall ensure that supervision, directly in charge of construction activities, fully brief and discuss with Personnel at HS Tool Box Talks at the start of each work day and prior to commencing new activities. These talks shall be conducted in a language understood by the workforce. A checklist shall be utilised for this purpose. At a minimum it shall include the following;
- a) Nature of the job
 - b) Associated hazards
 - c) Safe working methods to be adopted
 - d) Requirements of the Permit to Work
- 25.3 The Contractor shall convene weekly team talks, extended to Subcontractors if applicable.

26. Security

- 26.1 The Contractor shall evaluate the security strategy and arrangements required for all worksites including transport. This evaluation shall be performed by qualified security experts and shall form the basis for the Worksite Security Strategy and Plan which shall be submitted and approved by the Engineer as part of the PA-ESMP. The Security Strategy and Plan shall describe:
- 25.2 Contractor shall ensure that supervision, directly in charge of construction activities, fully brief and discuss with Personnel at HS Tool Box Talks at the start of each work day and prior to commencing new activities. These talks shall be conducted in a language understood by the workforce. A checklist shall be utilised for this purpose. At a minimum it shall include the following;
- a) Security risks and the identified mitigation / management measures
 - b) Roles and responsibilities including details of the Contractor and Subcontractors
 - c) Detection, monitoring and management procedures
 - d) Escalation plans including resources

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| 27. Equipment and operating standards | 27.1 The facilities and equipment used by the Contractor are installed, maintained, revised, inspected and tested pursuant to the manufacturer's recommendations. The recommendations are available in the language of Contract communication (or any other language approved by the Engineer). |
| 28. Work permit | <p>28.1 The Contractor puts in place a work permit procedure, prior to the starting of the works. The procedures define the approval process between the person qualified to issue the work permit and the personnel (or Sub-contractors) to carry out the work.</p> <p>28.2 Permits are issued in writing. Unless specified otherwise in the Contract, or instructed otherwise by the Engineer, works which require a work permit are defined in the health and safety plan.</p> |
| 29. Personal Protective Equipment | <p>29.1 The Contractor ensures that all personnel, visitors or third parties entering a Project Area are equipped with Personal Protection Equipment (PPE) pursuant to the practices and standards specified in Clause 9</p> <p>29.2 Where appropriate, PPE must be worn by women as well as by men.</p> <p>29.3 The Contractor describes in the PA-ESMP the PPE to be used per Project Area and per activity.</p> <p>29.4 Personnel and visitors to Project Areas are equipped with a safety helmet, safety shoes and a reflective jacket as a minimum.</p> <p>29.5 Adequate quantities of PPE are available on the Project Areas. Storage conditions must be compatible with usage pursuant to the provisions of ESHS Specifications Clause 30.</p> <p>29.6 Contractor personnel are trained in how to use and care for PPE and the Engineer has access to training certificates.</p> <p>29.7 When handling acids, caustics, and chemicals with corrosive or toxic properties, suitable protection shall be worn to prevent accidental contact with the substance.</p> |
| 30. Dangerous substances | <p>30.1 A substance is considered dangerous if one or several of its properties render it dangerous, as defined in Appendix 2 of the present ESHS Specifications. The Contractor identifies and manages dangerous substances planned for use on the Project Area in the manner described in the present Clause.</p> <p>30.2 The assessment of the impact of the toxicity of dangerous substances on the reproductive functions of women and men must be taken into account.</p> <p>30.3 The transport to the Project Area and use of dangerous substances requires prior authorisation from the Engineer.</p> <p>30.4 Details of risks and related prevention and protection measures are included in the health and safety plan.</p> <p>30.5 The Contractor obtains all necessary authorisations and/or licenses for the storage and use of dangerous substances from local authorities. A copy of the authorisations is provided to the Engineer.</p> |



- 30.6 For each dangerous substance used, the Contractor will implement the recommendations described (i) in the Material Safety Data Sheets (MSDS), and (ii) by the Globally Harmonized System of Classification and Labelling of Chemicals established by the United Nations for hazardous chemicals.
- 30.7 Copies of MSDSs are kept on the Project Area, and made available to personnel. The Contractor provides the Engineer with copies of all MSDSs.
- 30.8 Storage of dangerous substances
- 30.8.1 Storage areas are designed and equipped by the Contractor based on the chemical and physical properties of the substances, on the types of containers stored, the number of people requiring access, the ventilation requirements, the quantities of the substance used and potential chemical reaction with other substances (see ESHS Specifications Sub-Clause 30.8.5 below).
- 30.8.2 Pursuant to ESHS Specifications in Clause 16.12, the Contractor anticipates and plans for the storage and management of hazardous waste.
- 30.8.3 Storage areas for dangerous substances are subject to strict rules, which are regularly checked by the ESHS manager. The rules include the following as a minimum:
- a) Access to the storage area is limited to trained and authorised individuals;
 - b) An inventory is maintained up-to-date;
 - c) MSDSs must be available for all stored dangerous substances, and the substances must be clearly labelled;
 - d) A strict and methodical storage system is implemented (storage plan posted, large or heavy packaging may not be stored at heights, equipment and tools may not be stored in the dangerous substance storage room);
 - e) Compliance with product expiry dates and implementation of a disposal procedure for substances which are not needed or which have expired;
 - f) Entrances, exits and access to emergency equipment are kept clear at all times.
- 30.8.4 Storage areas are clearly identified with warning signs at the entrance. The Contractor displays the storage plan (location of the different products, maximum inventory), a summary of labelling system and information on chemical incompatibilities.
- 30.8.5 Chemicals which could react together (leading to explosions, fire, projections or the emission of dangerous gases) are physically separated.
- 30.8.6 Products that react violently with water are stored so as to prevent contact with water, even in the event of flooding.
- 30.8.7 Inflammable products are stored separately in a dedicated area with adequate ventilation at all times.

- 30.8.8 All storage areas are equipped with secondary retentions. Each storage area acts as a general secondary retention. Suitable absorbents (neutralising and non-combustible) are available in the storage area to clean up any spills and leaks.
- 30.8.9 The Contractor maintains the storage area at a suitable temperature for dangerous substances to prevent overpressure and bursting of containers.
- 31. Planning for emergency situations**
- 31.1 The Contractor shall establish an emergency plan as a section of the PA-ESMP. It covers the following emergency situations as a minimum:
- a) e.g. Fire or explosion;
 - b) e.g. Collapse of structures, or scaffolding;
 - c) e.g. Loss of the containment of dangerous substances;
 - d) e.g. Safety incident or malicious act.
- 31.2 The Contractor shall maintain fit-for-purpose Emergency Response Capability, which shall be clearly documented.
- 31.3 At a minimum, the Contractor shall make contingency arrangements for calling a Doctor and transporting injured persons to hospital. The telephone numbers of the emergency services and the name, address and telephone number of the Doctor and the nearest hospital shall be prominently displayed in the Contractor's office.
- 31.4 The Contractor ensures that all personnel are informed and aware of how to react in an emergency, and responsibilities are defined. Information and awareness training is documented, and available on all Project Areas.
- 31.5 The Contractor organises and documents emergency simulation exercises within 3 months of the physical start of the works, and subsequently once every 12 months up to the issue of the Taking-Over Certificate. The Engineer is invited to participate in each of these exercises.
- 31.6 Fire protection
- 31.6.1. Based on a fire safety risk assessment, the Contractor will ensure that adequate and appropriate fire safety measures are in place to minimise the risk of injury or loss of life in the event of a fire. Appropriate actions include: Keeping sources of ignition and flammable substances apart; Avoiding accidental fires; Ensuring good housekeeping at all times, eg avoiding build-up of rubbish that could burn; Installing smoke alarms and fire alarms or bells; Installing fire warning systems; Having correct fire-fighting equipment; Keeping fire exits and escape routes clearly marked and unobstructed at all times; Ensuring workers receive appropriate training on procedures they need to follow, including fire drills.
- 31.6.2 Fire will not be used as a method of forest or vegetation clearance.
- 31.6.3 Fire extinguishers are made available in each building at clearly identified locations, and fires are strictly forbidden outside of the cooking area.
- 31.6.4 If applicable, the Contractor makes arrangements with local fire-brigades for emergencies

- 32. Medical check-ups**
- 32.1 The Contractor organises medical check-ups carried out by a doctor or an appropriately qualified nurse for all Contractor's Personnel prior to the initial mobilisation to the Project Area to check aptitude for the work. Medical check-ups are adapted to the anticipated occupied positions and carried out pursuant to the recommendations of the International Labour Organization. Subsequent to the check-up, a written medical certificate is issued declaring the aptitude of the worker for the allocated tasks.
 - 32.2 Hearing tests are conducted for the Contractor's personnel exposed to noise levels above 80 dB(A) in order to establish initial audiograms. Annual tests are carried out to monitor any changes and detect any deterioration.
 - 32.3 The Engineer can request additional medical examinations for the Contractor's Personnel if considered necessary, all costs to be borne by the Contractor.
 - 32.4 A medical examination is carried out on any Contractor's Personnel returning to work after leave caused by a work related accident. A written medical certificate is issued confirming the Contractor's Personnel's aptitude to return to work at the designated workstation.
 - 32.5 The Contractor can produce a copy of its Contractor's Personnel's work aptitude certificates at the request of the Engineer or any competent authority.
 - 32.6 Specific arrangements for tasks' assignments or workstations shall be made for pregnant Personnel.
- 33. First-aid**
- 33.1 The Contractor ensures a minimum of first-aid provisions on any work site, including: suitably stocked first-aid kits; a person, respectively an adequate number of staff appointed and trained to take charge of first-aid arrangements and ensure that staff and workers are informed about first-aid arrangements. .
- 34. Medical Services and Personnel**
- 34.1 The Employer will inform the Contractor about the presence and number of medical personnel in the Project Area. If not otherwise instructed by the Engineer, the Contractor shall collaborate with local health authorities. The Contractor shall make arrangement with an appropriate number of local doctors, and/or nurses, hospitals and ambulance services to ensure that medical staff, first aid facilities, sick bay and ambulance service are available at a minimum within 45 minutes at the Site, and at any accommodation for Contractor's and Employer's Personnel or if appropriate, be based in the Project Area.
- 35. Health care centre**
- 35.1 In absence of a health centre within the Project Area, the Contractor shall make contingency arrangement for transporting injured persons to a hospital in application of ESHS specification Clause 36.
 - 35.1.1 For Project Areas with more than 35 workers present at any one time and where it is not possible to reach a hospital, medical clinic or a health centre within a period of 45 minutes, by land and in normal conditions, the Contractor sets up a health care centre. The Contractor will do so at its own cost and ensure that the centre is:
 - a) Operational and easy to access at all times;



- b) Kept clean and in good condition;
- c) Equipped with appropriate heating or air-conditioning;
- d) Equipped with sanitary facilities and drinking water;
- e) Equipped with instruments, equipment, medicines and material required to examine and treat injured or sick workers in emergency conditions;
- f) Equipped with the supplies and furnishing required to allow medical personnel to provide first aid and fulfil their other functions.

35.1.2 A doctor is on-site at all times, working full-time during normal day-shift hours. The doctor is on-call when more than 20 workers are working simultaneously outside of normal day-shift hours.

35.1.3. The doctor has the following profile:

- a) At least 5 years' experience on large-scale construction works at sites located at a distance from a hospital;
- b) Trained in infectious diseases, waterborne and epidemiological diseases prevalent in the Employer's country;
- c) Able to lead training sessions on occupational health and first aid;
- d) Trained in management and logistics for a remote health care centre;
- e) Able to speak the same working language used by most members of personnel fluently (communication in emergency situations);
- f) In good physical condition, able to access remote working areas.

36. Emergency medical evacuations

- 36.1 The Contractor allocates rapid emergency transportation for first aid purposes to the first aid station.
- 36.2 In cases where there is no first aid emergency vehicle available to evacuate severely ill or injured personnel, the Contractor establishes an agreement with a specialised company for the handling of personnel in the event of a serious accident requiring an emergency medical evacuation and ensures that transport is guaranteed any time and as fast as possible. The Contractor will provide a copy of the agreement to the Engineer within one month of the physical start of works.
- 36.3 The agreement includes a convention with a referring hospital where the member of personnel evacuated in emergency conditions will be treated.
- 36.4 In highly remote areas or in demonstrably life threatening cases, the agreement may cover the use of air transportation (if available) in order to evacuate the injured patient(s) to the referring hospital.
- 36.5 The telephone numbers of the emergency services and the name of the service providers and the doctors shall be prominently displayed in the Contractor's site office.

37. Access to health care and training

- 37.1 The Contractor guarantees access to health care as defined in Clause 34 for all personnel in case of accident or illness occurring during the execution of the works, i.e.:

- a) Medical check-ups: initial (recruitment), annual and upon returning to work after sick leave;
- b) Screening, vaccinations and preventive healthcare;
- c) General healthcare during the execution of the works;
- d) Medical assistance in the event of an accident and assistance for emergency evacuations.

37.2 Subcontractor's personnel, other contractors, the Employer or the Engineer, present at the Project Area, must never be refused medical assistance, under the pretext that they are not directly employed by the Contractor. The Contractor may however define a unit rate cost per medical act for personnel, other than its own Contractor's Personnel, display this rate in the healthcare centre and forward the information to the Engineer.

37.3 In the event of accident or serious illness, medical personnel must be trained, available and equipped with the necessary material, medicines and consumables to provide first aid for the patient, stabilise their condition, until the patient is:

- a) Either treated or discharged; or
- b) Hospitalized at the camp or in a larger hospital; or
- c) Evacuated to a medical centre which is well equipped for intensive care, if necessary.

38. Health monitoring

- 38.1 The Contractor cannot recruit workers in poor health.
- 38.2 The initial pre-recruitment examination must confirm that applicants are physically able to carry out the tasks required for the position.
- 38.3 The detection of pregnancy during the initial pre-recruitment examination of female applicants shall not constitute grounds for declining recruitment, unless medical risk is proven.
- 38.4 The Contractor organises annual medical check-ups for its Contractor's Personnel and keeps up to date a medical record for each Contractor's Personnel. The presence of Contractor's Personnel for medical check-ups, treatment and hospitalisation is incorporated into the Contractors planning.
- 38.5 If applicable and as recommended by a doctor or instructed by the Engineer, the Contractor provides the Contractor's Personnel with prophylaxis and vaccinations against local diseases and vectors. In particular, the Contractor will promote the use of impregnated mosquito nets by its Contractor's Personnel in camps or offsite lodging, and distributes these nets appropriately.
- 38.6 The health and safety plan includes a Contractor's Personnel health risk assessment based on exposure to dangerous substances and describes the medical monitoring implemented.



- 39. Sanitary repatriation**
- 39.1 The Contractor is responsible for the sanitary repatriation of Contractor's Personnel in the event of a serious injury or illness, based on a diligent examination and a statement of the doctor in charge. The Contractor will take out the necessary insurance to cover the cost of the sanitary repatriation of its Contractor's Personnel.
- 40. Hygiene, accommodation and food**
- 40.1 Drinking water
- 40.1.1 The Contractor provides personnel with drinking water at all Project Areas. The quantity and quality of this water complies with the standards of the World Health Organization at supply points.
- 40.1.2 Unless the supply of drinking water is provided by a certified supplier, the quality of the drinking water provided to workers is tested at least at the start of the works and then on a monthly basis. The protocol for taking and analysing samples is based on the recommendations of the World Health Organization. The results shall be documented and made available on the Project Areas.
- 40.2 Accommodation conditions
- 40.2.1 The accommodation provided for non-resident Personnel in a camp or an alternative structure outside of the Project Areas, such as a hotel or rented house, will comply with the conditions of the present ESHS.
- 40.2.2 The person in charge of managing the accommodation has a specific duty to report to the ESHS manager or if existent, the HS manager, the outbreak of any contagious diseases, food poisoning and other important casualties. The ESHS Manager in turn will inform the appropriate health authorities.
- 40.2.3 Rooms are lit and equipped with power sockets, beds and windows fitted with mosquito nets. Flooring is of a hard and impervious material.
- 40.2.4 The temperature in rooms and common areas shall be kept at an appropriate level during occupied hours (20 degrees in moderate to cold zones and providing adequate ventilation in hot zones).
- 40.2.5 The Contractor provides one drinking water tap per 10 Contractor's Personnel, one shower per 10 Contractor's Personnel as a minimum, one individual toilet for 15 Contractor's Personnel as a minimum, and one urinal per 25 Contractor's Personnel at accommodation camps. Separate showers and toilets must be made available for women.
- 40.3 Hygiene in shared areas
- 40.3.1 Sanitary areas (showers, sinks, urinals, toilets) are cleaned and disinfected by the Contractor's cleaning service at least once every 24 hours. Cleaning operations are documented.
- 40.3.2 The canteen, kitchen and kitchen utensils are cleaned after each meal service.
- 40.3.3 The number and location of toilets on Project Areas shall be adapted to the number of employees and the configuration of the Project Areas (distance, isolated area, etc.). For urinals and toilets, usual standards are 1 unit to max15 persons.



40.3.4 Toilet facilities are conveniently located and easily accessible. In addition, all toilet rooms shall be well-lit, have good ventilation or external windows, have sufficient hand wash basins and be conveniently located.

40.4 Food

40.4.1 The Contractor provides meals at a reasonable cost or free of charge to its Contractor's Personnel per shift in a canteen area and according to a procurement system which complies with the provisions of these ESHS Specifications.

40.4.2 The Contractor defines and implements actions in order to guarantee (i) the quality and quantities of food stuffs, (ii) compliance with health rules when preparing meals, (iii) fitting out and servicing premises and equipment, both in the kitchen and food storage areas.

40.4.3 The Contractor inspects the cleanliness of food transport vehicles, temperature control and the cold chain, as well as best-before dates, and takes the necessary corrective actions. The temperatures of chillers are regularly checked.

40.4.4 The Contractor checks that health requirements are met for food storage conditions in the kitchen or other locations, food cooking times and temperatures, and the conditions in which prepared products are left prior to consumption, to ensure no health risks. Prepared food is eaten or thrown away, no food remains are reused.

40.4.5. The Contractor recruits trained canteen personnel and ensures that supervisors monitor compliance with sanitary instructions. The Contractor ensures that canteen personnel have means of ensuring compliance with health rules (changing rooms, linen, hand washers, the condition of flooring and paint, and the existence of a cleaning plan).

40.5. At the request of the Engineer, the doctor at the health centre specified in Clause 35.2.2. of the present ESHS Specifications, carries out an audit on all Project Areas every 3 months, and documents the results, and includes the conditions of hygiene in which meals are prepared and food conserved. The results of this audit are provided to the Engineer.

40.6. The Contractor, based on the advice of the doctor at the health centre, informs Contractor's Personnel on appropriate behaviour in terms of workplace hygiene. The occasional distribution of information is not sufficient, the Contractor regularly reiterates the importance of hygiene, documents these reminders, and ensures that the information is understood, easy to apply and scrupulously complied with.

41. Substance abuse

41.1 The use, possession, distribution or sale of illegal drugs, controlled substances (as per local regulations) and alcohol is totally prohibited on the Project Areas. The Contractor implements a zero tolerance policy for the consumption of these substances.

41.2 Any person suspected by the Engineer to be under the influence of alcohol or controlled substances on any Project Area is immediately suspended from his position by the Contractor, pending the results of medical tests.



D. Local Labour and Relations with Local Communities

42. Labour conditions

- 42.1 The Contractor shall ensure decent labour conditions for workers and notably compliance with applicable law and regulations in the country of implementation of the contract, and with the fundamental conventions of the International Labour Organisation (ILO). This includes workers' rights related to wages, working hours, rest and leave, overtime, minimum age, regular payment, compensation and benefits, equal opportunities, a non-discriminatory workplace, best practice on human resource management and occupational health and safety. Wages, benefits and conditions of work will be comparable to employers in the relevant region of that country / region and sector concerned.
- 42.2 The Contractor shall respect and facilitate workers' rights to organize and provide a Worker Grievance Mechanism for all workers, including the workers of subcontractors, shall receive an induction on their rights and on the Worker Grievance Mechanism. The Contractor will display the contact details of the Worker Grievance Mechanism at well visible places in all camps and work sides.
- 42.3 The Contractor shall issue and implement internal policies and procedures to assure that no employee or job applicant will be subject to discrimination and/or harassment.
- 42.4 The Contractor shall establish for their personnel and those of their main contractors a system to monitor hours worked on the Project and seek to identify and remedy any practices that lead to long working hours in excess of national legislation.

43. Local recruitment

- 43.1 Local recruitment is defined as the number of positions actually allocated to people residing in the region of the Works (less than two hours by land transport to the Project Area) for more than one year and citizen of the Employer's country.
- 43.2 If requested by the Employer, the Contractor, and/or respectively the Subcontractor hiring local workers, establishes and initiates a local recruitment policy and a procurement plan to ensure that recruitment procurement procedures are transparent and disseminated to the project affected communities for the duration of the Works.
- 43.3 The policy and plan shall be enforced by the Subcontractors and suppliers of major supply items, responsible for hiring local workers.
- 43.4 The Contractor demonstrates the effective implementation of this policy to the Engineer in its monthly activity report as defined in Sub-Clause 6.1 of the present ESHS Specifications.
- 43.5 Pursuant to Clause 8 of the present ESHS Specifications and if requested by the Employer, the Contractor develops a training programme aiming to support the local recruitment policy.

- 43.6 This training programme must be available to women and adjusted to their level of education.
- 43.7 An incentive mechanism to increase the share of women recruited by the Contractor and the Subcontractors may be established.
- 43.8 Local labour needs are estimated prior to the start of works and described in the PA-ESMP with the following information:
- a) Identification of positions that could be filled by local staff and the level of qualification required;
 - b) Definition of the planned procedure for the effective recruitment of these members of staff;
 - c) Establishment of mechanisms to ensure non-discrimination of women in accessing recruitment procedures;
 - d) Deployment schedule for these positions;
 - e) Initial training to be provided by the Contractor for each job description.
- 43.9 In order to prevent outsiders from entering the Project Area, local recruitment at the Project Area, including at the entrance, is prohibited.
- 43.10 Local recruitment office
- 43.10.1. One month prior to the start of Works, the Contractor establishes a local recruitment office in the district where the main Project Area is located, at a location pre-approved by the Engineer.
- 43.10.2. A representative of the Contractor is present in this office at least two mornings each week, from the start of the works to a date pre-approved by the Engineer.
- 43.10.3. The representative provides information on job vacancies with the Contractor for the execution of the works (required qualifications, duration, and location) and on the information to be provided in applications.
- 43.10.4. Lists of local candidates are drafted by the representative allocated to the office and forwarded to the Contractor's Humans Resources manager on a weekly basis.
- 43.11 The Contractor's Human Resources manager selects candidates listed by the local recruitment office based on requirements for the Works and the Contractor's recruitment procedures. A written contract between the Contractor and the local Contractor's Personnel is drafted, signed and archived by the Contractor.
- 43.12 If the Project Areas are located near to several different communities, the Human Resources manager ensures a fair distribution of local recruitment between the different communities.
- 43.13 The Human Resources manager will ensure that recruitment campaigns in local communities have been spread to women and that the latter have not been discriminated in recruitments.
- 43.14 The Contractor maintains one record per local Contractor's Personnel indicating the hours worked per person allocated to the works, the type



of tasks carried out, the wages paid and any training provided. Records are available at the main Project Area at all times, so the Engineer and the authorised representatives of the government can assess the content.

44. Transport

- 44.1 Unless specified otherwise in the Contract, or instructed otherwise by the Engineer, the Contractor provides or enables access to daily transport for Contractor's Personnel not housed in the camps managed by the Contractor and living more than 15 minutes' walk from the Project Area and less than one hour by land transport.
- 44.2 The transport is organised under conditions which comply with local regulations and which ensure the safety of the people transported.
- 44.3 The Contractor organises collective transport: pick-up times and locations are defined and services organised appropriately.
- 44.4 Transport from the living facilities to his wages worksite is safe and free. If the Project Area is moved during the working season and if the Contractor retains the local personnel trained at the start of the works, the accommodation of the Contractor's Personnel is managed by the Contractor:
 - a) Within a mobile camp with the other non-local Contractor's Personnel; or
 - b) In villages located near to the mobile Project Area, in this case, each local Contractor's Personnel will receive a housing allowance in addition areas within each camp and a sports field for use by Personnel

45. Workers' accommodation

- 45.1 Living facilities are located to avoid flooding and other natural hazards.
- 45.2 Where possible, living facilities are located within a reasonable distance from the worksite.
- 45.3 The living facilities are built with adequate materials, the sites are adequately drained to avoid the accumulation of stagnant water, kept in good repair and kept clean and free from rubbish and other refuse.
- 45.4 Rooms shall not be mixed: separate rooms must be made available for both men and women.
- 45.5 Separate toilets and locker rooms shall be provided for women and men.
- 45.6 The Contractor constructs and maintains a range of recreational facilities and shared leisure
- 45.7 The Contractor ensures that at campsites:
 - a) Workers have access to an adequate and convenient supply of free potable water,
 - b) that drinking water meets national/local or WHO drinking water standards,
 - c) that all tanks used for the storage of drinking water are constructed and covered as to prevent water stored therein from becoming polluted or contaminated,

- d) that drinking water quality is regularly monitored.

45.8 Dormitories

45.8.1. A separate bed for each worker is provided. The practice of "hot-bedding" shall be avoided. Rooms shall not host more than 8 individuals.

- a) There is a minimum space between beds of 1 metre.
- b) Double deck bunks are not advisable for fire safety and hygiene reasons, and their use is minimised. Where they are used, there must be enough clear space between the lower and upper bunk of the bed. Standards range from 0.7 to 1.10 metres.
- c) Triple deck bunks are prohibited.
- d) Each worker is provided with a comfortable mattress, pillow, cover and clean bedding.
- e) Bed linen is washed frequently and applied with repellents and disinfectants where conditions warrant (malaria).
- f) Facilities for the storage of personal belongings for workers are provided, including 0.5 m³ and 1 meter of shelf unit.

45.9 The Contractor shall mitigate impacts of activities (e.g. those that create noise or light) at worksites in order to avoid any public disturbance or disturbance of camp residents.

46. Meals

- 46.1 Food supplies for the meals of the Contractor personnel will exclude any meat obtained from hunting or poaching, with the exception of fish.
- 46.2 The Contractor provides for at least two meals per shift to local Contractor's Personnel pursuant to the hygiene conditions specified in Clause 40 of the present ESHS Specifications, at reasonable price for the Contractor's Personnel. If no canteen is available, the Contractor at least pays for a minimum of 2 meals per day per shift.
- 46.3 The Contractor shall avoid any local disputes through respecting local culture and values. The Contractor shall ensure that workers are aware of local issues and sensitivities, and respect local culture and values in order to avoid any local disputes and crime.

47. Community interaction

- 47.1 The Contractor shall disclose relevant information related to the involved impacts and risks to communities (e.g. related to Traffic Management or e.g. to entering of private property for surveys) in local language and at a level of complexity that is commensurate with local realities to ensure that stakeholders fully understand the content.
- 47.2 When meeting stakeholders in neighbouring communities, minutes of meetings shall be produced and recorded as by Employer's guidelines;
- 47.3 The Contractor shall include information about the Employer's grievance mechanism and the contact details in all community communication materials.

48. Damage to people and property

- 48.1 The Contractor shall implement a worker's Code of Conduct and not disturb or interfere with the inhabitants of local communities close to or in the Project Area, and shall respect their houses, cultures, animals, prop-



erties, customs and practices.

- 48.2 The Contractor's personnel shall be trained to understand the requirements about use of unapproved land and the need to stay strictly within site boundaries and within the working areas, using only approved access and service roads.
- 48.3 The Contractor is responsible for damages to people and property caused by the execution of the works or the procedures used for execution (e.g. project vehicles demolishing local fences or houses, driving accidentally over crops or causing any other material grievances).
- 48.4 Access to the Project Areas is prohibited to unauthorized persons. The Contractor is responsible for the security and access control of the Project Areas.
- 48.5 The Engineer is informed of any damage caused to people, or the property of individuals, other than the Contractor's personnel, within 6 hours of the event, regardless of the value of the prejudice.
- 48.6 The Contractor shall establish procedures to manage and rectify and record incidents related to community disturbances.

49. Land acquisition and land take

- 48.1 The Contractor shall cover (i) occupancy indemnities for the extraction or use of construction materials and (ii) the cost of acquiring the necessary land to stockpile excess backfill material.
- 49.2 The Contractor provides compensation for any prejudice suffered by the owners of the land mentioned in Sub-Clause 48.1 of the present ESHS Specifications, but also for any prejudice incurred by users of this land, if these users are not the same parties as the owners.
- 49.3 If not otherwise instructed by the Employer, the Contractor demonstrates to the Engineer (i) who are the owner and the users, if different parties have been identified, and (ii) a written agreement governing the temporary occupancy or acquisition of this land has been negotiated and duly paid up to the two parties, if different.

50. Traffic management

- 50.1 The Contractor defines the characteristics of its fleet of vehicles and site machinery in the PA-ESMP, in the form of a traffic management plan with the aim to prevent construction-site vehicle incidents by the effective management of transport operations throughout the construction process.
- 50.2 The Contractor defines in the traffic management plan the itineraries used on a map for each route between the different Project Areas and for each phase of the construction works, and obtains the validation of the Engineer. The Contractor requests that the Employer obtain the authorisations of the competent administrative authorities if public roads are used. Any Engineer's instruction to update the traffic management plan shall be implemented.
- 50.3 The Contractor defines in the traffic management plan the itineraries used on a map for each route between the different Project Areas and for each phase of the construction works, and obtains the validation of the Engineer. The Contractor requests that the Employer obtain the authorisations of the competent administrative authorities if public roads



are used. Any Engineer's instruction to update the traffic management plan shall be implemented.

50.4 To reduce accidents, the Contractor will ensure that:

- a) Pedestrians and vehicles are kept apart (e.g. through providing separate entrances, walkways, signals)
- b) Vehicle movements are minimized
- c) Drivers are adequately trained and have the appropriate permits for driving vehicles
- d) Turning circles for turning vehicles are installed.

50.5 Within one month of the physical start of works, the Contractor informs the administrative authorities of areas crossed by the Contractor's vehicles, of the itinerary and characteristics (frequency of passing, size and weight of trucks, materials carried) of the Contractor's fleet of vehicles.

50.6 If public roads are used, and unless approved otherwise by the Engineer, the Contractor mandates a bailiff to make a sworn report regarding the state of the road prior to use by the Contractor's vehicles. The report is annexed to the PA-ESMP.

50.7 The Contractor describes in the traffic management plan the expected traffic created by its fleet of vehicles (frequency of trips between Project Areas, working hours, convoys).

50.8 The Contractor also describes the number and positioning of flagmen.

50.9 Unless specified otherwise in the Contract or instructed otherwise by the Engineer, heavy vehicles (i.e. with a Gross Vehicle Weight Rating GVWR of more than 3.5 tons) may not be used at night between 22:00 and 06:00.

50.10 Speed limits

50.10.1. The Contractor takes action to limit and check the speed of all vehicles and machinery used to execute the works at an appropriate level.

50.10.2. The maximum speed of all machinery and vehicles of the Contractor comply with the lowest of the following: the speed limit defined according to the Employer's country regulations or the following limits.

50.10.3. 20 km/h within the Project Areas;

50.10.4. 30 km/h in villages or hamlets, in towns, from 100m before the first house;

50.10.5. 80 km/h on unpaved roads outside of towns, villages, hamlets and camps.

50.10.6. In coordination with the competent Employer's country authorities, the Contractor provides and installs signs for the fleet of vehicles along public roads, when public signs are inadequate.

50.10.7. The Contractor provides each of its drivers with a map at the appropriate scale of the roads authorised for the execution of the works, clearly indicating the maximum speeds authorised, and ensures their under-

standing.

50.11 It is strictly prohibited to transport people, equipment or products other than those required for the Works and the management of Project Areas, on board any of the Contractor's vehicles. This provision also applies to the transport of live animals and meat obtained from hunting, fishing or poaching.

50.12 The trailers and skips used to carry materials which could be projected (sand, crushed material, aggregates, selected materials) are covered with a tarpaulin for the entire itinerary between two Project Areas.

**51. Fossils/ Archaeological
Chance Finds**

51.1 The Contractor shall establish specific procedures to manage the protection of archaeological and historical sites, chance finds and fossils.

Appendix 1**Contents of CESMMP****1. Environmental Policy**

- Declaration of ESHS policy signed by the Managing director of the Contractor and clearly defining the commitment of the Contractor in terms of (i) ESHS management for its construction sites and (ii) compliance with the ESHS Specifications of the Contract.

2. CESMMP

- Target and content of the Construction Environmental and Social Management and Monitoring Plan (including Health and Safety)
- Preparation and updating schedule
- Quality assurance and validation

3. ESHS Resources

- Human resources:
 - ESHS manager
 - ESHS supervisors
 - Person in charge of relations with stakeholders
 - Medical personnel
- Logistics & communications:
 - ESHS vehicles
 - In situ noise, air and water measuring equipment
 - Person analysis laboratory used
- Reporting:
 - Weekly inspections
 - Monthly
 - Accident/ Incident

4. ESHS Regulations

- Definition of standards for the applicable national ESHS regulations and the ESHS recommendations of institutions affiliated to the United Nations (WHO, ILO, IMO, IFC), applicable to the execution of works:
 - Environment
 - Noise and Vibration Soil Erosion
 - Air Quality
 - Solid Waste
 - Hazardous Materials
 - Wastewater Discharges
 - Contaminated Land
 - Occupational Health and Safety

- Community Health and Safety
- Disease Prevention
- Traffic Safety
- Unload Standards
- Minimum wage
- Day and/or night traffic restrictions

5. ESHS Operational Inspection Resources

- Site tracking procedure:
 - Frequency
 - Personnel
 - Assessment criteria
- Non-conformity handling and detection procedure:
 - Distribution of information
 - Notification depending on the level of importance allocated to non-conformities
 - Tracking of the closing of the non-conformity
- Management of data on tracking and non-conformities:
 - Archiving
 - Use as a performance indicator

6. Project

- Description of Project Areas:
 - Number
 - Location on a topographical map
 - Activities
 - Opening & closing schedule
 - Access

7. Health and Safety Plan

- Identification and characterization of health and safety risks:
- Description of working methods to minimize hazards and control risks
- List of the types of work for which a work permit is required
- Personal protection equipment
- Presentation of the medical facilities at Project Areas:
 - Healthcare centre, medical equipment and allocation of medical staff
 - Medical treatments that can be carried out on-site
 - Ambulance, communications
 - Referring hospital
- Evacuation procedure for medical emergencies
- Description of the internal organization and action to be taken in the event of an accident or incident

8. Training Plan

- Basic training for non-qualified staff
- Health and Safety inductions
- Health & safety training

9. Labour Conditions

- Description of Human Resource Policy for construction works of direct and indirect workers

10. Local Recruitment

- Local labour requirements:
 - Job descriptions and the levels of qualifications required
 - Recruitment procedure and deployment schedule
 - Initial training to be provided by the Contractor for each job description
- Location and management of the local recruitment office(s)

11. Project Machinery and Vehicle Traffic

- Description of the fleet of vehicles/machinery used for the execution of the works and emission levels and safety requirements
- Deployment and maintenance sites for each vehicle and machine
- Mapping of itineraries, travel times, and areas where speeds are limited
- Dust suppression:
 - Mapping of road sections where dust reduction initiatives apply
 - Number of watering or equivalent operations proposed per day depending on the climate
 - Capacity of the tanker trucks used and calculation of the number of trucks required

12. Dangerous Substances

- Inventory of dangerous substances per Project Area
- Transport and storage conditions and chemical incompatibility

13. Effluents

- Characterization of effluents discharged to the receiving environment
- Facilities for the treatment or pre-treatment of effluents including sufficient run-off
- Measures for reducing the sediment content of rainwater runoff
- Measures for monitoring the efficiency and performance of facilities for reducing sediment content of rainwater runoff.
- Resources and methods for monitoring effluent and rainwater runoff quality

14. Noise and Vibrations

- Estimation of the frequencies, duration, days of the week and noise levels per Project Area

15. Waste

- Inventory of waste per Project Area and per period
- Collection, intermediate storage, handling and treatment methods for ordinary or inert waste
- Storage and handling methods for dangerous waste

16. Clearing and Revegetation

- Methods & schedule for clearing vegetation and earthwork activities
- Methods, species and schedule for the revegetation of Project Areas disturbed by the works

17. Biodiversity

- Schedule for adequate fauna and flora management
- Measures for minimizing impact on fauna and flora species based on the PGCB procedures
- Measures for monitoring the efficiency and performance of the plan
- Measures for limiting Invasive Alien Species

18. Prevention of Erosion

- Location of zones suffering from erosion
- Methods and schedule for the implementation of anti-erosive actions, including topsoil storage
- Measures for limiting Invasive Alien Species

19. Documentation of Site Condition

- List of viewpoints
- Archiving photographs

20. Site Environment Protection Plans

- Marking out of the Project Area perimeter on a map
- Definition of zones for vegetation clearing, zones for the storage of usable timber, zones for burning of green waste
- Definition of on-site activities: construction, storage areas, accommodation areas, offices, workshops, concrete making units
- Layout of activity areas on the Project Area: construction works, production/operation areas, rehabilitation and closure
- Zones for the storage of topsoil, spoil from earthworks, materials
- Access routes and checkpoints
- Project Area occupancy schedule
- Liquid discharge outlet points
- Proposed sampling points for monitoring water quality
- Atmospheric emission outlet points
- Location of the storage site for dangerous products

- Location and mapping of waste treatment facilities when handled by an external service provider

21. Emergency Plan

- Description of facilities
- Characterization of hazards
- Emergency situations
- Organization structure - roles and responsibilities
- Emergency procedures
- Human and material resources
- Triggering of the plan
- Reporting

Section VII

General Conditions of Contract (GCC)



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A. Contract and Interpretation

- 1. Definitions**
- 1.1 The following words and expressions shall have the meanings hereby assigned them:
- "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.
- "Contract Documents" means the documents listed in Article 1.1 (Contract Documents) of the Contract Agreement (including any amendments thereto).
- "GCC" means the General Conditions of Contract.
- "SCC" means the Special Conditions of Contract.
- "day" means calendar day .
- "year" means 365 days.
- "month" means calendar month.
- "Party" means the *Employer* or the Contractor, as the context requires.
- "*Employer*" means the person named as such in the SCC and includes the legal successors or permitted assigns of the Employer.
- "Project Manager" means the person appointed by the Employer in the manner provided in GCC Sub-Clause 17.1 (Project Manager) hereof and named as such in the SCC to perform the duties delegated by the Employer.
- "Contractor" means the person(s) named as Contractor in the Contract Agreement, and includes the legal successors or permitted assigns of the Contractor.
- "Contractor's Representative" means any person nominated by the Contractor and approved by the Employer in the manner provided in GCC Sub-Clause 17.2 (Contractor's Representative and Construction Manager) hereof to perform the duties delegated by the Contractor.
- "Construction Manager" means the person appointed by the Contractor's Representative in the manner provided in GCC Sub-Clause 17.2.4.
- "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.
- "Dispute Board" (DB) 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 Sub-Clause 44.... (Dispute Board) hereof.
- "The Bank" means the financing institution named in the SCC.

"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.

"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.

"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 Sub-Clause 7.3 hereof), but does not include Contractor's Equipment.

"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.

"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.

"Country of Origin" means the countries and territories eligible under the rules of the Bank as further elaborated in the SCC.

"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.

"Effective Date" means the date of fulfilment 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.

"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.

"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.

"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.

"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 Sub-Clause 25.1 (Commissioning) hereof, for the purpose of carrying out Guarantee Test(s).

"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 Sub-Clause 25.2 (Guarantee Test) hereof.

"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.

"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.

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| 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 | <p>In the Contract, except where the context requires otherwise:</p> <ul style="list-style-type: none"> (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 hand-written, type-written, printed or electronically made, and resulting in a permanent record. <p>The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.</p> |
| | 3.2 | <p><u>Incoterms</u></p> <p>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.</p> |

Incoterms means international rules for interpreting trade terms published by the International Chamber of Commerce (latest edition), 38 Cours Albert 1^{er}, 75008 Paris, France.

3.4 Entire Agreement

Subject to GCC Sub-Clause 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.

3.5 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.

3.6 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.

3.7 Non-Waiver

3.7.1 Subject to GCC Sub-Clause 3.7.2 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.

3.7.2 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.

3.8 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.

3.9 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. Corrupt Practices 6.1 The Bank's Anticorruption Policy requires Borrowers (including beneficiaries of Bank-financed activity), as well as bidders, suppliers, and contractors under Bank-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, the Bank:

- (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" 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.
- (b) 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 the Bank-financing engaged in corrupt, fraudulent, collusive, or coercive practices during the procurement or the execution of that contract, without the Borrower having taken timely and

appropriate action satisfactory to the Bank to remedy the situation;

- (c) will sanction a firm or an individual, at any time, in accordance with the Bank's Anticorruption Policy and Integrity Principles and Guidelines (both as amended from time to time), including declaring ineligible, either indefinitely or for a stated period of time, to participate in the Bank--financed or Bank-administered activities or to benefit from the Bank--financed or Bank--administered 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, or coercive or other prohibited practices; and
- (d) will have the right to require suppliers and contractors to permit the Bank 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 the Bank.

B. Subject Matter of Contract

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| 7. Scope of Facilities | <p>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 labour, materials, equipment, spare parts (as specified in GCC Sub-Clause 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.</p> <p>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.</p> <p>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</p> |
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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.

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| 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 Sub-Clause 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 twenty-eight (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 Sub-Clause 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 Sub-Clause 10.1 hereof. |
| | 9.5 | Any plant and services that will be incorporated in or be required for the Fa- |

cilities 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 the Bank to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by the Bank, if so required by the Bank.
- 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 fulfilment 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 emission, 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 endeavours 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 Sub-Clause 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 Sub-Clause 24.8, and shall be responsible for facilitating the Guarantee Test(s) for the Facilities, in accordance with GCC Sub-Clause 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 Sub-Clause 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

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| 11. Contract Price | <p>11.1 The Contract Price shall be as specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement.</p> <p>11.2 Unless an escalation 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.</p> <p>11.3 Subject to GCC Sub-Clauses 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.</p> |
| 12. Terms of Payment | <p>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.</p> <p>12.2 No payment made by the Employer herein shall be deemed to constitute</p> |

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 arbitration 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 favour 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 twenty-eight (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 twenty-eight (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, five hundred and forty (540) days after Completion of the Facilities or three hundred and sixty five (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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 endeavours 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 twenty-eight (28) days prior to the date of bid submission in the country where the Site is located (hereinafter called "Tax" in this GCC Sub-Clause 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 non-transferable license (without the right to sub-license) 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 non-exclusive and non-transferable right (without the right to sub-license) 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 Information

- 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 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 Sub-Clauses 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
 - (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 fourteen (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 a 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 & Construction Manager

17.2.1 If the Contractor's Representative is not named in the Contract, then within fourteen (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 fourteen (14) days, the Contractor's Representative shall be deemed to have been approved. If the Employer objects to the appointment within fourteen (14) days giving the reason therefor, then the Contractor shall appoint a replacement within fourteen (14) days of such objection, and the foregoing provisions of this GCC Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 twenty-one (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 twenty-eight (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 precommission 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 Comple-

tion, 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 8.2, any extension thereof entitled under GCC Sub-Clause 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 Supply and Services and List of Approved Subcontractors) to the Contract Agreement specifies major items of supply or 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 Sub-Clause 19.1.
- 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 as it may select, at its discretion.
- 19.4 Each sub-contract 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 twenty-eight (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 Sub-Clause 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 Sub-Clauses 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 fourteen (14) days after receipt by the Project Manager of any document requiring the Project Manager's approval in accordance with GCC Sub-Clause 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 fourteen (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 Sub-Clause 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 Sub-Clause 45.3 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 Sub-Clause 45.3 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 and amended document and obtained the Project Manager's approval thereof, pursuant to the

provisions of this GCC Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 endeavours 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 Sub-Clause 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 Bench Mark

- (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 Labour

22.2.1 Engagement of Staff and Labour

- (a) Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labour, 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 labour as is necessary for the proper and timely execution of the Contract. The Contractor is encouraged to use local labour 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 labour 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 endeavours 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 labour from amongst the Employer's Personnel.

22.2.3 Labour Laws

- (a) The Contractor shall comply with all the relevant labour 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 endeavours to prevent any unlawful, riotous or disorderly conduct or behaviour by or amongst its employees and the labour of its Subcontractors.
- (c) The Contractor shall, in all dealings with its labour and the labour 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 labour.

22.2.4 Rates of Wages and Conditions of Labour

- (a) The Contractor shall pay rates of wages, and observe conditions of labour, 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 Sub-Clause shall not apply to any work which is customarily carried out by rotary or double-shifts.

22.2.6 Facilities for Staff and Labour

- (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 Man-

ager 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, genders, 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 Foodstuffs

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 Labour

The contractor shall not employ "forced or compulsory labour" in any form. "Forced or compulsory labour" 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 Labour

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 endeavours 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 Sub-Clause 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 Sub-Clause 45.3.
- 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 Sub-Clause 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 Sub-Clause 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 seven (7) days after receipt of the notice from the Contractor under GCC Sub-Clause 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 seven (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 Sub-Clause 24.2, the Contractor shall commence Pre commissioning of the Facilities or the relevant part thereof in preparation for Commissioning, subject to GCC Sub-Clause 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 fourteen (14) days after receipt of the Contractor's notice under GCC Sub-Clause 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 Sub-Clause 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 Sub-Clause 24.4.

If the Project Manager is satisfied that the Facilities or that part thereof have reached Completion, the Project Manager shall, within seven (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 seven (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 fourteen (14) days after receipt of the Contractor's notice under GCC Sub-Clause 24.4 or within seven (7) days after receipt of the Contractor's repeated notice under GCC Sub-Clause 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 Sub-Clause 24.5, or immediately after the date of the deemed Completion, under GCC Sub-Clause 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 Sub-Clause 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 Sub-Clauses 28.2 and 28.3 shall not apply.

25.3 Operational Acceptance

25.3.1 Subject to GCC Sub-Clause 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 Sub-Clause 25.2.2 above; or
- (c) the Contractor has paid the liquidated damages specified in GCC Sub-Clause 28.3 hereof; and
- (d) any minor items mentioned in GCC Sub-Clause 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 Sub-Clause 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 seven (7) days after receipt of the Contractor's notice, issue an Operational Acceptance Certificate.

25.3.4 If within seven (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 Sub-Clause 24.3, or with the Guarantee Test pursuant to Sub-Clause 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 Sub-Clause 24.6, and Operational Acceptance, pursuant to GCC Sub-Clause 25.3.4, and Contractor's obligations regarding Defect Liability Period, pursuant to GCC Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 non-completion 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 Sub-Clause 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 Sub-Clause 32.1 shall be reimbursed to the Contractor by the Employer for the period between the notification mentioned above and the notification mentioned in Sub-Clause 25.5.4 below. The provision of GCC Sub-Clause 33.2 shall apply to the Facilities during the same period.

25.5.3 In the event that the period of suspension under above Sub-Clause 25.5.1 actually exceeds one hundred eighty (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

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| 26. Completion Time Guarantee | <p>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 Sub-Clause 8.2, or within such extended time to which the Contractor shall be entitled under GCC Clause 40 hereof.</p> <p>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 Sub-Clause 42.2.2.</p> <p>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.</p> <p>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.</p> <p>Save for liquidated damages payable under this GCC Sub-Clause 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 Sub-Clause 18.2 shall not render the Contractor liable for any loss or damage thereby suffered by the Employer.</p> <p>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.</p> |
| 27. Defect Liability | <p>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.</p> <p>27.2 The Defect Liability Period shall be five hundred and forty (540) days from the date of Completion of the Facilities (or any part thereof) or one year from the date of Operational Acceptance of the Facilities (or any part there-</p> |

of), whichever first occurs, unless specified otherwise in the SCC pursuant to GCC Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 fifteen (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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 twenty-eight (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 twenty-eight (28) day period, the Employer shall make no admission that may be prejudicial to the defence 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 wilful 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 Sub-Clauses 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 Sub-Clause 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 Sub-Clause 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 Sub-Clauses 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 Sub-Clause 38.1, the provisions of GCC Sub-Clause 38.3 shall apply.
- 33. Loss of or Damage to Property; Accident or Injury to Workers; Indemnification**
- 33.1 Subject to GCC Sub-Clause 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 Sub-Clause 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 twenty-eight (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 twenty-eight (28) day period, the Employer shall make no admission that may be prejudicial to the defence 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 lia-

bilities 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 Sub-Clause 34.1, except for the Third Party Liability, Workers' Compensation and Employer's Liability In-

surances, and the Contractor's Subcontractors shall be named as co-insureds under all insurance policies taken out by the Contractor pursuant to GCC Sub-Clause 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 twenty-one (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 twenty-one (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 Sub-Clause 34.5.
- 34.6 If the Contractor fails to take out and/or maintain in effect the insurances referred to in GCC Sub-Clause 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. Unfore-
seen
Condi-
tions**

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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 twenty-eight (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 Sub-Clause 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
 - (f) shortage of labour, 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 fourteen (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 fulfil its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GCC Sub-Clauses 37.6 and 38.5.

37.5 No delay or non-performance 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 Sub-Clauses 32.2, 38.3 and 38.4

if and to the extent that such delay or non-performance 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 sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of one or more events of Force Majeure during the 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 Sub-Clause 38.5.

37.7 In the event of termination pursuant to GCC Sub-Clause 37.6, the rights and obligations of the Employer and the Contractor shall be as specified in GCC Sub-Clauses 42.1.2 and 42.1.3.

37.8 Notwithstanding GCC Sub-Clause 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 Sub-Clause 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
- (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 Sub-Clause 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 Sub-Clauses 38.3 or 38.5, the rights and obligations of the Employer and the Contractor shall be specified in GCC Sub-Clauses 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 Sub-Clauses 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 Sub-Clauses 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 Sub-Clauses 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 Sub-Clause 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
- (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 Sub-Clause 39.2.2 (a), the Contractor shall, with proper expedition, proceed with the preparation of the Change Proposal, in accordance with GCC Sub-Clause 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 fifteen percent (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 fourteen (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 fourteen (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 fourteen (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 Sub-Clause 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 sixty (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 Sub-Clause 45.3.

39.3 Changes Originating from Contractor

39.3.1 If the Contractor proposes a Change pursuant to GCC Sub-Clause 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 Sub-Clause 39.2.1.

Upon receipt of the Application for Change Proposal, the parties shall follow the procedures outlined in GCC Sub-Clauses 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 Sub-Clause 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 Sub-Clause 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
- (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 sub-clause

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 Sub-Clause 45.3.

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 ninety (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 twenty-eight (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 Sub-Clause 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 Sub-Clause 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 fourteen (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 Sub-Clause 10.2, or failure to obtain any governmental permit necessary for the execution and/or completion of the Facilities,

then the Contractor may by fourteen (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 Sub-Clause 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 Sub-Clause 42.1.

42.1.2 Upon receipt of the notice of termination under GCC Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 42.1.2
- (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 Sub-Clause 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.

- (c) if the Contractor, in the judgment of the Employer has engaged in corrupt or fraudulent practices, 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 Sub-Clause 41.2, the progress of Contract performance for more than twenty-eight (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 labour to execute and complete the Facilities in the manner specified in the program furnished under GCC Sub-Clause 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 fourteen (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 Sub-Clause 42.2.

42.2.3 Upon receipt of the notice of termination under GCC Sub-Clauses 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
- (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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 fourteen (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 twenty-eight (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 twenty-eight (28) days of the said notice, the Contractor may by a further notice to the Employer referring to this GCC Sub-Clause 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 Sub-Clause 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 Sub-Clauses 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 Sub-Clause 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 Sub-Clauses 42.3.1 or 42.3.2, the Employer shall pay to the Contractor all payments specified in GCC Sub-Clause 42.1.3, 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause 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 Sub-Clause, monitor the record-keeping 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 Sub-Clause are in addition to those of any other Sub-Clause which may apply to a claim. If the Contractor fails to comply with this or another Sub-Clause 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 Sub-Clause.

In the event that the Contractor and the Employer cannot agree on any mat-

ter 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 DB for decision in accordance with GCC Sub-Clause 45.3. The Parties shall appoint a DB by the date stated in the SCC.

The DB 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 DB shall comprise three persons, one of whom shall serve as chairman.

If the Parties have not jointly appointed the DB 21 days before the date stated in the SCC and the DB 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 DB.

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 DB 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 Sub-Clause.

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 DB (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 DB by the date stated in the first paragraph of GCC Sub-Clause 45.1,
- (b) either Party fails to nominate a member (for approval by the other

Party) of a DB 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 DB 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 DB. 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 DB for its decision, with copies to the other Party and the Project Manager. Such reference shall state that it is given under this Sub-Clause.

For a DB of three persons, the DB shall be deemed to have received such reference on the date when it is received by the chairman of the DB.

Both Parties shall promptly make available to the DB all such additional information, further access to the Site, and appropriate facilities, as the DB may require for the purposes of making a decision on such dispute. The DB 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 DB and approved by both Parties, the DB shall give its decision, which shall be reasoned and shall state that it is given under this Sub-Clause. 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 DB'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 DB 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 Sub-Clause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in GCC Sub-Clauses 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 Sub-Clause.

If the DB 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 DB'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 Sub-Clause 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 DB'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 Sub-Clause 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 DB, 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 DB to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the DB 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 DB 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 DB 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 Sub-Clause 45.5. GCC Sub-Clauses 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 DB in place, whether by reason of the expiry of the DB's appointment or otherwise:

- (a) GCC Sub-Clauses 45.3 and 45.4 shall not apply, and
- (b) the dispute may be referred directly to arbitration under GCC Sub-Clause 45.5

Appendix A: 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 "DB" 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 "DB" (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 Sub-Clause 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 DB'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 DB'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 DB under GCC Sub-Clause 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 two 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, faxes and telexes: a receipt shall be required for each item in excess of five percent 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 DB; 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 Sub-Clause 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 DB 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 DB 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 DB, 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 DB, the Employer and the Contractor, or in the absence of agreement, shall be decided by the DB. The purpose of site visits is to enable the DB 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 co-ordinated by the Employer in co-operation 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 DB 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 DB one copy of all documents which the DB may request, including Contract documents, progress reports, variation instructions, certificates and other documents pertinent to the performance of the Contract. All communications between the DB and the Employer or the Contractor shall be copied to the other Party. If the DB 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 DB in accordance with GCC Sub-Clause 45.3, the DB shall proceed in accordance with GCC Sub-Clause 45.3 and these Guidelines. Subject to the time allowed to give notice of a decision and other relevant factors, the DB 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 DB 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 DB 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 DB 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 DB, among other things, to:
 - (a) establish the procedure to be applied in deciding a dispute,
 - (b) decide upon the DB'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 DB 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 DB shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the DB shall make and give its decision in accordance with GCC Sub-Clause 45.3, or as otherwise agreed by the Employer and the Contractor in writing. If the DB 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 VIII

Special Conditions of Contract (SCC)



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1. Definitions

Following definitions are being supplemented as below:

The Employer is:

Power Grid Company of Bangladesh Limited (PGCB)

Registered Office:

Red Crescent Concord Tower
17, Mohakhali Commercial Area (6th floor)
Dhaka-1212, Bangladesh

Head Office:

Institution of Engineers, Bangladesh (IEB)
Bhaban (4th floor), 8/A, Ramna, Dhaka-1000, Bangladesh
Telephone: +880-2-9555475, -9550514, -9558054
Fax No.: +880-2-9582382, +880-2-9557880

The Project Manager is:

Md. Masoom Alam Bokshi)
Project Director & Chief Engineer
Energy Efficiency in Grid Based Power Supply Project (EEGBPSP)
Power Grid Company of Bangladesh Limited (PGCB)
House-29 (2nd floor), Road-01, Block-D, Aftabnagar, Badda, Dhaka-1212
Mobile Phone: +880 17 14 11 94 22

The Bank is:

KfW Entwicklungsbank

Country of Origin:

All countries as indicated in Volume 1, Section 5 - Eligible Countries.

Completion - Tight and clear condition:

"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"** (meaning that all wastes and equipment have been removed from construction sites and camp areas, all areas which have been temporarily used by the project have been restored to the original conditions, all payments for compensation of all damages have been completed, all potential soil and water contaminations have been cleaned to the satisfaction of the authorities and the bank, generally potential environmental liabilities have to be transferred to the operator),

The 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.

"Deed of Agreement" means "Contract Agreement"

"The Engineer" means the engineering consultant for the Project who assists the Project Manager in respect of execution of the Contract

2. Contract Documents

2.2 The ESMP from part of the Contract

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 six (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 **30 months (thirty)** from the effective date as described in the contract agreement.
- 8.3 As defined in the ESMP, no physical work may commence on any Project Area until such time the Contractor has prepared and submitted to the Engineer the CESMMP including all sub-plans as indicated in Section IV, chapter 6.10, corresponding to a Project Area, and the Engineer has approved those.

9. Contractor's Responsibilities

Add the following to Clause GC 9.3

The Contractor shall acquire and pay for all permits, approvals and/or licenses from 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 obtaining in the Employer's name,
- (b) are necessary for 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.

The cost of acquiring such permits, approvals, and/or licenses is deemed included in the contract price.

Add the following paragraphs to Sub-Clause 9.8

The Contractor shall elaborate and submit for approval within 30 (thirty) days from the effective date of the contract, his own and works-specific (Construction) Environmental and Social Management Plan ((C)ESMP) in line with the ESMP attached in Annex 1 of Section 6, Employer's Requirements.

The Contractor can start on-site work only when (C)ESMP is approved

New Clause GC 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.

New Clause GC 9.10 is added

The Contractor shall, immediately after notification of award, provide the Employer free of charge with eight (8) hardcopies of all engineering data, drawings and descriptive materials submitted with the bid, which will form part of the contract.

New Clause GC 9.11 is added

Within thirty (30) days after contract signature, the Contractor at his own cost shall provide the Employer with fifteen (15) hard copies of the contract document.

New Clause GC 9.12 is added

The Contractor shall be deemed to have been satisfied as to the suitability and availability of access routes to the Site at Base Date. The Contractor shall use reasonable efforts to prevent any road or bridge from being damaged by the Contractor's Personnel. These efforts shall include the proper use of appropriate vehicles and routes.

Except as otherwise stated in these Conditions:

- a. The Contractor shall (as between the Parties) be responsible for any maintenance which may be required for his use of access routes;
- b. The contractor shall provide all necessary signs or directions along access routes, and shall obtain any permission which may be required from the relevant authorities for his use of routes, signs and directions;
- c. The Employer shall not be responsible for any claim which may arise from the use or otherwise of any access route;
- d. The Employer does not guarantee the suitability or availability of particular access routes; and
- e. Costs due to non- suitability or non-availability, for the use required by the Contractor, of access routes shall be borne by the Contractor.

New Clause GC 9.13 is added

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 result of his operations,

The Contractor shall ensure that emissions, surface discharges and effluent from the Contractor's activities shall not exceed the values stated in the National Regulations of Bangladesh or in the EHS General Guidelines IFC. In the event of discrepancy the Contractor shall comply with the most stringent requirements.

New Clause GC 9.14 is added

The Contractor shall not interfere unnecessarily or improperly with:

- a. The convenience of the public; or
- b. The access to and use and occupation of all roads and footpaths, irrespective of whether

they are public or in the possession of the Employer or of others.

The Contractor shall indemnify and hold the Employer harmless against and from all damages, losses and expenses (including legal fees and expenses) resulting from any such unnecessary or improper interference.

10. Employer's Responsibilities

Clause GC 10.3 shall be replaced by the following:

The Employer shall give administrative support to accord permits, approvals and/or licenses from local, state or national government authorities or public service undertakings in the country where the Site is located.

Clause GC 10.5 shall be replaced by the following:

The Employer shall provide sufficient, properly qualified operating and maintenance personnel for pre-commissioning, commissioning and guarantee tests. The Employer or its representative shall witness the Commissioning and Guarantee Tests in accordance with the terms and conditions of the Contract and certify accordingly

11. Contract Price

11.2 The contract price shall be adjusted in accordance with the provisions of Volume 1, Section 9, Contract agreement, Appendix 2 (price adjustment).

13. Securities

Clause 13.2.1 shall be amended as follows:

The expression "notification of contract award" shall be replaced by "contract signature".

The following paragraph shall be added at the end of Sub-Clause 13.3.1:

The amount of performance security, as a percentage of the contract price for the facility or for the part of the facility for which a separate time for completion is provided, shall be 10% of the contract price.

Sub-Clauses 13.3.2 and 13.3.3 shall read as follows:

13.3.2 The performance security amount shall be in form of an unconditional bank guarantee as per

the form included in Volume 1, Section 6 (Employer's Requirements, Bank Guarantees and Certificates). It shall be denominated in the types and proportions of the currencies in which the contract price is payable, or in a freely convertible currency acceptable to the Employer. 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 up to the defect liability period.

However, if the Defects Liability Period has been extended on any part of the Facilities pursuant to Sub-Clause 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 Sub-Clause 27.10, is liable for an extended warranty obligation, the performance security shall be extended for the period and up to the amount specified in the clause 26.

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 advance income tax (AIT) at source at applicable rate(s), which is required as per law of the Employer's country. In the event of withholding of AIT, 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. Notwithstanding GCC Sub-Clauses 14.1 above or where ever, any material import from abroad under price schedule No.1 shall be considered as the direct import of the Employer and the 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.

The Bidder shall quote bid-prices of all items of the price schedules under this contract exclusive of VAT. The items under price schedule No.1 shall be quoted exclusive of customs duties, VAT, AIT and other relevant duties and taxes. If any VAT is applicable for any or all of the items under this contract, the Employer shall bear and deposit the same to the govt. exchequer as per prevailing law of the Employer's Country.

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 for the items imported for civil works material specified in Price Schedule No.4. The Contractor shall be responsible for the payment of customs duties and VAT for the items imported for civil works material.
- 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 Company Secretary, Power Grid Company of Bangladesh Ltd, Institution of Engineers Bangladesh (IEB), Bhaban (4th floor), Ramna, Dhaka 1000:
 - 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.

15. License/Use of Technical Information

Clause 15.2 shall be replaced by the following:

The Employer shall be vested with the copyright for all drawings, documents and other materials containing data and information furnished to the Employer by the Contractor herein. In case they are furnished to the Employer directly or through the Contractor by any third party, including suppliers of materials, the Employer shall be vested also with the copyright of such materials.

18. Work Program

The following paragraph is added in the middle of Sub-Clause 18.3:

Progress reports are requested under the ESMP.

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 and 22.9(a) and (b)."

19. Subcontracting

The following Sub-Clause is added:

- 19.6 The Contractor shall not subcontract the whole of the facility i.e. the value of the subcontracted services could not exceed 30 % of the contract value.

20. Design and Engineering

The following Sub-Clauses are added after Sub-Clause 20.3.7

- 20.3.8 Drawings are to be submitted for approval as printouts folded to A3 size, with the project title block and drawing numbers fully visible.
- 20.3.9 The Contractor shall mention the Employer's drawing numbers on all drawings prior to submission. Following award of the contract, the Employer and Contractor will review the numbering system, familiarize each other with the requirements and agree on the numbering system to be applied.

Comprehensive cross-references are to be included on drawings, and the Contractor shall include the Employer's drawing numbers in the cross-references. At each and every issue of a drawing, the revision shall be shown and details given in revision boxes on the drawing. Comprehensive details of revisions must be given; phrases such as "revised", "updated", "modified" or similar are not acceptable. Reference to any drawing in communications shall include the Employer's drawing number.

- 20.3.10 The Contractor shall submit to the Employer four (4) copies of drawings of the plant and works for formal approval. A program of "drawing submission" shall be agreed with the Contractor following contract award. Drawings issued in accordance with this program shall take account of the time periods necessary for postage and approval by the Employer, to ensure that approved drawings are available prior to manufacture. For site construction works, 4 copies of "construction issue" drawings have to be submitted and made available on site at least 21 days prior to the commencement of the works.

Where appropriate, the drawings shall be accompanied by supporting calculations. The Contractor shall ensure that drawings of a specific aspect of the works are fully co-ordinated and submitted together in a logical sequence.

Should the Contractor revise a drawing for any reason after the approval by the Employer, the revised drawing has to be resubmitted for re-approval by the Employer, the original approval automatically being void.

- 20.3.11 During construction of the works on the site, the Contractor shall ensure that all departures, modifications and corrections to the approved drawings are recorded. All such changes to the drawings have to be marked in red to show the "as-built" state. One

set of "as-built" drawings have to be available on the site at all times.

On completion of construction and commissioning, the Contractor shall provide four (4) copies of any drawing that has been amended to show the "as-built" state to the Employer's Representative. These drawings shall be issued by the Contractor prior to the issue of the completion certificate.

Following examination of the "as-built" drawings, the Employer's Representative shall return one copy to the Contractor indicating his approval of the construction modifications or further modifications required to satisfy the requirements of the specifications.

Final "as built" drawing shall be also submitted in electronic copy including AutoCAD version of Layout, SLD and Section drawings.

21. Procurement

Clauses 21.1 and 21.4 are amended as follows:

The text "Sub-Clause-14.2" is replaced by "Sub-Clause-14".

22. Installation

The following text is added at the end of Sub-Clause 22.2.4:

- "(c) The Contractor shall:
- (i) comply with all applicable labour laws and related international treaty obligations of the Employer and shall not employ child labour, as defined under Bangladeshi law;
 - (ii) provide safe working conditions for male and female workers;
 - (iii) carry out HIV/AIDS and human trafficking prevention and awareness campaigns in the campsites and corridors of influence;
 - (iv) engage women workers as wage labourers depending on their skill; and
 - (iv) provide equal wages for equal work between men and women.

The following text is added at the end of Sub-Clause 22.2.5:

- (d) Normal working hours are from 9:00am to 5:00pm.

The following text is added at the end of Sub-Clause 22.2.7:

- (d) Throughout the contract and (including the Defect Liability Period), the Contractor shall:
- (i) conduct information, education and consultation communication (IEC) campaigns, at least every other month, addressed to all the site staff and labour (including all Contractor's employees, all Subcontractors, Employer's and Project Managers' employees, to all truck drivers and crew making deliveries to site for construction activities) and to the immediate local communities, concerning the risks, dangers and impact, and the appropriate avoidance behaviour with respect to 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.

The Contractor shall include in the program to be submitted for the execution of the facilities under Sub-clause 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 Sub-clause and the related specification. For each component, the program shall detail the resources to be provided or utilized and any related subcontracting proposed. The program shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for preparation and implementation of this program shall not exceed the provisional sum dedicated for this purpose.

Above-mentioned provisions are complemented by those listed under the ESMP which the Contractor must ensure full compliance with.

The following shall be added at the end of Clause 22.4

Safety Procedures:

The Contractor shall:

- f. comply with all applicable safety regulations,
- g. take care for the safety of all persons entitled to be on the site,
- h. use reasonable efforts to keep the site and works clear of unnecessary obstruction so as to avoid danger of these persons,
- i. provide fencing, lighting, guarding and watching of the works until completion and taking over under clause 6. Payment of Appendix A: General Conditions of Dispute Board Agreement, Section VIII General Conditions (Employer's Taking Over), and
- j. provide any temporary works (including roadways, footways, guards and fences) which may be necessary, because of the execution of the works, for the use and protection of the public and of owners and occupiers of adjacent land.

Rights of Way and Facilities

Unless otherwise specified in the Contract, the Employer shall provide effective access to and possession of the Site including special and/or temporary rights-of-way which are necessary for the Works. The Contractor shall obtain, at his risk and cost, any additional rights of way or facilities outside the Site which he may require for the purpose of the Works.

Sub-Clause 22.6. is amended as follows:

In the last sentence of the second paragraph, the word "Otherwise" is replaced by "In case such work is not in the scope of the Contractor".

The following Sub-Clause is added at the end of Sub-Clause 22:

22.9 The Contractor shall:

- (a) comply with the measures and requirements relevant to the Contractor set forth in the IEE, the EMP, the present national resettlement policy and any small ethnic community peoples plan (to the extent they concern impacts on affected people during construction), and any corrective or preventative actions set out in a safeguards monitoring report;
- (b) make available a budget for all such environmental and social measures;
- (c) provide the Employer with a written notice of any unanticipated environmental, resettlement or small ethnic community peoples risks or impacts that arise during construction, implementation or operation of the project that were not considered in the IEE, the EMP, the RP or any small ethnic community peoples plan;
- (d) adequately record the condition of roads, agricultural land and other infrastructure prior to starting to transport materials and construction; and
- (e) fully reinstate pathways, other local infrastructure, and agricultural land to at least their pre-project condition upon the completion of construction.

23. Test and Inspection

Sub-Clause 23.2 is replaced by the following:

23.2 (a) The Employer and the Project Manager or their designated representatives are entitled to attend the factory acceptance tests, which shall be performed at the Manufacturer's works/testing laboratories. Factory acceptance tests shall be organized separately for each equipment. In case both equipment 230 kV and 132 kV (like: circuit breakers, disconnectors, instrument transformers or surge arresters) will be manufactured at the same location, one Factory Acceptance Test shall be foreseen. Factory Acceptance Test shall be performed at least for the following equipment:

- **Power transformers 132/33 kV,**
- **Gas Insulated Switchgear (GIS) 132 kV,**
- **Circuit breakers 132 kV,**
- **Disconnectors 132 kV,**
- **Instrument transformers 132 kV,**
- **Substation Automation System and Protection relays and**

The Contractor shall be responsible for bearing the costs for the above mentioned witnessing of factory acceptance tests by **two** Employer's Engineers in each visit, considering visa fees and health insurance to cover all medical costs that may be required during the visits, the return air fare (economy class), hotel charges, travelling expenses from air-

port to hotel and hotel to place of testing and return, food, laundry, together with a per diem allowance of USD 100 for maximum 7 (seven) days, for each visit and for each of the Employer's Engineers.

23.2 (b) The Contractor shall provide, during and after the installation, on-site training for operation and maintenance of the works, for each new substation, for 15 (fifteen) Employer's staff, for the duration of minimum 1 (one) week.

The Contractor shall be responsible for bearing all costs for the above-mentioned training. All costs are deemed to be included in the contract price.

The following sentence shall be added at the end of Sub-Clause 23.3:

Four weeks are deemed for the advance notification of testing.

24. Completion of the Facilities

Sub-Clause 24.2

The 2nd paragraph of GC Sub-clause 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.

25. Commissioning and Operational Acceptance

Sub-clause 25.1.2 is replaced by the following:

The Employer shall deploy the operating and maintenance personnel pursuant to GC Sub-clause 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.

Sub-Clause GC 25.3.3 is replaced by the following:

The Project Manager shall, after consultation with the Employer, and within twenty one (21)

days after receipt of the Contractor's notice, issue an Operational Acceptance Certificate.

After the Operational Acceptance Certificate has been issued, the Contractor and the Employer shall remain liable for the fulfilment of any obligation, which remains unperformed at that time. For the purposes of determining the nature and extent of any such obligation, the contract is deemed to remain in force.

Sub-Clause 25.3.4 is replaced by the following:

If within twenty one (21) 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 are deemed to have been accepted as at the date of the Contractor's said notice.

26. Completion Time Guarantee

26.2 The applicable rate for liquidated damages is 0.5% of the contract price per week.

The maximum deduction for liquidated damages is 10% 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.

The following paragraph is added at the end of Sub-Clause 27.6

The tests for repaired equipment / facilities shall be in accordance with the provisions of the technical specifications / employer's requirements. However, for replaced equipment / facilities, the tests shall in any case be not less than what has already been agreed by the Employer and the Contractor for the original equipment/part of the facilities.

Sub-Clause 27.9

Replace "completion of facilities" with "commissioning" in line 5.

34. Insurance

A new Sub-Clause is added at the end of Clause 34:

34.8 The Contractor shall follow the existing import act including insurance act and related acts of the Government of Bangladesh.

As per the Insurance Corporation Act (Amendment), 1990, all insurance coverage (100%) required for this contract shall be done with **Sadharan Bima Corporation, Bangladesh**, who are the sole public sector general insurance organization in the country.

37. Force Majeure

Sub-Clause 37.1.(d) is changed:

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'

The Subclass 37.1.(f) is deleted.

New Subclasses 37.1.(g) is added.

In case of occurrence of strike, sabotage, lockout, shortage of labor, material or utility, such event will be treated as "Special risk" and shall be discussed and resolved mutually."

39. Change in the Facilities

A new Sub-Clause is added at the end of Clause 39:

39.4 The following provisions shall supplement the provisions of Sub-Clauses 39.1, 39.2 & 39.3:

The contract price for (i) the items for which quantities have been indicated as lump sum or lot or set and/or(ii) quantities that are to be estimated by the Contractor shall remain constant unless the Employer makes a change in the scope of works.

The quantities and unit prices (i) subsequently arrived at while approving the BoQ / billing breakdown of lump sum quantities /lot /set and/or (ii) estimated by the Contractor shall be for on-account payment purposes only.

In case additional quantities, over and above the quantities in BoQ/billing breakdown and /or estimated by the Contractor, are required for successful completion of the scope of work as per the technical specifications, the Contractor shall execute additional quantities of these items for which no additional payment shall be made over and above the lump

sum contract price.

In case quantities of these items supplied at site are in excess of those required for the successful completion of the scope of work, such additional quantities shall be the property of the Employer.

Furthermore, in case the actual requirement of quantities for the successful completion of scope of works is less than the quantities identified in the approved BoQ /billing breakdown and/or estimated by the Contractor, the lump sum contract price shall remain unchanged, and no deduction shall be made from the lump sum price due to such reduction of quantities.

It shall be the responsibility of the Contractor to pay all statutory taxes, duties and levies to the concerned authorities for such surplus material which would otherwise have been lawfully payable in case of non-deemed export contracts. The Contractor shall submit an indemnity bond to keep the Employer harmless from any liability prior to the release of such material to the Contractor by Employer.

Sets / lots / lump sums shall be governed by the requirements of the corresponding item description read in conjunction with relevant provisions of the technical specifications.

41. Suspension

The following Sub-Clauses are added at the end of Clause 41:

As an example, and without limitation to other possible causes, any suspension of work caused by the failure from the Contractor to comply with the obligations stated:

- a. Under the ESMP, in the event of a non-compliance;
- b. Under Sub-Clause 22.4 of SCC as to safety procedures;
- c. Under Sub-Clause 9.13 of SCC as to the protection of the environment;

shall be considered as cause of suspension which is the responsibility of the Contractor.

43. Assignment

The following Sub-Clauses are added at the end of Clause 43:

- 43.2 The contract will be signed in three originals. The Contractor will receive one signed original while the Employer will keep the other two originals.

45. Disputes and Arbitration

45.1 The DB shall be appointed within **28 days** after the effective date.

The DB shall be consists of three members. The list of potential DB members is:

- (i) The President of Institution of Engineers, Bangladesh (IEB).
- (ii) The President of Institute of Chartered Accountants of Bangladesh (ICAB).
- (iii) The President of Institute of Project Management Bangladesh (IPMB).

45.2 In case of failure to agree Dispute Board, the appointment of the Dispute Board shall be made by the:

Head, Department of Electrical & Electronics Engineering, Bangladesh University of Engineering & Technology, Bangladesh

45.5 Arbitration proceedings shall be conducted by the following rules:

- (a) Contracts with foreign Contractors:
International Chamber of Commerce
- (b) Contracts with Contractors being nationals of the Employer's country:
The Arbitration Act, 2001 (Act. No. 1 of 2001)
- (c) Location of arbitration:
Contracts with foreign Contractors: London, UK
Contracts with Contractors being nationals of the Employer's country: Dhaka, Bangladesh

46. Policy-Corrupt and Fraudulent Practices

In order to promote sustainable development, KfW seeks to ensure that internationally recognised environmental and social standards are complied with. Candidates for KfW-financed contracts shall consequently undertake in the Declaration of Undertaking to:

- a) Comply with and ensure that all their subcontractors, suppliers, in particular those for major supply items, or consultants comply with international environmental and labour standards, consistent with applicable laws and regulations in the country of implementation of the contract and the fundamental conventions of the International Labour Organisation (ILO) ¹and international environmental treaties;
- b) Implement environmental and social risks mitigation measures when specified in the environmental and social management plan (ESMP) provided by the Contracting Authority.

¹ In case ILO conventions have not been fully ratified or implemented in the Employer's country the Applicant / Bidder / Contractor shall, to the satisfaction of the Employer and KfW, propose and implement appropriate measures in the spirit of the said ILO conventions with respect to a) working grievances on working conditions and terms of employment, b) forced labour, c) worker's organisations and e) non-discrimination

Section IX

Contract Forms



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1. Notification of Award

[Employer's letterhead]

Letter of Acceptance

To

(Name and Address of the Contractor)

Ref: Invitation for Bids No **(Number of the Invitation for Bids)** dated **(Date of the Invitation for Bids)** and Bid Proposal of the Bidder **(Name of the Bidder)** dated **(Date of the Bid Proposal)**

Dear Sirs,

With reference to the bidding document for the above contract and your bid proposal submitted on **(Date of Bid Submission)** as well as the subsequent clarifications **(if any)**, letter of discount on Price on the proposal **(if any)** submitted by you, **Power Grid Company of Bangladesh Ltd. (PGCB)** intends to award you the Contract No. **(Number of the Contract)** for **(Name of the Contract)** with the following terms and conditions:

1. Contract Price

The contract price shall be **(amount in foreign currency plus local currency)** (in words **(amount in foreign currency plus local currency in words)**).

2. Completion Period

Time for completion of whole facilities shall be **30 (thirty)** months from the effective date as described in the Volume 1, Section 8 - Special Conditions of Contract, Sub-Clause 8.2 of the bidding documents.

3. Tax & VAT

Tax and VAT shall be payable as per Clause 14: Taxes and Duties, Volume 1, Section 7 - General Conditions of Contract and Section 8 - Special Conditions of Contract of the bidding documents.

4. Performance Security

A performance security amounting to **10 % (ten percent)** of the contract price has to be submitted by you within twenty eight (28) days of the receipt of this Notification of Award in accordance with Sub-clause ITB 45.1 and GCC 13.3, Volume 1 of the bidding documents.

5. The execution of the contract agreement shall be in accordance with the terms and conditions laid down in the bidding documents and subsequent addendum & clarification.

You are, therefore, requested to convey your written and unconditional acceptance of this Notification of Award until **(deadline for written and unconditional acceptance)** and submit **(number of sets)** sets of the Draft Contract Documents until **(deadline for submission of the Draft Contract Documents)**.

You are also requested to send your authorized representative(s) until **(deadline for finalization of the contract documents)** for finalization of the contract documents.

A copy of the unsigned Deed of Agreement is enclosed for your necessary actions as per Volume 1, Section 1, Instructions to Bidders, ITB 44 of the Bidding Documents.

Thanking you, we remain
Yours sincerely,

Company Secretary

Copy to:

1. Managing Director, Power Grid Company of Bangladesh Ltd., Dhaka, IEB Bhaban (4th Floor), 8 Ramna, Dhaka-1000.
2. Director (P&D) / (Finance), Power Grid Company of Bangladesh Ltd., Dhaka, IEB Bhaban (4th Floor), 8 Ramna, Dhaka-1000.
3. GM (P&D)/(Projects), Power Grid Company of Bangladesh Ltd., Dhaka, IEB Bhaban (4th Floor), 8 Ramna, Dhaka-1000.
4. DGM (Design), Power Grid Company of Bangladesh Ltd., Dhaka, IEB Bhaban (3rd Floor), 8 Ramna, Dhaka-1000.
5. Project Director, PGCB, Dhaka.

Attachment: Deed of Agreement

2. Deed of Agreement

THIS AGREEMENT made in Dhaka, Bangladesh, on ...the day of, 201.

BETWEEN

M/s. Power Grid Company of Bangladesh LTD. (PGCB),

an Enterprise of Bangladesh Power Development Board, duly incorporated under the Company's Act, 1994 of Bangladesh, having its principal place of business at Institution of Engineers Bangladesh Bhaban 3rd and 4th Floor, Ramna, Dhaka-1000, 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.,

a company limited by shares duly incorporated under the relevant laws of and having its registered office atrepresented by its Mr....., Passport No....., Nationality..... hereinafter referred 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 has invited tenders for (**Contract No.**) ("the Facilities").

AND WHEREAS, the Contractor became the lowest responsive bidder for providing the aforesaid Facilities.

AND WHEREAS, the Contractor has presented to the Employer that he has the required professional skills, personnel and technical resources as per the requirements of the Employer.

AND WHEREAS, relying upon the presentation made by the Contractor, the Employer has decided to engage the Contractor to provide the aforesaid facilities in accordance with terms and conditions set out below.

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) Price Schedules including arithmetic correction and/or discount (if any)
- (d) Letter of Price bid and Price Schedules submitted by the Contractor
- (e) Performance Security
- (f) Vetting from relevant departments
- (g) Minutes of Contract Negotiation Meeting(s)
- (h) Letter of written and Unconditional Acceptance of the Notification of Award
- (i) Notification of Award
- (j) Letter of Technical Bid.
- (k) Signed Declaration of Undertaking
- (l) All Addenda and Clarifications
- (m) Special Conditions of Contract
- (n) General Conditions of Contract
- (o) Remaining portion of Volume 1 of the Bidding Document
- (p) Volume 2 of the Bidding Document
- (q) Volume 3 of the Bidding Document
- (r) Replies against PGCB's Clarification (if any).
- (s) Clarification sought by the Employer (if any).
- (t) Technical Proposal of Bidder (Contractor).

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.

Article 2
Contract Price

2.1 Contract Price (Reference GCC Clause 11)

and Terms of Payment

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 in figures]* as specified in Price Schedule No. 5 (Grand Summary), *[amounts of local currency in words]*, *[amounts 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 Appendix 1 (Terms and Procedures of Payment) hereto.

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 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
- (d) The Employer handed over clear site(s) including necessary permits

Each party shall make 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: Project Director, Power Grid Company of Bangladesh Limited.
- 4.2 The address of the Contractor for notice purposes, pursuant to GCC 4.1 is:.....

Article 5. Appendices

- 5.1 The Appendices listed in the attached List of Appendices are deemed to form an integral part of this Contract Agreement.
- 5.2 Reference in the Contract to any Appendix shall mean the Appendices 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
M/s. Power Grid Company of Bangladesh Limited

Signed by, for and on behalf of the
M/s.

.....

.....

in the presence of

in the presence of

.....

.....

.....

.....

List of Appendices

Appendix 1 - Terms and Procedures of Payment

Appendix 2 - Price Escalation

Appendix 3 - Insurance Requirements

Appendix 4 - Time Schedule

Appendix 5 - List of Major Items of Plant and Services and List of Approved Subcontractors

Appendix 6 - Scope of Works and Supply by the Employer

Appendix 7 - List of Documents for Approval or Review

Appendix 8 - Functional Guarantees

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, on the basis of the price breakdown given in the below 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.

A. Terms of Payment

Schedule No. 1 - Plant and Equipment Supplied from Abroad:

In respect of plant and equipment supplied from abroad, the following payments shall be made:

- **Ten percent (10%)** of the 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 equipment shipped FOB or delivered to the site, as evidenced by shipping and 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 forty-five (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 forty-five (45) days after receipt of invoice.

Schedule No. 2 - Plant and Equipment Supplied from within the Employer's Country:

In respect of plant and equipment 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 equipment delivered to the site, as evidenced by shipping and 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 Completion Certificate within forty-five (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 forty-five (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.
- **Ninety percent (90%)** of the total or pro rata design services amount upon acceptance of design by the Project Manager within forty-five (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 quarterly within forty-five (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 forty-five (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 forty-five (45) days after receipt of invoice.

B. Payment Procedures

The procedures for applying for certification for and making payments shall be as follows:

The payment of the portion of the contract price for goods and services under the contract shall be disbursed directly by KfW according to KfW's Simplified Direct Disbursement Procedure.

The payment of the 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 pay the Contractor against the Interim Payment Certificate issued by the Engineer / Employer."

C. Reimbursements

All reimbursements, insurance payments, guarantee payments or similar payments, if any, shall be made for the account of the Employer to KfW, Frankfurt am Main (BIC: KFWIDEFF, sort code: 500204 00), account no. 38 000 00 (IBAN: DE53 5002 0400 3800 0000 00), which KfW shall credit to the Employer.

If such payments are made in Local Currency, they shall be made to a special account of the Employer.

The amounts reimbursed for the portion financed by KfW may, with KfW's consent, be used again, principally for further implementation of the Project.

Appendix 2 - Price Adjustment/Escalation

Prices payable to the Contractor in accordance with the contract shall be subject to adjustment during the performance of the contract to reflect changes in the cost of material components.

This will be done in accordance with the following formula:

Power Transformers

The formula for calculating the price adjustment to be applied to the contract price components of the power transformer is as follows:

$$P_1 = P_0 \times \{0.15 + 0.22 \times (A_1/A_0) \times f_1 + 0.25 \times (B_1/B_0) \times f_2 + 0.15 \times (C_1/C_0) \times f_3 + 0.03 \times (D_1/D_0) \times f_4 + 0.2 \times (L_1/L_0) \times f_L\} - P_0$$

Where,

P_1 =	Price adjustment amount of fabricated power (auto)transformers (if the figure is negative, the amount has to be recovered by the Employer from the Contractor)
P_0 =	Contract price (base price)
A & C =	Price indices of core (Si steel) & steel in the Manufacturer's country
B & D =	LME mid-day cash settlement prices of copper and zinc in US\$/mt.
L =	Price index of labour of Manufacturer's country
f_1, f_2, f_3, f_4 & f_L =	Exchange rate correction factor, such that $f = Z_0/Z_1$

Where,

Z	is the number of units of currency of the index which is equivalent to one unit of the bid currency.
Subscript '0'	refers to indices as on 28 days prior to the bid opening date, for material & labour.
In case of Z_0 ,	
Subscript '0'	refers to the value as on 7 days prior to the bid opening date.
Subscript '1'	refers to the date of adjustment shall be the mid-point of the period of manufacture or installation 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.



Conditions Applicable to Price Adjustment

The Bidder shall include in his bid the source of labour and material indices and the base date indices.

Item	Country of Origin; Currency of index	Source of Indices Used Title / Definition	Base Date Indices	
			Value	Date
A (Si Steel)				
B (Cooper)				
C (Steel)				
D (Zink)				
L (Labour)				

The following conditions shall apply:

- a. No price increase will be allowed beyond the original delivery date unless covered by a time extension granted 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.
- b. 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 material indices, 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 at the base date and at the date for adjustment as defined above.
- c. No price adjustment shall be payable on the advance payment portion of the contract price.
- d. If in the above table no data is entered for one item, no price adjustment will apply to this item.
- e. A price adjustment will be applied only in case the resulting price increase or decrease of any item is more than six (6) percent of the price quoted for this item. However, such payment implication shall not exceed a total ceiling of fifteen (15) percent of the relevant items.
- f. Any payments resulting from price adjustments will be settled at the end of contract..

Appendix 3 - Insurance Requirements

1. Insurances to be taken out by 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 insurances 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.

100% of the insurances in the Employer's country shall be made by the **Sadharan Bima Corporation, Bangladesh**.

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 to the facilities (including spare parts therefore) and to the construction equipment to be provided by the Contractor or its Subcontractors while in transit from the Supplier's or Manufacturer's works or stores until arrival at the site.

Amount [in Currency(ies)]	Deductible Limits [in Currency(ies)]	Parties Insured [Names]	From [Place]	To [Place]
110% of the contract price (CIP)	-	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 Risks 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	-	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]
EUR 2.0 million	-	Power Grid Company of Bangladesh Limited	-	-

d) Automobile Liability Insurance

The Automobile Liability Insurance covers the use of all vehicles used by the Contractor or his Sub-contractors (whether or not owned by them) in connection with the supply and installation of the facilities. It shall be a comprehensive insurance in accordance with the statutory requirements.

e) Workers' Compensation

It shall be in accordance with the statutory requirements applicable in any country where the facilities or any part thereof are executed.

f) Employer's Liability

It shall be in accordance with the statutory requirements applicable in any country where the facilities or any part thereof are executed.

g) Other Insurances

The Contractor is also required to take out and maintain at his own cost the following insurances:

Details:

Amount [in Currency(ies)]	Deductible Limits [in Currency(ies)]	Parties Insured [Names]	From [Place]	To [Place]
-	-	-	-	-

In all insurance policies taken out by the Contractor pursuant to GCC Sub-Clause 34.1, the Employer shall be named as co-insured, except the third party liability, workers' compensation and employer's liability insurances. In all insurance policies taken out by the Contractor pursuant to GCC Sub-Clause

34.1, the Contractor's Subcontractors shall be named as co-insureds, except the cargo, workers' compensation and employer's liability insurances. In these policies, all insurer's rights of subrogation against such co-insureds for losses or claims arising from the performance of the contract shall be waived.

2. Insurances to be taken out by the Employer

The Employer shall at his expense take out and maintain in effect during the performance of the contract the following insurances.

None.

Appendix 4 - Time Schedule

Time for completion of the whole facilities shall be **30 months (thirty)** from the effective date as described in Volume 1, Section 8 - Special Conditions of Contract, Sub-Clause 8.2 and as per Article 3 of this contract agreement.

Appendix 5 - List of Major Items of Plant & Services and List of Approved Subcontractors

A list of major items of plant and services is provided below.

The following Manufacturers and/or Subcontractors are approved for carrying out the indicated items of the facilities.

Where more than one Manufacturer and/or Subcontractor is listed, the Employer is free to choose between them, but he must notify the Contractor of his choice in good time prior to appointing any selected Manufacturer and/or Subcontractor.

In accordance with GCC Sub-Clause 19.1, the Contractor is free to submit proposals for Subcontractors for additional items from time to time. However, no subcontracts shall be placed with any Subcontractor for additional items until the Subcontractor has been approved in writing by the Employer and the Subcontractor's name has been added to this list of approved Subcontractors.

Manufacturers

Item	Equipment	Manufacturer's Name and Address	Place of Manufacture and Testing	Nationality
1.1.	Power transformer 132/33 kV			
2	Auxiliary power transformer 33/0.4 kV			
3.1.	GIS 132 kV			
3.2.	Circuit breakers 132 kV			
3.3.	Disconnectors 132 kV			
3.4.	Current transformers 132 kV			
3.5.	Voltage transformers 132 kV			
3.6.	Surge arresters 132 kV			
4.1.	Circuit breakers 33 kV			
4.2.	Disconnectors 33 kV			
4.3.	Current transformers 33 kV			
4.4.	Voltage transformers 33 kV			
4.5.	Surge arresters 33 kV			
5.1.	Control & monitoring equipment			
5.2.	Relay protection equipment			
5.3.	Control & protection panels			
5.4.	Metering equipment			
5.5.	Metering panels			
5.6.	DFDR			

Item	Equipment	Manufacturer's Name and Address	Place of Manufacture and Testing	Nationality
6.	Communication equipment			
7.1.	ACU battery			
7.2.	Charger			
7.3.	DC distribution switchboard			
7.4.	AC distribution switchboard			
8.1.	Conductors			
8.2.	Insulators			
8.3.	Fittings			
9.	Cables			

Subcontractors

Item	Works and Service	Subcontractor's Name and Address	Nationality
11.	Design		
11.2	Civil works		
11.3	Electrical works / installation, testing and commissioning		
11.4	NLDC		

Appendix 6 - Scope of Works and Supply by the Employer

The following personnel, facilities, works and supplies will be provided / 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)
Employer will not do any works. In case the Contractor does not re-instate the Employer's existing facilities (civil, fencing etc.), the Employer will complete it.	Will be deducted from Contractor's payment.

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 make his Subcontractor 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

1. Approval

-
-
-
-
-

2. Review

As per contract documents.

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 calculation of liquidated damages for failure to attain the functional guarantees.

2. Preconditions

The Contractor gives the functional guarantees (specified herein) for the facilities, provided that the following preconditions are 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, including energization, and making ready for commercial operation of the facilities.
- 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 Production Capacity

Not used.

4.2 Raw Materials and Utilities Consumption in Excess of Guaranteed Level

Not used.

4.3 Minimum Levels

Notwithstanding the provisions of this paragraph, in case that as a result of the guarantee test(s), the minimum levels of performance guarantees (and consumption guarantees) mentioned under a) below

are not attained by the Contractor, the Contractor shall at its own cost make good any deficiencies until the facilities reach these minimum performance levels, pursuant to GCC Sub-Clause 28.2:

- a) Commissioning of the facilities attained in the guarantee test: hundred percent (100%) of the facilities.

4.4 Limitation of Liability

Subject to para. 4.3 above, the Contractor's aggregate liability to pay liquidated damages for failure to attain the functional guarantees shall not exceed ten percent (10%) of the contract price.

Appendix 9- Forms of Bonds and Declarations

Standard Form of an Advance Payment Bond

Address of guarantor bank:

Address of beneficiary (contracting agency):

On _____ you concluded with _____ ("Contractor") a contract for _____ (project, object of contract) at a price of _____.

In accordance with the provisions of the contract the Contractor receives an advance payment in the amount of _____, which represents ____% of the order value.

We, the undersigned _____ (Guarantor), waiving all objections and defences under the aforementioned contract, hereby irrevocably and independently guarantee to pay on your first written demand any amount advanced to the Contractor up to a total of _____ (in words: _____) against your written declaration that the Contractor has failed to duly perform the aforementioned contract.

This guarantee shall come into force and effect as soon as the advance payment has been credited to the account of the Contractor.

In the event of any claim under this guarantee, payment shall be effected to: KfW, Frankfurt am Main, BIC: KFWIDEFF, BLZ 50020400, account no. 38 000 000 00, IBAN: DE53 5002 0400 3800 0000 00, for account of _____ (contracting agency/project-executing agency).

This guarantee shall expire no later than _____.

By this date we must have received any claims for payment by letter or encoded telecommunication.

It is understood that you will return this guarantee to us on expiry or after payment of the total amount to be claimed hereunder.

This guarantee is governed by the laws of _____.

Place, date

Guarantor

Standard Form of a Performance Bond

Address of guarantor bank:

Address of beneficiary (contracting agency):

On _____ you concluded with _____ ("Contractor")
a contract for _____ (project, object of contract)
at a price of _____.

In accordance with the provisions of the contract the Contractor is obliged to provide a performance bond for _____ % of the contract price.

We, the undersigned _____ (Guarantor),
waiving all objections and defences under the aforementioned contract, hereby irrevocably and inde-
pendently guarantee to pay on your first written demand an amount up to a total of _____.
_____ (in words: _____) against
your written declaration that the Contractor has failed to duly perform the aforementioned contract.

In the event of any claim under this guarantee, payment shall be effected to: KfW, Frankfurt am Main,
BIC: KFWIDEFF, BLZ 500 204 00, account no. 38 000 000 00, IBAN: DE53 5002 0400 3800 0000 00,
for account of _____ (contracting agency/project-executing agency).

This guarantee shall expire no later than the earlier of:

- (a) twelve 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 that the Facilities are ready for commissioning, and stating that fourteen days have elapsed from receipt of such notice (or seven days have elapsed if the notice was a repeated notice) and the project manager has failed to issue a Completion Certificate or inform the Contractor in writing of any defects or deficiencies; or
 - (iii) a registered letter from the Contractor stating that no Operational Acceptance Certificate has been issued but the Employer is making use of the Facilities; or
- (b) no later than _____

By this date we must have received any claims for payment by letter or encoded telecommunication.

It is understood that you will return this guarantee to us on expiry or after payment of the total amount to be claimed hereunder.

This guarantee is governed by the laws of _____.

Place, date

Guarantor

Declaration of Undertaking

We underscore the importance of a free, fair and competitive procurement process that precludes abusive practices. In this respect we have neither offered nor granted directly or indirectly any inadmissible advantages to any public servant or other person nor accepted such advantages in connection with our bid, nor will we offer or grant or accept any such incentives or conditions in the present procurement process or, in the event that we are awarded the contract, in the subsequent execution of the contract. We also declare that no conflict of interest exists in the meaning of the kind described in the "Guidelines for Procurement of Goods, Works and associated Services in Financial Cooperation with Partner Countries".

We also underscore the importance of adhering to minimum social standards ("Core Labour Standards") in the implementation of the project. We undertake to comply with the Core Labour Standards ratified by the People's Republic of Bangladesh.

We will inform our staff about their respective obligations and about their obligation to fulfil this declaration of undertaking and to obey the laws of the People's Republic of Bangladesh.

We also declare that our company/all members of the consortium has/have not been included in the list of sanctions of the United Nations, nor of the EU, nor of the German Government, nor in any other list of sanctions and affirm that our company/all members of the consortium will immediately inform the client and KfW if this situation should occur at a later stage.

We acknowledge that, in the event that our company (or a member of the consortium) is added to a list of sanctions that is legally binding on the client and/or KfW, the client is entitled to exclude our company/the consortium from the procurement procedure and, if the contract is awarded to our company/the consortium, to terminate the contract immediately if the statements made in the Declaration of Undertaking were objectively false or the reason for exclusion occurs after the Declaration of Undertaking has been issued.

Place, date

Name of company

Signature(s)