



P E D O



PAKHTUNKHWA ENERGY DEVELOPMENT ORGANIZATION

Government of Khyber Pakhtunkhwa

INVITATION FOR BIDS

FOR AWARD OF DESIGN SUPPLY AND INSTALLATION, TESTING AND COMMISSIONING OF BALAKOT HYDRO POWER PROJECT (300MW) INCLUDING THE RELATED CIVIL WORKS FOR RIVER DIVERSION

Date: 22 November 2019

Loan No. and Title: Proposed Loan 49055: PAK: Balakot Hydropower Project
Contract No. and Title: Design Supply and Installation, Testing and Commissioning of Balakot Hydro Power Project including the related civil works for River Diversion

Deadline for Submission of Bids: 21 January 2020

1. The Government of Pakistan has applied for financing from the Asian Development Bank (ADB) toward the cost of the Balakot Hydropower Project. Part of this financing will be used for payments under the contract named above. This contract will be jointly co-financed. The eligibility rules and procedures of ADB will govern the bidding process.
2. The Pakhtunkhwa Energy Development Organization (PEDO) ("the Employer") invites sealed bids from eligible Bidders for the construction and completion of Design Supply and Installation, Testing and Commissioning of Balakot Hydro Power Project including the related civil works for River Diversion ("the Facilities"). The construction period of BHHP is 75 months. The project as described below is located at Balakot in District Mansehra, Khyber Pakhtunkhwa, Pakistan.
 - 58m high gravity concrete dam in the Kunhar river, near the Paras village, and related appurtenant structures
 - river diversion works and sediment by-pass tunnel
 - power circuit, including power intake, concrete lined headrace tunnel, upstream surge shaft, steel lined pressure shaft and penstocks, downstream surge shaft, and concrete lined tailrace tunnel
 - cavern type powerhouse for 3 Francis turbines with 300 MW installed capacity, including access tunnels and exterior switch yard
 - transmission and interconnection of 500 KV line
 - transmission and interconnection of 132 KV line
 - access roads of the hydropower scheme
 - permanent colony for operational staff.
3. Open competitive bidding will be conducted in accordance with ADB's single-stage: two-envelope bidding procedure and is open to all eligible Bidders as described in the Bidding Document.
4. Only eligible Bidders with the following key qualifications shall participate in the Bidding:
 - Minimum average annual turnover (AAT) of \$192 million or equivalent calculated as total certified payments received for contracts in progress or completed, within the last 5 years. For joint venture, minimum AAT shall be \$48 million for each partner, \$77 million for one partner, and all partners combined shall meet the minimum requirement of \$192 million.
 - Participation as sole contractor, joint venture partner, or subcontractor in at least two contracts that have been successfully or substantially completed within the last 10 years and that are similar to the proposed contract, where the value of the Bidder's participation under each contract exceeds \$480 million. The two contracts used as reference should pertain to the provision, on a single



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responsibility basis of inter alia design, supply, installation of 500kV HPP with similar transmission lines, equipment and hydraulic structures (i.e. similar HPP as per Section 6 of the Bidding Documents).

The similarity of the Bidder's participation shall be based on the physical size, nature of works, complexity, methods, technology or other characteristics as described in Section 6 (Employer's Requirements). For joint venture, either one partner must meet requirement, or any two partners must each demonstrate one successfully or substantially completed contract of similar size and nature.

For the complete eligibility and qualification requirements, Bidders should refer to the Bidding Documents.

5. To obtain further information and inspect the Bidding Documents, Bidders should contact:

Project Director
Balakot Hydropower Project, PEDO
107-PEDO House, Plot No 38-B/2, Phase-V Hayatabad, Peshawar, KP, Pakistan
Tel: +92 91 9217463 & Fax: +92 91 9217464
Email: wajidnawaz63@yahoo.com, cc wagasayubstit@gmail.com

6. To purchase the Bidding Documents in English, eligible Bidders should:
 - write to the address above requesting the Bidding Documents for Balakot Hydropower Project
 - pay a nonrefundable fee of Rs. 10,000 (Ten Thousand Rupees only) in the name of "GM(Hydel), PEDO" through a cross cheque/pay order.
7. A pre-bid meeting will be held at the office of the Employer in Peshawar on 13 December 2019 at 2:00PM (Pakistan Standard Time) to explain the bidding procedures and the scope of works of the project. Prior to the pre-bid meeting, a site visit will be organized by the Employer on 10 December 2019.
 8. Deliver your bid:
 - to the address above
 - on or before the deadline: 21 January 2020, 2:00 PM (Pakistan Standard Time)
 - together with a Bid Security as described in the Bidding Document.
 - Electronic submission of bids is not allowed.Technical Bids will be opened on 21 January 2020 at 2:30 PM (Pakistan Standard Time) in the presence of Bidders' representatives who choose to attend. Price Bids shall remain sealed and unopened and shall be placed locked. The Price Bids of only technically responsive and qualified bidders shall be opened after Technical Bid evaluation.
 9. When comparing Bids, Domestic Preference will be applied as stipulated in the Bidding Document.

PROJECT DIRECTOR

Balakot Hydropower Project, PEDO
107-PEDO House, Plot No 38-B/2, Phase-V Hayatabad, Peshawar, KP, Pakistan
Tel: +92 91 9217463 & Fax: +92 91 9217464
Email: wajidnawaz63@yahoo.com

Procurement of Plant Design, Supply, and Installation

**Single-Stage: Two-Envelope
Bidding Procedure**

**BIDDING DOCUMENT
for**

**Procurement
of**

**Design Supply and Installation, Testing and Commissioning of
Balakot Hydro Power Project including the related civil works
for River Diversion**

Issued on: 22-11-2019

Invitation for Bids No.: OCBI - 01

OCB No.: OCBI -01

Employer: Pakhtunkhwa Energy Development Organization

Country: Pakistan



Preface

This Bidding Document for Procurement of Plant – Design, Supply, and Installation, has been prepared by Pakhtunkhwa Energy Development Organization (PEDO) and is based on the Standard Bidding Document for Procurement of Plant – Design, Supply, and Installation (SBD Plant) issued by the Asian Development Bank dated June 2018.

ADB's SBD Plant has the structure and the provisions of the Master Procurement Document entitled "Procurement of Plant – Design, Supply, and Installation", prepared by multilateral development banks and other public international financial institutions except where ADB-specific considerations have required a change.

A handwritten signature in black ink, consisting of a stylized, cursive script.

Table of Contents - Summary Description

PART I

BIDDING PROCEDURES

- Section 1 - Instructions to Bidders (ITB)** ----- 1-1
This Section specifies the procedures to be followed by Bidders in the preparation and submission of their Bids. Information is also provided on the submission, opening, and evaluation of bids and on the award of contract.
- Section 2 - Bid Data Sheet (BDS)** ----- 2-1
This Section consists of provisions that are specific to each procurement and supplement the information or requirements included in Section 1 - Instructions to Bidders.
- Section 3 - Evaluation and Qualification Criteria (EQC)** ----- 3-1
This Section contains the bid evaluation criteria to determine the lowest evaluated bid and lists the necessary qualifications of Bidders.
- Section 4 - Bidding Forms (BDF)** ----- 4-1
This Section contains the forms which are to be completed by the Bidder and submitted as part of its Bid.
- Section 5 - Eligible Countries (ELC)** ----- 5-1
This Section contains the list of eligible countries.

PART II

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- Section 6 - Employer's Requirements (ERQ)** ----- 6-1
This Section contains the Scope of Supply of Plant and Services, Specifications, the Drawings, and Supplementary Information that describe the Facilities to be procured, Personnel Requirements, Equipment Requirements, Certificates, and Change Orders.

PART III

CONDITIONS OF CONTRACT AND CONTRACT FORMS

- Section 7 - General Conditions of Contract (GCC)** ----- 7-1
This Section contains the general clauses to be applied in all contracts. These Conditions are subject to the variations and additions set out in Section 8 (Special Conditions of Contract).
- Section 8 - Special Conditions of Contract (SCC)** ----- 8-1
This Section contains provisions that are specific to each contract and that modify or supplement the GCC. Whenever there is a conflict, the provisions herein shall prevail over those in the GCC. The clause number of the SCC is the corresponding clause number of the GCC.
- Section 9 - Contract Forms (COF)** ----- 9-1
This Section contains forms, which, once completed, will form part of the Contract. The forms for Performance Security and Advance Payment Security, when required, shall only be completed by the successful Bidder after contract award.

Section 1 - Instructions to Bidders


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Section 1 - Instructions to Bidders

A. General

1. **Scope of Bid**
 - 1.1 In connection with the Invitation for Bids (IFB) indicated in the Bid Data Sheet (BDS), the Employer, as indicated in the BDS, issues this Bidding Document for the procurement of plant and services as specified in Section 6 (Employer's Requirements). The name, identification, and number of lot/s (contract/s) of the open competitive bidding (OCB) are provided in the BDS.
 - 1.2 Throughout this Bidding Document,
 - (a) the term "in writing" means communicated in written form and delivered against receipt;
 - (b) except where the context requires otherwise, words indicating the singular also include the plural and words indicating the plural also include the singular; and
 - (c) "day" means calendar day.
2. **Source of Funds**
 - 2.1 The Borrower or Recipient (hereinafter called "Borrower") indicated in the BDS has applied for or received financing (hereinafter called "funds") from the Asian Development Bank (hereinafter called "ADB") 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. 
 - 2.2 Payments by ADB will be made only at the request of the Borrower and upon approval by ADB in accordance with the terms and conditions of the Financing Agreement between the Borrower and ADB (hereinafter called "Financing Agreement"), and will be subject in all respects to the terms and conditions of that Financing Agreement. No party other than the Borrower shall derive any rights from the Financing Agreement or have any claim to the funds.
3. **Fraud and Corruption**
 - 3.1 ADB's Anticorruption Policy (1998, as amended to date) requires Borrowers (including beneficiaries of ADB-financed activity), as well as Bidders, Suppliers, and Contractors under ADB-financed contracts, observe the highest standard of ethics during the procurement and execution of such contracts. In pursuance of this policy, ADB
 - (a) defines, for the purposes of this provision, the terms set forth below as follows:
 - (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;
 - (ii) "fraudulent practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;

- (iii) "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- (iv) "collusive practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;
- (v) "abuse" means theft, waste or improper use of assets related to ADB-related activity, either committed intentionally or through reckless disregard;
- (vi) "conflict of interest" means any situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations;
- (vii) "obstructive practice" means (a) deliberately destroying, falsifying, altering or concealing of evidence material to an ADB investigation, or deliberately making false statements to an ADB investigation, intent to impede an ADB investigation; (b) threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to a Bank investigation or from pursuing the investigation; or (c) deliberate acts intended to impede the exercise of ADB's contractual rights of audit or inspection or access to information; and
- (viii) "integrity violation" is any act, as defined under ADB's Integrity Principles and Guidelines (2015, as amended from time to time), which violates ADB's Anticorruption Policy, including (i) to (vii) above and the following: violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB's Anticorruption Policy, including failure to adhere to the highest ethical standard.
- (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;
- (c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the Borrower or of a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that contract, without the Borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation;
- (d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB's Anticorruption Policy and Integrity Principles and Guidelines, including declaring ineligible, either indefinitely or for a stated period of time, to participate¹ in ADB-financed, -administered, or -supported activities or to benefit from an ADB-financed, -administered, or -supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive or obstructive practices or other integrity violations; and
- (e) will have the right to require that a provision be included in the Bidding Documents and in contracts financed by ADB, requiring Bidders,

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

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

- 3.2 All Bidders, consultants, contractors, suppliers, and other third parties engaged or involved in ADB-related activities have a duty to cooperate fully in any screening or investigation when requested by ADB to do so. Such cooperation includes, but is not limited to, the following:
- (a) being available to be interviewed and replying fully and truthfully to all questions asked;
 - (b) providing ADB with any items requested that are within the party's control including, but not limited to, documents and other physical objects;
 - (c) upon written request by ADB, authorizing other related entities to release directly to ADB such information that is specifically and materially related, directly or indirectly, to the said entities or issues which are the subject of the investigation;
 - (d) cooperating with all reasonable requests to search or physically inspect their person and/or work areas, including files, electronic databases, and personal property used on ADB activities, or that utilizes ADB's ICT resources or systems (including mobile phones, personal electronic devices, and electronic storage devices such as external disk drives);
 - (e) cooperating in any testing requested by ADB, including but not limited to, fingerprint identification, handwriting analysis, and physical examination and analysis; and
 - (f) preserving and protecting confidentiality of all information discussed with, and as required by, ADB.
- 3.3 All Bidders, consultants, contractors and suppliers shall ensure that, in its contract with its sub-consultants, sub-contractors and other third parties engaged or involved in ADB-related activities, such sub-consultants, sub-contractors and other third parties similarly undertake the foregoing duty to cooperate fully in any screening or investigation when requested by ADB to do so.
- 3.4 The Employer hereby puts the Bidder on notice that the Bidder or any joint venture partner of the Bidder (if any) may not be able to receive any payments under the Contract if the Bidder or any of its joint venture partners, as appropriate, is, or is owned (in whole or in part) by a person or entity subject to applicable sanctions.
- 3.5 Furthermore, Bidders shall be aware of the provision stated in GCC 9.6 and GCC 42.2.1 (c).
- 4. Eligible Bidders**
- 4.1 A Bidder may be a natural person, private entity, or government-owned enterprise subject to ITB 4.5 - or any combination of them with a formal intent to enter into an agreement or under an existing agreement in the form of a Joint Venture. In the case of a Joint Venture,
- (a) all partners shall be jointly and severally liable, and
 - (b) the Joint Venture shall nominate a Representative who shall have the authority to conduct all business for and on behalf of any and all the partners of the Joint Venture during the bidding process and, in the

event the Joint Venture is awarded the Contract, during contract execution.

- 4.2 A Bidder, and all partners constituting the Bidder, shall have the nationality of an eligible country, in accordance with Section 5 (Eligible Countries). A Bidder shall be deemed to have the nationality of a country if the Bidder is a citizen or is constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed subcontractors or suppliers for any part of the Contract including related services.
- 4.3 A Bidder shall not have a conflict of interest. All Bidders found to have a conflict of interest shall be disqualified. A Bidder may be considered to be in a conflict of interest with one or more parties in this bidding process if any of, including but not limited to, the following apply:
- (a) they have controlling shareholders in common; or
 - (b) they receive or have received any direct or indirect subsidy from any of them; or
 - (c) they have the same legal representative for purposes of this bid; or
 - (d) they have a relationship with each other, directly or through common third parties, that puts them in a position to have access to material information about or improperly influence the bid of another Bidder, or influence the decisions of the Employer regarding this bidding process; or
 - (e) a Bidder participates in more than one bid in this bidding process, either individually or as a partner in a joint venture, except for alternative offers permitted under ITB 13. This will result in the disqualification of all Bids in which it is involved. However, subject to any finding of a conflict of interest in terms of ITB 4.3 (a) - (d) above, this does not limit the participation of a Bidder as a subcontractor in another Bid or of a firm as a subcontractor in more than one Bid; or
 - (f) a Bidder, joint venture partner, associates, parent company or any affiliated entity, participated as a consultant in the preparation of the design or technical specifications of the plant and services that are the subject of the Bid; or
 - (g) a Bidder was affiliated with a firm or entity that has been hired (or is proposed to be hired) by the Employer or Borrower as Project Manager for the Contract; or
 - (h) a Bidder would be providing goods, works, or nonconsulting services resulting from or directly related to consulting services for the preparation or implementation of the project specified in the BDS ITB 2.1 that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm.
- 4.4 A firm shall not be eligible to participate in any procurement activities under an ADB-financed, -administered, or -supported project while under temporary suspension or debarment by ADB pursuant to its Anticorruption Policy (see ITB 3), whether such debarment was directly imposed by ADB, or enforced by ADB pursuant to the Agreement for Mutual Enforcement of

Debarment Decisions. A bid from a temporary suspended or debarred firm will be rejected.

- 4.5 Government-owned enterprises in the Borrower's country shall be eligible only if they can establish that they (i) are legally and financially autonomous, (ii) operate under commercial law, and (iii) are not dependent agencies of the Employer.
- 4.6 A Bidder shall not be under suspension from bidding by the Employer as the result of the execution of a Bid-Securing Declaration.
- 4.7 Bidders shall provide such evidence of their continued eligibility satisfactory to the Employer, as the Employer shall reasonably request.
- 4.8 Firms shall be excluded if 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.
- 4.9 In case a prequalification process has been conducted prior to the bidding process, this bidding is open only to prequalified Bidders.
5. **Eligible 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 and all expenditures under the Contract will be limited to such plant and services.
- 5.2 For purposes of ITB 5.1 above, "origin" means the place where the plant, or component parts thereof are mined, grown, produced, or manufactured, and from which the services are provided. Plant components are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that is substantially in its basic characteristics or in purpose or utility from its components.

B. Contents of Bidding Document

6. **Sections of Bidding Document**
- 6.1 The Bidding Document consists of Parts I, II, and III, which include all the sections indicated below, and should be read in conjunction with any addenda issued in accordance with ITB 8.
- PART I Bidding Procedures**
- Section 1 - Instructions to Bidders (ITB)
 - Section 2 - Bid Data Sheet (BDS)
 - Section 3 - Evaluation and Qualification Criteria (EQC)
 - Section 4 - Bidding Forms (BDF)
 - Section 5 - Eligible Countries (ELC)
- PART II Requirements**
- Section 6 - Employer's Requirements (ERQ)
- PART III Conditions of Contract and Contract Forms**
- Section 7 - General Conditions of Contract (GCC)
 - Section 8 - Special Conditions of Contract (SCC)
 - Section 9 - Contract Forms (COF)
- 6.2 The IFB issued by the Employer is not part of the Bidding Document.

- 6.3 The Employer is not responsible for the completeness of the Bidding Document and its addenda, if they were not obtained directly from the source stated by the Employer in the IFB.
- 6.4 The Bidder is expected to examine all instructions, forms, terms, and specifications in the Bidding Document. Failure to furnish all information or documentation required by the Bidding Document may result in the rejection of the Bid.
7. **Clarification of Bidding Document, Site Visit, Pre-Bid Meeting**
- 7.1 A prospective Bidder requiring any clarification on the Bidding Document shall contact the Employer in writing at the Employer's address indicated in the BDS, or raise inquiries during the pre-bid meeting if provided for in accordance with ITB 7.4. The Employer will respond to any request for clarification, provided that such request is received no later than 21 days prior to the deadline for submission of bids. The Employer'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 its premises and lands for the purpose of such visit, but only upon the express condition that the Bidder, its personnel, and agents, will release and indemnify the Employer and its personnel, and agents from and against all liability in respect thereof, and will be responsible for death or personal injury, loss of or damage to property, and any other loss, damage, costs, and expenses incurred as a result of the inspection.
- 7.4 The Bidder's designated representative is invited to attend a pre-bid meeting, if provided for in the BDS. The purpose of the meeting will be to clarify issues and to answer questions on any matter that may be raised at that stage.
- 7.5 The Bidder is requested to submit any questions in writing, to reach the Employer not later than 1 week before the pre-bid meeting.
- 7.6 Minutes of the pre-bid meeting, including the text of the questions raised, without identifying the source, and the responses given, together with any responses prepared after the meeting, will be transmitted promptly to all Bidders who have acquired the Bidding Document in accordance with ITB 6.3. Any modification to the Bidding Document that may become necessary as a result of the pre-bid meeting shall be made by the Employer exclusively through the issue of an addendum pursuant to ITB 8 and not through the minutes of the pre-bid meeting.
- 7.7 Nonattendance at the pre-bid meeting will not be a cause for disqualification of a Bidder.

- 8. Amendment of Bidding Document**
- 8.1 At any time prior to the deadline for submission of Bids, the Employer may amend the Bidding Document by issuing addenda.
- 8.2 Any addendum issued shall be part of the Bidding Document and shall be communicated in writing to all who have obtained the Bidding Document from the Employer in accordance with ITB 6.3.
- 8.3 To give prospective Bidders reasonable time in which to take an addendum into account in preparing their Bids, the Employer may, at its discretion, extend the deadline for the submission of Bids, pursuant to ITB 24.2

C. Preparation of Bids

- 9. Cost of Bidding**
- 9.1 The Bidder shall bear all costs associated with the preparation and submission of its Bid, and the Employer shall in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.
- 10. Language of Bid**
- 10.1 The Bid, as well as all correspondence and documents relating to the bid exchanged by the Bidder and the Employer, shall be written in the language specified in the BDS. Supporting documents and printed literature that are part of the Bid may be in another language provided they are accompanied by an accurate translation of the relevant passages into the language specified in the BDS, in which case, for purposes of interpretation of the Bid, such translation shall govern.
- 11. Documents Comprising the Bid**
- 11.1 The Bid shall comprise two envelopes submitted simultaneously, one containing the Technical Bid and the other the Price Bid, both envelopes enclosed together in an outer single envelope.
- 11.2 The Technical Bid submitted by the Bidder shall comprise the following:
- (a) Letter of Technical Bid;
 - (b) Bid Security or Bid-Securing Declaration, in accordance with ITB 21;
 - (c) alternative Bids, if permissible, in accordance with ITB 13;
 - (d) written confirmation authorizing the signatory of the Bid to commit the Bidder, in accordance with ITB 22.2;
 - (e) documentary evidence in accordance with ITB 14.1, that the plant and services offered by the Bidder in its Bid or in any alternative Bid, if permitted, are eligible;
 - (f) documentary evidence in accordance with ITB 15, the Bidder's eligibility and qualifications to perform the contract if its Bid is accepted;
 - (g) Technical Proposal in accordance with ITB 17.
 - (h) documentary evidence in accordance with ITB 16, that the plant and services offered by the Bidder conform to the Bidding Document;
 - (i) in the case of a bid submitted by a Joint Venture, the Bid shall include a copy of the Joint Venture Agreement entered into by all partners. Alternatively, a Letter of Intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all partners and submitted with the Bid, together with a copy of the proposed agreement;

- (j) list of subcontractors, in accordance with ITB 17.2; and
 (k) any other document required in the BDS.
- 11.3 The Price Bid submitted by the Bidder shall comprise the following:
 (a) Letter of Price Bid;
 (b) completed schedules as required, including Price Schedules, in accordance with ITB 12 and ITB 18;
 (c) alternative price Bids, if permissible, in accordance with ITB 13; and
 (d) any other document required in the BDS.
12. **Letter of Bid and Schedules**
 12.1 The Letters of Technical Bid and Price Bid, and the Schedules, and all documents listed under ITB 11, shall be prepared using the relevant forms furnished in Section 4 (Bidding Forms). The forms must be completed without any alterations to the text, and no substitutes shall be accepted. All blank spaces shall be filled in with the information requested and as required in the BDS.
13. **Alternative Bids**
 13.1 The BDS indicates whether alternative Bids are allowed. If they are allowed, the BDS will also indicate whether they are permitted in accordance with ITB 13.3, or invited in accordance with ITB 13.2 and/or ITB 13.4.
- 13.2 When alternatives to the Time Schedule are explicitly invited, a statement to that effect will be included in the BDS, and the method of evaluating different time schedules will be described in Section 3 (Evaluation and Qualification Criteria).
- 13.3 Except as provided under ITB 13.4 below, Bidders wishing to offer technical alternatives to the Employer's requirements as described in the Bidding Document must also provide: (i) a price at which they are prepared to offer a plant meeting the Employer's requirements; and (ii) all information necessary for a complete evaluation of the alternatives by the Employer, including drawings, design calculations, technical specifications, breakdown of prices, and proposed installation methodology and other relevant details. Only the technical alternatives, if any, of the lowest evaluated Bidder conforming to the basic technical requirements shall be considered by the Employer.
- 13.4 When Bidders are invited in the BDS to submit alternative technical solutions for specified parts of the facilities, such parts shall be described in Section 6 (Employer's Requirements). Technical alternatives for the specific parts of the facilities that comply with the performance and technical criteria specified for the plant and services shall be considered by the Employer on their own merits, pursuant to ITB 32.
14. **Documents Establishing the Eligibility of Plant and Services**
 14.1 To establish the eligibility of the plant and services in accordance with ITB 5, Bidders shall complete the Country of Origin Declaration Form included in Section 4 (Bidding Forms).

15. Documents Establishing the Eligibility and Qualifications of the Bidder

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

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

16. Documents Establishing Conformity of the Plant and Services

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

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

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

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

17. Technical Proposal, Subcontractors

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

17.2 For major items of plant and services as listed by the Employer in Criterion 2.5 of Section 3 (Evaluation and Qualification Criteria), which the Bidder intends to purchase or subcontract, the Bidder shall give details of the name and nationality of the proposed Subcontractors, including Manufacturers, for each of those items. In addition, the Bidder shall include in its Bid information establishing compliance with the requirements specified by the Employer for these items. Bidders are free to list more than one Subcontractor against each item of the plant and services. Quoted rates and prices will be deemed to apply to whichever Subcontractor is appointed, and no adjustment of the rates and prices will be permitted.

17.3 The Bidder shall be responsible for ensuring that any Subcontractor proposed complies with the requirements of ITB 4, and that any plant, or

services to be provided by the Subcontractor comply with the requirements of ITB 5 and ITB 15.1

18. Bid Prices and Discounts

- 18.1 Unless otherwise specified in the BDS and/or Section 6 (Employer's Requirements), bidders shall quote for the entire plant and services on a "single responsibility" basis such that the total Bid price covers all the Contractor's obligations mentioned in or to be reasonably inferred from the Bidding Document in respect of the design, manufacture, installation, procurement and subcontracting (if any), delivery, construction, including and completion of the plant. This includes all requirements under the Contractor's responsibilities for testing, pre-commissioning and commissioning of the plant and, where so required by the Bidding Document, the acquisition of all permits, approvals, and licenses, etc.; the operation, maintenance, and training services and such other items and services as may be specified in the Bidding Document, all in accordance with the requirements of the General Conditions. Items against which no price is entered by the Bidder will not be paid for by the Employer when executed and shall be deemed to be covered by the prices for other items.
- 18.2 Bidders are required to quote the price for the commercial, contractual and technical obligations outlined in the Bidding Document.
- 18.3 Bidders shall give a breakdown of the prices in the manner and detail called for in the Price Schedules included in Section 4 (Bidding Forms). Where no different Price Schedules are included in the Bidding Document, Bidders shall present their prices in the following manner: Separate numbered Schedules included in Section 4 (Bidding Forms) shall be used for each of the following elements. The total amount from each Schedule (Nos. 1 to 4) shall be summarized in a Grand Summary (Schedule No. 5) giving the total bid price(s) to be entered in the Letter of Price Bid. Absence of the total bid price in the Letter of Price Bid may result in the rejection of the Bid.
- Schedule No. 1: Plant and Mandatory Spare Parts Supplied from Abroad
 Schedule No. 2: Plant and Mandatory Spare Parts Supplied from Within the Employer's Country
 Schedule No. 3: Design Services
 Schedule No. 4: Installation and Other Services
 Schedule No. 5 Grand Summary (Schedule Nos. 1 to 4)
 Schedule No. 6: Recommended Spare Parts
- Bidders shall note that the plant and mandatory spare parts included in Schedule Nos. 1 and 2 above exclude materials used for civil, building, and other construction works. All such materials shall be included and priced under Schedule No. 4, Installation and Other Services.
- 18.4 In the Schedules, Bidders shall give the required details and a breakdown of their prices as follows:
- (a) Plant to be Supplied from Abroad (Schedule No. 1):
- (i) the price of the plant shall be quoted carriage and insurance paid (CIP)-named place of destination basis specified in the BDS;

- (ii) all customs duties and other taxes paid or payable in the Employer's country on the plant if the contract is awarded to the Bidder; and
 - (iii) the total price for the plant.
- (b) Plant Supplied from Within the Employer's Country (Schedule No. 2):
- (i) the price of the plant shall be quoted on an EXW Incoterm basis (ex works, ex factory, ex warehouse, ex showroom, as applicable), including all customs duties and sales and other taxes already paid or payable on the components and raw material used in the manufacture or assembly of plant quoted ex works or ex factory, or on the previously imported plant of foreign origin quoted ex warehouse, ex showroom;
 - (ii) sales tax and other taxes payable in the Employer's country on the plant if the contract is awarded to the Bidder, and
 - (iii) the total price for the plant.
- (c) Design Services. (Schedule No. 3). Rates or prices shall include all taxes, duties, levies, and charges payable in the Employer's country as of 28 days prior to the deadline for submission of Bids.
- (d) Installation and Other Services (Schedule No. 4) shall be quoted separately and shall include rates or prices for local transportation, insurance, and other services incidental to delivery of the plant, all labor, contractor's equipment, temporary works, materials, consumables, and all matters and things of whatsoever nature, including operations and maintenance services, the provision of operations and maintenance manuals, training, etc., where identified in the Bidding Document, as necessary for the proper execution of the installation and other services, including all taxes, duties, levies, and charges payable in the Employer's country as of 28 days prior to the deadline for submission of bids.
- (e) Recommended spare parts (Schedule No. 6) shall be quoted separately as specified in either subparagraph (a) or (b) above in accordance with the origin of the spare parts.

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

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

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

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

Bidder to justify its proposed indexes and weightings. Any bid that omits indexes and weightings shall be subject to clarification with the Bidder.

- 18.7 If so indicated in BDS 1.1, Bids are being invited for individual lots (contracts) or for any combination of lots (packages). Bidders wishing to offer any price reduction (discount) for the award of more than one contract shall specify in their Letter of Price Bid the price reductions applicable to each package, or alternatively, to individual contracts within the package, and the manner in which the price reductions will apply.
- 19. Currencies of Bid and Payment**
- 19.1 The currency(ies) of the bid shall be, as specified in the BDS.
- 19.2 Bidders may be required by the Employer to justify, to the Employer's satisfaction, their local and foreign currency requirements.
- 20. Period of Validity of Bids**
- 20.1 Bids shall remain valid for the period specified in the BDS after the bid submission deadline date prescribed by the Employer. A bid valid for a shorter period shall be rejected by the Employer as nonresponsive.
- 20.2 In exceptional circumstances, prior to the expiration of the bid validity period, the Employer may request Bidders to extend the period of validity of their Bids. The request and the responses shall be made in writing. If a bid security is requested in accordance with ITB 21, it shall also be extended 28 days beyond the deadline of the extended bid validity period. A Bidder may refuse the request without forfeiting its bid security. A Bidder granting the request shall not be required or permitted to modify its Bid.
- 21. Bid Security/ Bid Securing Declaration**
- 21.1 Unless otherwise specified in the BDS, the Bidder shall furnish as part of its Bid, in original form, either a Bid-Securing Declaration or a bid security as specified in the BDS. In the case of a bid security, the amount and currency shall be as specified in the BDS.
- 21.2 If a Bid-Securing Declaration is required pursuant to ITB 21.1, it shall use the form included in Section 4 (Bidding Forms). The Employer will declare a Bidder ineligible to be awarded a Contract for a specified period of time, as indicated in the BDS, if a Bid-Securing Declaration is executed.
- 21.3 If a bid security is specified pursuant to ITB 21.1, the bid security shall be, at the Bidder's option, in any of the following forms:
- (a) an unconditional bank guarantee,
 - (b) an irrevocable letter of credit,
 - (c) a cashier's or certified check, or
 - (d) swift message in the form of MT760.
- all from a reputable source from an eligible country as described in Section 5 (Eligible Countries). In the case of a bank guarantee, the bid security shall be submitted using either the Bid Security Form included in Section 4 (Bidding Forms) or another form acceptable to the Employer. The form must include the complete name of the Bidder. The bid security shall be valid for

28 days beyond the original validity period of the Bid, or beyond any period of extension if requested under ITB 20.2.

- 21.4 Unless otherwise specified in the BDS, any Bid not accompanied by a substantially compliant bid security or Bid-Securing Declaration, if one is required in accordance with ITB 21.1, shall be rejected by the Employer as nonresponsive.
- 21.5 If a bid security is specified pursuant to ITB 21.1, the bid security of the unsuccessful Bidder shall be returned promptly upon the successful Bidder's furnishing of the performance security pursuant to ITB 46.
- 21.6 If a bid security is specified pursuant to ITB 21.1, the bid security of successful Bidders shall be returned promptly once the successful Bidder has signed the Contract and furnished the required performance security.
- 21.7 The bid security may be forfeited or the Bid-Securing Declaration executed:
- (a) if, notwithstanding ITB 26.3, a Bidder withdraws its Bid during the period of bid validity specified by the Bidder on the Letters of Technical Bid and Price Bid, except as provided in ITB 20.2 or
 - (b) if the successful Bidder fails to:
 - (i) sign the Contract in accordance with ITB 45;
 - (ii) furnish a performance security in accordance with ITB 46; or
 - (iii) accept the arithmetical corrections of its Bid in accordance with ITB 36.



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

22. Format and Signing of Bid

- 22.1 The Bidder shall prepare one original set of the Technical Bid and one original set of the Price 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. If a Bidder submits a deficient authorization, the Bid shall not be rejected in the first instance. The Employer shall request the Bidder to submit an

acceptable authorization within the number of days as specified in the BDS. Failure to provide an acceptable authorization within the period stated in the Employer's request shall cause the rejection of the Bid. If either the Letter of Technical Bid or Letter of Price Bid or the Bid-Securing Declaration (if applicable) are not signed, the Bid shall be rejected.

- 22.3 A Bid submitted by a Joint Venture shall be signed so as to be legally binding on all partners.
- 22.4 Any amendments such as interlineations, erasures, or overwriting shall be valid only if they are signed or initiated 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 marked in envelopes as "ORIGINAL," "ALTERNATIVE," and "COPY." These envelopes containing the original and the copies shall then be enclosed in one single envelope. The rest of the procedure shall be in accordance with ITB 23.2 to ITB 23.6.
- (b) Bidders submitting Bids electronically shall follow the electronic bid submission procedures specified in the BDS.
- 23.2 The inner and outer envelopes shall
- (a) bear the name and address of the Bidder,
- (b) be addressed to the Employer in accordance with ITB 24.1, and
- (c) bear the specific identification of this bidding process indicated in the BDS 1.1.
- 23.3 The outer envelopes and the inner envelopes containing the Technical Bid shall bear a warning not to open before the time and date for the opening of Technical Bid, in accordance with ITB 27.1.
- 23.4 The inner envelopes containing the Price Bid shall bear a warning not to open until advised by the Employer in accordance with ITB 27.7.
- 23.5 Alternative Bids, if permissible in accordance with ITB 13, shall be prepared, sealed, marked, and delivered in accordance with the provisions of ITB 20 and ITB 21, with the inner envelopes marked in addition "ALTERNATIVE NO...." as appropriate.
- 23.6 If all envelopes are not sealed and marked as required, the Employer will assume no responsibility for the misplacement or premature opening of the Bid.

- 24. Deadline for Submission of Bids**
- 24.1 Bids must be received by the Employer at the address and no later than the date and time indicated in the BDS.
- 24.2 The Employer may, at its discretion, extend the deadline for the submission of bids by amending the Bidding Document in accordance with ITB 8, in which case all rights and obligations of the Employer and Bidders previously subject to the deadline shall thereafter be subject to the deadline as extended.
- 25. Late Bids**
- 25.1 The Employer shall not consider any Bid that arrives after the deadline for submission of Bids, in accordance with ITB 24. Any Bid received by the Employer after the deadline for submission of Bids shall be declared late, rejected, and returned unopened to the Bidder.
- 26. Withdrawal, Substitution, and Modification of Bids**
- 26.1 A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice, duly signed by an authorized representative, and shall include a copy of the authorization in accordance with ITB 22.2, (except 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 withdrawal 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 open the Technical Bids in public at the address, on the date, and time specified in the BDS in the presence of Bidder's designated representatives and anyone who choose to attend. Any specific electronic bid opening procedures required if electronic bidding is permitted in accordance with ITB 23.1, shall be as specified in the BDS. The Price Bids will remain unopened and will be held in custody of the Employer until the specified time of their opening. If the Technical Bid and the Price Bid are submitted together in one envelope, the Employer may reject the entire Bid. Alternatively, the Price Bid may be immediately resealed for later evaluation.
- 27.2 First, envelopes marked "WITHDRAWAL" shall be opened and read out and the envelope with the corresponding Bid shall not be opened, but returned to the Bidder. No bid withdrawal shall be permitted unless the corresponding withdrawal notice contains a valid authorization to request the withdrawal and is read out at bid opening.
- 27.3 Second, outer envelopes marked "SUBSTITUTION" shall be opened. The inner envelopes containing the Substitution Technical Bid and/or Substitution Price Bid shall be exchanged for the corresponding envelopes

being substituted, which are to be returned to the Bidder unopened. Only the Substitution Technical Bid, if any, shall be opened, read out, and recorded. Substitution Price Bid will remain unopened in accordance with ITB 27.1. No envelope shall be substituted unless the corresponding Substitution Notice contains a valid authorization to request the substitution and is read out and recorded at bid opening.

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

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

- (a) the name of the Bidder;
- (b) whether there is a modification or substitution;
- (c) the presence of a bid security or a Bid-Securing Declaration, if required; and
- (d) any other details as the Employer may consider appropriate.

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

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

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

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

27.9 The Employer shall conduct the opening of Price Bids of all Bidders who submitted substantially responsive Technical Bids, in the presence of Bidders' representatives who choose to attend at the address, on the date,

and time specified by the Employer. The Bidder's representatives who are present shall be requested to sign a register evidencing their attendance.

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

- (a) the name of the Bidder;
- (b) whether there is a modification or substitution;
- (c) the Bid Prices, including any discounts and alternative offers; and
- (d) any other details as the Employer may consider appropriate.

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

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

E. Evaluation and Comparison of Bids

28. Confidentiality
- 28.1 Information relating to the evaluation of Bids and recommendation of contract award, shall not be disclosed to Bidders or any other persons not officially concerned with such process until publication of Contract award.
- 28.2 Any attempt by a Bidder to influence the Employer in the evaluation of the Bids or Contract award decisions may result in the rejection of its Bid.
- 28.3 Notwithstanding ITB 28.2, from the time of bid opening to the time of Contract award, if any Bidder wishes to contact the Employer on any matter related to the bidding process, it should do so in writing.
29. Clarification of Bids
- 29.1 To assist in the examination, evaluation, and comparison of the Technical and Price Bids, and qualification of the Bidders, the Employer may, at its discretion, ask any Bidder for a clarification of its Bid. Any clarification submitted by a Bidder that is not in response to a request by the Employer shall not be considered. The Employer's request for clarification and the response shall be in writing. No change in the substance of the Technical Bid or prices in the Price Bid shall be sought, offered, or permitted, except to confirm the correction of arithmetic errors discovered by the Employer in the evaluation of the Bids, in accordance with ITB 36.
- 29.2 If a Bidder does not provide clarifications of its Bid by the date and time set in the Employer's request for clarification, its Bid may be rejected.

- 30. Deviations, Reservations, and Omissions**
- 30.1 During the evaluation of Bids, the following definitions apply:
- (a) "Deviation" is a departure from the requirements specified in the Bidding Document;
 - (b) "Reservation" is the setting of limiting conditions or withholding from complete acceptance of the requirements specified in the Bidding Document; and
 - (c) "Omission" is the failure to submit part or all of the information or documentation required in the Bidding Document.
- 31. Examination of Technical Bids**
- 31.1 The Employer shall examine the Technical Bid to confirm that all documents and technical documentation requested in ITB 11.2 have been provided, and to determine the completeness of each document submitted. If any of these documents or information is missing, the Bid may be rejected.
- 31.2 The Employer shall confirm that the following documents and information have been provided in the Technical Bid. If any of these documents or information is missing, the offer shall be rejected.
- (a) Letter of Technical Bid;
 - (b) written confirmation of authorization to commit the Bidder;
 - (c) Bid Security or Bid-Securing Declaration, if applicable; and
 - (d) Technical Proposal in accordance with ITB 17.
- 32. Responsiveness of Technical Bid**
- 32.1 The Employer's determination of a bid's responsiveness is to be based on the contents of the Bid itself, as defined in ITB11.
- 32.2 A substantially responsive Technical 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 Section 6 (Employer's Requirements) have been met without any material deviation, reservation, or omission.
- 32.4 If a Bid is not substantially responsive to the requirements of the Bidding Document, it shall be rejected by the Employer and may not subsequently be made responsive by correction of the material deviation, reservation, or omission.

33. Nonmaterial Nonconformities

- 33.1 Provided that a Bid is substantially responsive, the Employer may waive any nonconformities in the Bid that do not constitute a material deviation, reservation, or omission.
- 33.2 Provided that a Bid is substantially responsive, the Employer may request that the Bidder submit the necessary information or documentation, within a reasonable period of time, to rectify nonmaterial nonconformities in the Bid related to documentation requirements. Requesting information or documentation on such nonconformities shall not be related to any aspect of the Price Bid. Failure of the Bidder to comply with the request may result in the rejection of its Bid.
- 33.3 Provided that a Bid is substantially responsive, the Employer shall rectify quantifiable nonmaterial nonconformities related to the Bid Price. To this effect, the Bid Price shall be adjusted, for comparison purposes only, to reflect the price of a missing or non-conforming item or component. The adjustment shall be made using the method indicated in Section 3 (Evaluation and Qualification Criteria).

34. Detailed Evaluation of Technical Bids

- 34.1 The Employer will carry out a detailed technical evaluation of the Bids not previously rejected as being substantially nonresponsive, to determine whether the technical aspects are in compliance with the Bidding Document. The Bid that does not meet minimum acceptable standards of completeness, consistency, and detail, and the specified minimum and/or maximum requirements for specified functional guarantees, will be treated as nonresponsive and hence rejected. To reach such a determination, the Employer will examine and compare the technical aspects of the bids on the basis of the information supplied by the Bidders, taking into account the following:
- (a) overall completeness and compliance with the Employer's Requirements; deviations from the Employer's Requirements; conformity of the plant and services offered with specified performance criteria; suitability of the plant and services offered in relation to the environmental and climatic conditions prevailing at the site; and quality, function and operation of any process control concept included in the Bid. The Bid that does not meet minimum and/or maximum acceptable standards of completeness, consistency, and detail will be rejected for non-responsiveness;
 - (b) type, quantity, and long-term availability of mandatory and recommended spare parts and maintenance services; and
 - (c) other relevant factors, if any, listed in Section 3 (Evaluation and Qualification Criteria).
- 34.2 Where alternative technical solutions have been allowed in accordance with ITB 13, and offered by the Bidder, the Employer will make a similar evaluation of the alternatives. Where alternatives have not been allowed but have been offered, they shall be ignored.
- 35.1 The Employer shall determine to its satisfaction during the evaluation of Technical Bids whether a Bidder meets the eligibility and qualifying criteria specified in Section 3 (Evaluation and Qualification Criteria).

35. Eligibility and Qualification of the Bidder

- 35.2 The determination shall be based upon an examination of the documentary evidence of the Bidder's qualifications submitted by the Bidder, pursuant to ITB 15. Unless permitted in the BDS, the determination shall not take into consideration the qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, subcontractors (other than Specialist Subcontractors if permitted in the bidding document), or any other firm(s) different from the Bidder.
- 35.3 An affirmative determination shall be a prerequisite for the opening and evaluation of a Bidder's Price Bid. The Employer reserves the right to reject the bid of any bidder found to be in circumstances described in GCC 42.2.1(a). A negative determination shall result into the disqualification of the Bid, in which event the Employer shall return the unopened Price Bid to the Bidder.
- 35.4 The capabilities of the manufacturers and subcontractors proposed in its Bid for the major items of plant and services to be used by a Bidder will also be evaluated for acceptability in accordance with Section 3 (Evaluation and Qualification Criteria). Their participation should be confirmed with a letter of intent between the parties, as needed. Should a manufacturer or subcontractor be determined to be unacceptable, the Bid will not be rejected, but the Bidder will be required to propose, without changing its bid price, an acceptable substitute manufacturer or subcontractor meeting the minimum technical specifications stated in Section 6 (Employer's Requirements). If a Bidder does not provide an acceptable substitute manufacturer or subcontractor by the date and time set in the Employer's request for substitution of manufacturer or subcontractor, its Bid may be rejected.
- 35.5 Prior to signing the Contract, the corresponding Appendix to the Contract Agreement shall be completed, listing the approved manufacturers or subcontractors for each item concerned.
- 36.1 **Correction of Arithmetical Errors**
- During the evaluation of Price Bids, the Employer shall correct arithmetical errors on the following basis:
- (a) where there are errors between the total of the amounts given under the column for the price breakdown and the amount given under the Total Price, the amounts given under the column for the price breakdown shall prevail and the Total Price will be corrected accordingly;
 - (b) where there are errors between the total of the amounts of Schedule Nos. 1 to 4 and the amount given in Schedule No. 5 (Grand Summary), the total of the amounts of Schedule Nos. 1 to 4 shall prevail and the Schedule No. 5 (Grand Summary) will be corrected accordingly;
 - (c) if there is a discrepancy between the grand total price given in Schedule No. 5 (Grand Summary) and the bid amount in item (c) of the Letter of Price Bid, the grand total price given in Schedule No. 5 (Grand Summary) will prevail and the bid amount in item (c) of the Letter of Price Bid will be corrected; and
 - (d) if there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetical error, in which case the amount in figures shall prevail subject to (a), (b), and (c) above.

- 36.2 If the Bidder that submitted the lowest evaluated Bid does not accept the correction of errors, its Bid shall be disqualified and its bid security may be forfeited or its Bid-Securing Declaration executed.
- 37. Conversion to Single Currency**
- 37.1 For evaluation and comparison purposes, the currency(ies) of the Bid shall be converted into a single currency as specified in the BDS.
- 38. Domestic Preference**
- 38.1 Unless otherwise specified in the BDS, domestic preference shall not apply.
- 39. Evaluation and Comparison of Price Bids**
- 39.1 The Employer shall use the criteria and methodologies listed in this clause. No other evaluation criteria or methodologies shall be permitted.
- 39.2 I. To evaluate a Price Bid, the Employer shall consider the following:
- (a) the bid price, excluding provisional sums and the provision, if any, for contingencies in the Price Schedules;
 - (b) price adjustment for correction of arithmetical errors in accordance with ITB 36.1;
 - (c) price adjustment due to discounts offered in accordance with ITB 18.7;
 - (d) price adjustment due to quantifiable nonmaterial nonconformities in accordance with ITB 33.3;
 - (e) converting the amount resulting from applying (a) to (c) above, if relevant, to a single currency in accordance with ITB 37;
 - (f) assessment whether the bid is abnormally low in accordance with ITB 40; and
 - (g) the evaluation factors indicated in Section 3 (Evaluation and Qualification Criteria).
- II. The Employer's evaluation of a Bid will exclude and not take into account,
- (a) in the case of Plant and Mandatory Spare Parts (Schedule No. 1) supplied from abroad, all taxes and duties, applicable in the Employer's country and payable on the Plant and Mandatory Spare Parts if the Contract is awarded to the Bidder; and
 - (b) in the case of Plant and Mandatory Spare Parts (Schedule No. 2) supplied from within the Employer's country, sales and other taxes, applicable in the Employer's country and payable on the Plant and Mandatory Spare Parts if the Contract is awarded to the Bidder.
- 39.3 If price adjustment is allowed in accordance with ITB 18.6, the estimated effect of the price adjustment provisions of the Conditions of Contract, applied over the period of execution of the Contract, shall not be taken into account in bid evaluation.
- 39.4 If this Bidding Document allows Bidders to quote separate prices for different lots (contracts), and the award to a single Bidder of multiple lots (contracts), the methodology to determine the lowest evaluated price of the lot (contract) combinations, including any discounts offered in the Letter of Price Bid, is specified in Section 3 (Evaluation and Qualification Criteria).

- 39.5 If the Bid, which results in the lowest Evaluated Bid Price, is seriously unbalanced or front loaded in the opinion of the Employer, the Employer may require the Bidder to produce detailed price analyses for any or all items of the Price Schedules, to demonstrate the internal consistency of those prices with the methods and time schedule proposed. After evaluation of the price analyses, taking into consideration the terms of payments, the Employer may require that the amount of the performance security be increased at the expense of the Bidder to a level sufficient to protect the Employer against financial loss in the event of default of the successful Bidder under the Contract.
- 39.6 The Employer shall compare all substantially responsive Bids to determine the lowest evaluated Bid, in accordance with ITB 39.2.

40. Abnormally Low Bids

- 40.1 An abnormally low bid is one where the bid price, in combination with other elements of the bid, appears to be so low that it raises concerns as to the capability of the Bidder to perform the contract for the offered bid price.
- 40.2 When the offered bid price appears to be abnormally low, the Employer shall undertake a three-step review process as follows:
- (a) identify abnormally low costs and unit rates by comparing them with the engineer's estimates, other substantially responsive bids, or recently awarded similar contracts;
 - (b) clarify and analyze the bidder's resource inputs and pricing, including overheads, contingencies and profit margins; and
 - (c) decide whether to accept or reject the bid.

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

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

- (a) accept the bid, if the evidence provided satisfactorily accounts for the low bid price and costs, in which case the bid is not considered abnormally low;
- (b) accept the bid, but require that the amount of the performance security be increased at the expense of the bidder to a level sufficient to protect the Employer against financial loss. The amount of the performance security shall generally be not more than 20% of the contract price; or
- (c) reject the bid if the evidence provided does not satisfactorily account for the low bid price, and make a similar determination for the next ranked bid, if required.

41. Employer's Right to Accept Any Bid, and to

- 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.

**Reject Any or
All Bids**

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

F. Award of Contract

- 43. Award Criteria** 43.1 The Employer shall award the Contract to the Bidder whose offer has been determined successful in line with ITB 34 to ITB 40 above to be the lowest evaluated Bid and is substantially responsive to the Bidding Document, provided further that the Bidder is determined to be eligible and qualified to perform the Contract satisfactorily.
- 44. Notification of Award** 44.1 Prior to the expiration of the period of bid validity and upon expiry of the standstill period specified in ITB 42.1, or upon satisfactory resolution of a complaint filed within standstill period, if applicable, the Employer shall transmit the Notification of Award (using the form included in Section 9 (Contract Forms)) to the successful Bidder, in writing, that its Bid has been accepted. At the same time, the Employer shall also notify all other Bidders of the results of the bidding.
- 44.2 Unless standstill period applies, upon notification of award, unsuccessful Bidders may request in writing to the Employer for a debriefing seeking explanations on the grounds on which their Bids were not selected. The Employer shall promptly respond in writing and/or in a debriefing meeting to any unsuccessful Bidder who, after publication of contract award, requests a debriefing.
- 44.3 Until a formal contract is prepared and executed, the notification of award shall constitute a binding Contract.
- 44.4 Within 2 weeks of the award of contract or expiry of the standstill period, where such period applies, or, if a complaint has been filed within the standstill period, upon receipt of ADB's confirmation of satisfactory resolution of the complaint, the borrower shall publish in an English language newspaper or widely known and freely accessible website the results identifying the bid and lot or package numbers, as applicable and the following information:
- (a) name of each Bidder who submitted a bid;
 - (b) bid prices as read out at bid opening;
 - (c) name and evaluated prices of each bid that was evaluated;
 - (d) name of Bidders whose Bids were rejected and the reasons for their rejection; and
 - (e) name of the winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded.

- 45. Signing of Contract**
- 45.1 Promptly after notification, the Employer shall send the successful Bidder the Contract Agreement.
- 45.2 Within 28 days of receipt of the Contract Agreement, the successful Bidder shall sign, date, and return it to the Employer.
- 46. Performance Security**
- 46.1 Within 28 days of the receipt of notification of award from the Employer, the successful Bidder shall furnish the performance security in accordance with the conditions of contract, subject to ITB 39.5 and ITB 40.4, using for that purpose the Performance Security Form included in Section 9 (Contract Forms), or another form acceptable to the Employer. If the institution issuing the performance security is located outside the country of the employer, it shall have a correspondent financial institution located in the country of the employer to make it enforceable.
- 46.2 Failure of the successful Bidder to submit the 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.
- 47. Bidding-Related Complaints**
- 47.1 The procedures for dealing with Bidding-related Complaints arising out of this bidding process are specified in the BDS.



Section 2 - Bid Data Sheet

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

A. General

ITB 1.1	<p>The number of the Invitation for Bids (IFB) is OCBI - 01</p> <p>The Employer is: Pakhtunkhwa Energy Development Organization</p> <p>The name of the open competitive bidding (OCB) is: Design Supply and Installation, Testing and Commissioning of Balakot Hydro Power Project including the related civil works for River Diversion</p> <p>The identification number of the OCB is: OCBI -01</p> <p>The number and identification of lots (contracts) comprising this OCB is: None</p>
ITB 2.1	<p>The Borrower is: Islamic Republic of Pakistan</p> <p>The name of the Project is: Balakot Hydropower Project</p>

B. Contents of Bidding Documents

ITB 7.1	<p>For clarification purposes only, the Employer's address is:</p> <p>Attention: PEDO House</p> <p>Street address: 38/B2, Phase V Hayatabad</p> <p>Floor/Room number: Ground Floor Room# 107</p> <p>City: Peshawar</p> <p>ZIP code: 2500</p> <p>Country: Pakistan</p> <p>Telephone: 0919217463</p> <p>Fax: 0919217464</p> <p>E-mail: wajidnawaz63@yahoo.com with C.c to wagasayubstit@gmail.com</p>
ITB 7.4	<p>A Pre-Bid meeting shall take place.</p> <p>Date: 13-12-2019</p> <p>Time: 02:00 PM (Pakistan Standard Time)</p> <p>Place: Committee Room Ground Floor PEDO House Peshawar</p> <p>A site visit conducted by the Employer shall be organized. If a Bidder plans to visit the Site, an access permit shall be secured from the Employer. To secure a permit, the Bidder shall send a request to the Employer's address indicated in ITB 7.1 above together with the following:</p> <ul style="list-style-type: none"> (i) Copy of passport of the designated Bidder's representative, and (ii) Description of the position of the designated Bidder's representative. <p>The request shall be sent at least two weeks before the Pre-Bid meeting. Maximum number of representatives for each bidder who can be given a permit is three (3).</p> <p>The Employer shall facilitate a site visit for the prospective Bidders (who wishes to do so). However, all the expenses in this respect will be borne by individual Bidders.</p>

C. Preparation of Bids

ITB 10.1	The language of the Bid is: English
ITB 11.2 (k)	<p><i>" Alternatively, a Letter of Intent to execute a Joint Venture Agreement in the event of a successful bid shall be signed by all partners and submitted with the Bid, together with a copy of the proposed agreement."</i></p> <p>The Bidder shall submit with its Technical Bid the following additional documents:</p> <p>i) Type test reports, of the offered major equipment as per clause 4, Section 6 of this bidding document.</p> <p>ii) Original Power of Attorney with the specimen signature of the authorized signatory.</p>
ITB 11.3 (d)	The Bidder shall submit with its Price Bid the following additional documents: CD-Rom/USB containing filled BOQ in MS Excel format. This shall be enclosed in a separate sealed envelope containing the Bidder's Financial Proposal.
ITB 12.1	The units and rates in figures entered into the Price Schedules should be typewritten or if written by hand, must be in print form. Price Schedules not presented accordingly may be considered nonresponsive.
ITB 13.1	Alternative bids are not permitted.
ITB 13.2	Alternatives to the Time Schedule shall not be permitted.
ITB 13.4	Alternative technical solutions shall be permitted for the following parts of the plant and services: None
ITB 16.1 (b)	The period following completion of plant and services in accordance with provisions of the contract shall be 10 years .
ITB 18.1	Bidders shall quote for the entire plant and services on a single responsibility basis.
IT 18.4(a)(i)	The Incoterm for quoting plant to be supplied from abroad is: CIP (Balakot)
ITB 18.6	The prices quoted by the Bidder shall be Adjustable. The formula for adjusting the prices and explanatory details are specified in the Special Conditions of Contract (SCC) Clause 11.2 and Appendix 2 of Contract Agreement. Bidder shall fill out the Tables of Adjustment Data in Section 4 (Bidding Forms).
ITB 19.1	<p>The currencies of the Bid shall be as follows:</p> <p>(a) The prices shall be quoted either in the currency of the Bidder's home country, or in any fully convertible currency/(ies).</p> <p>(b) A Bidder expecting to incur a portion of its expenditures in the performance of the Contract in more than one currency, and wishing to be paid accordingly, shall so indicate in the Schedule of Prices and the Letter of Price Bid.</p> <p>(c) If some of the contract expenditures related to Design, Installation and Other Services are to be incurred in the Employer's country, such expenditures shall be quoted in either foreign and/or local currency, depending upon the currency in which the costs are to be incurred.</p> <p>(d) Bidders may be required by the Employer to clarify their local and foreign currency requirements, and to substantiate that the amounts included in the Price Schedules are reasonable and responsive to ITB 18.1 in which case a</p>

	<p>detailed breakdown of its foreign currency requirements shall be provided by the Bidder.</p> <p>(e) During the performance of the contract, the foreign currency portions of the outstanding balance of the Contract Price may be adjusted by agreement between the Employer and the Contractor to reflect any changes in foreign currency requirements for the contract. Any such adjustment shall be effected by comparing the amounts quoted in the bid with the amounts already used in the Facilities and the Contractor's future needs for imported items.</p>
ITB 20.1	The bid validity period shall be 180 days .
ITB 21.1	The Bidder shall furnish a bid security in the amount of United States Dollars \$6 million or PKR 930 Million.
ITB 21.2	The ineligibility period will be: Not applicable
ITB 21.4	Subject to the succeeding sentences, any bid not accompanied by an irrevocable and callable bid security shall be rejected by the Employer as nonresponsive. If a Bidder submits a bid security that (i) deviates in form, amount, and/or period of validity, or (ii) does not provide sufficient identification of the Bidder (including, without limitation, failure to indicate the name of the Joint Venture or, where the Joint venture has not yet been constituted, the names of all future Joint venture Partners), the Employer shall request the Bidder to submit a compliant bid security within 14 working days of receiving such a request. Failure to provide a compliant bid security within the prescribed period of receiving such a request shall cause the rejection of the Bid.
ITB 22.1	In addition to the original Bid, the number of copies is: Three (3) Bidders shall also provide an electronic version of the Technical Bid and Price Bid in PDF format scanned from the Original and recorded on CD (Compact Disc) or DVD (Digital Versatile Disc). Non-submission of the electronic version of the Bid shall not be a reason for rejection of Bid. In case of discrepancy between the Original Bid Proposal and in the e-files, the original Bid Proposal shall prevail.
ITB 22.2	An organizational document, board resolution or its equivalent, or Power of Attorney specifying the representative's authority to sign the Bid on behalf of, and to legally bind, the Bidder. If the Bidder is an intended or an existing Joint Venture, the power of attorney should be signed by all partners and specify the authority of the named representative of the Joint Venture to sign on behalf of, and legally bind, the intended or the existing Joint Venture. If the Joint Venture has not yet been formed, also include evidence from all proposed Joint Venture partners of their intent to enter into a Joint Venture in the event of a contract award in accordance with ITB 11.2
ITB 22.2	The Bidder shall submit an acceptable authorization within 14 calendar days.
D. Submission and Opening of Bids	
ITB 23.1	Bidders shall not have the option of submitting their bids electronically.
ITB 23.1 (b)	If Bidders shall have the option of submitting their bids electronically, the electronic bidding submission procedures shall be: Not Applicable
ITB 24.1	For bid submission purposes only, the Employer's address is Attention: PEDO House Street address: 38/B2, Phase-V Hayatabad

	<p>Floor/Room number: Ground Floor Room#107</p> <p>City: Peshawar</p> <p>ZIP code: 25000</p> <p>Country: Pakistan</p> <p>The deadline for bid submission is</p> <p>Date: 21-01-2020</p> <p>Time: 02:00 PM (Pakistan Standard Time)</p> <p>The bid opening of Technical Bids shall take place at</p> <p>Address: PEDO House, 38/B2, Phase-V Hayatabad</p> <p>Floor/Room number: Ground Floor Committee Room</p> <p>City: Peshawar</p> <p>Country: Pakistan</p> <p>Date: 21-01-2020</p> <p>Time: 02:30 PM</p>
ITB 27.1	
ITB 27.1	Electronic bid opening procedure shall be as follows: Not Applicable
ITB 27.5	The Letter of Technical Bid shall be initiated by all members of the bid opening committee of the Employer attending Technical Bid opening.
ITB 27.10	The Letter of Price Bid and Price Schedules shall be initiated by all the members of the bid opening committee of the Employer attending the Price Bid opening.
E. Evaluation and Comparison of Bids	
ITB 35.2	<p>The qualifications of other firms such as the Bidder's subsidiaries, parent entities, affiliates, sub-contractors shall be permitted.</p> <p>The Bidder shall fill out the Affiliate Company Guarantee Form included in Section 4 (Bidding Forms) for each subsidiary, parent entity, affiliate, Subcontractor, etc. that the Bidder submits for consideration of the Employer in determining its qualifications.</p>
ITB 37.1	<p>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: Pakistani Rupees (PKR)</p> <p>The source of the selling exchange rate shall be: TT/OD (Telegraphic Transfer / Over Draft) issued by Treasury Management Division of State Bank of Pakistan.</p> <p>The date for the selling exchange rate shall be: Date of Bid Opening</p>
ITB 38.1	Domestic preference shall apply. The application methodology will be as specified in Section 3 (Evaluation and Qualification Criteria).
ITB 42.1	<p>Standstill provisions shall apply. The duration of standstill period will be 10 days from the date of notice of intention for award of contract.</p> <p>The Employer shall, at the start of the standstill period, notify in writing each bidder that submitted a bid, of its intention to award a contract to the successful bidder at the end of standstill period. The notification (using the form included in Section 9 (Contract Forms)) shall include the following information:</p> <ol style="list-style-type: none"> the name of each Bidder who submitted a Bid; the bid prices as read out at bid opening; the name and evaluated prices of each Bid that was evaluated;

	<p>d) the name of bidders whose bids were rejected and the reasons for their rejection;</p> <p>e) the name of the winning Bidder, and the price it offered, as well as the duration and summary scope of the contract awarded; and</p> <p>f) a statement of the reason(s) the bid of the unsuccessful bidder to whom the notification is addressed was unsuccessful, unless the price information under (e) of this paragraph already reveals the reason.</p>
<p>ITB 47.1</p>	<p>The procedures for Bidding-related Complaints are referenced in the "Procurement Regulations for ADB Borrowers (Appendix 7)." The Bidder should submit its complaint following these procedures, in writing, to:</p> <p>For the attention: PEDO House Title/position: Project Director Employer: Balakot HPP PEDO Email address: wajidnawaz63@yahoo.com with C.c to waqasayubstit@gmail.com Fax number: 0919217464</p>

Section 3 - Evaluation and Qualification Criteria

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1. Evaluation

1.1 Technical Evaluation

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

Evaluation of the Bidder's Technical Proposal will include an assessment of the Bidder's technical capacity to mobilize key construction equipment and personnel for the contract execution consistent with its proposal regarding work methods, scheduling, and sourcing of electromechanical equipment, electrical equipment and other equipment and materials in sufficient details and fully in accordance with the Section VI (Employer's Requirements).

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

1.2 Economic Evaluation

In addition to the criteria listed in ITB 39.21 (a)-(f), other relevant factors are as follows:

1.2.1 Quantifiable Deviations and Omissions

Pursuant to ITB 33.3, the cost of all quantifiable nonmaterial nonconformities or omissions from the contractual and commercial conditions shall be evaluated. The Employer will make its own assessment of the cost of any nonmaterial nonconformities and omissions for the purpose of ensuring fair comparison of Bids.

1.2.2 Time Schedule

Time to complete the plant and services from the effective date specified in Article 3 of the Contract Agreement for determining the time for completion of pre-commissioning activities is: **2250 days**. No credit will be given for earlier completion.

1.2.3 Functional Guarantees of the Facilities

The minimum and/or maximum requirements stated in the Specification for functional guarantees required in the Specification are:

Functional Guarantee	Minimum Requirement	Adjustment Factor for Price Bid Evaluation
1. Weighted average efficiency of the turbines – IEC 60193 ⁽¹⁾	95.	\$ 120,000 for each one hundredth of one percent (<i>i.e.</i> 0.01%) by which the weighted efficiency quoted by the bidder is less than the highest value for the weighted efficiency quoted by any of the responsive bidders for the turbines in their bid. For differences between the best weighted efficiency and the quoted weighted efficiency larger than 1%, the turbines shall be rejected.
2. Weighted average efficiency of the generators – IEC 60034 ⁽²⁾	98.	\$ 120,000 for each one hundredth of one percent (<i>i.e.</i> 0.01%) by which the weighted efficiency quoted by the bidder is less than the highest value for the weighted efficiency quoted by any of the responsive bidders for the generator in their bid. For differences between the best weighted efficiency and the quoted weighted efficiency larger than 1%, the generators shall be rejected.
3. Weighted average efficiency of the power transformers – IEC 60076 ⁽³⁾	99.	\$ 120,000 for each one hundredth of one percent (<i>i.e.</i> 0.01%) by which the weighted efficiency quoted by the bidder is less than the highest value for the weighted efficiency quoted by any of the responsive bidders for the transformers in their bid. For differences between the best weighted efficiency and the quoted weighted efficiency larger than 1%, the power transformers shall be rejected.

- (1) For the calculation of the weighted efficiency of the **turbines** shall be considered for each turbine the efficiency at 100% output with a weight of 30%, the efficiency at 90% output with a weight of 30%, the efficiency at 80% output with a weight of 20%, the efficiency at 70% output with a weight of 10%, the efficiency at 60% output with a weight of 5% and the efficiency at 50% output with a weight of 5% ($n_{\text{weighted}} = n_{100\%} \times 30\% + n_{90\%} \times 30\% + n_{80\%} \times 20\% + n_{70\%} \times 10\% + n_{60\%} \times 5\% + n_{50\%} \times 5\%$). For the purpose of the referred calculation, each efficiency value shall be rounded off to two decimal places. The obtained values for each turbine shall be averaged by the number of turbines.
- (2) For the calculation of the weighted efficiency of the **generators** shall be considered two distinct operation modes, concerning the power factor conditions ($\cos \phi = 1$ and $\cos \phi = 0.85$). For each situation it shall be considered the efficiency at 100% output with a weight of 5%, the efficiency at 90% output with a weight of 55%, the efficiency at 80% output with a weight of 20%, the efficiency at 70% output with a weight of 10%, the efficiency at 60% output with a weight of 5% and the efficiency at 50% output with a weight of 5%. The final result consists on the arithmetic mean of the two partial weighted average efficiencies.
- $$n_{\text{weighted } \cos \phi 1} = n_{100\%} \times 5\% + n_{90\%} \times 55\% + n_{80\%} \times 20\% + n_{70\%} \times 10\% + n_{60\%} \times 5\% + n_{50\%} \times 5\%$$
- $$n_{\text{weighted } \cos \phi 2} = n_{100\%} \times 5\% + n_{90\%} \times 55\% + n_{80\%} \times 20\% + n_{70\%} \times 10\% + n_{60\%} \times 5\% + n_{50\%} \times 5\%$$
- $$n_{\text{weighted}} = (n_{\text{weighted } \cos \phi 1} + n_{\text{weighted } \cos \phi 2})/2$$
- For the purpose of the referred calculation, each efficiency value shall be rounded off to two decimal places. The obtained values for each generator shall be averaged by the number of generators.
- (3) For the calculation of the weighted efficiency of the **power transformers** shall be considered two distinct operation modes, concerning the power factor conditions ($\cos \phi = 1$ and $\cos \phi = 0.85$). For each situation it shall be considered the efficiency at 100% output with a weight of 40%, the efficiency at 75% output with a weight of 30%, the efficiency at 50% output with a weight of 10% and the efficiency at 25% output with a weight of 10%. The final result consists on the arithmetic mean of the two partial weighted average efficiencies. For the purpose of the referred calculation, each efficiency value shall be rounded off to two decimal places. The obtained values for each power transformer shall be averaged by the number of transformers.

The maximum efficiency as offered by any Bidder in the bidding shall be taken as a base value and the value as quoted by other bidders multiplied by the "Adjustment factor for bid evaluation".

The normative scenario to assume for the efficiency confirmation shall be according IEC publications, namely:

- IEC 60193 and IEC 62097 for the turbines;
- IEC 60034 for the generators;
- IEC 60076 for the power transformers.

1.2.4 Work, Services, Facilities, etc., to Be Provided by the Employer

Where bids include the undertaking of work or the provision of services or facilities by the Employer in excess of the provisions allowed for in the Bidding Document, the Employer shall assess the costs of such additional work, services and/or facilities during the duration of the contract. Such costs shall be added to the bid price for evaluation.

1.2.5 Domestic Preference

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

- (a) The preference margin shall not be applied to the whole facility but only to the eligible domestically produced Plant and Equipment within the contract.
- (b) Plant and Mandatory Spare Parts supplied from abroad shall be quoted CIP (Section 4, Bidding Forms, Schedule No. 1) and Plant and Mandatory Spare Parts supplied from within the Employer's country shall be quoted EXW (ex works, ex factory, ex warehouse, ex showroom, or off-the-shelf, as applicable) free of sales and similar taxes (Section 4, Bidding Forms, Schedule No. 2).
- (c) All other cost components for services and works such as costs for design, local handling, transportation, storage, installation, and commissioning shall be quoted separately (Section 4, Bidding Forms, Schedule No. 3 - Design Services and Schedule No. 4 - Installation and Other Services).
- (d) In the comparison of Bids, only the CIP price component of each Bid for the Plant and Equipment offered from outside the Employer's country shall be increased by fifteen percent (15%).
- (e) No domestic preference shall be applied to any of the services or works included in the contract.
- (f) Bidders shall not be permitted or required to modify the mix of local and foreign Plant and Equipment after bid opening.

2. Qualification

2.1 Eligibility

Criteria Requirement	Compliance Requirements			Documents Submission Requirements
	Single Entity	Joint Venture All Partners Combined	One Partner	

2.1.1 Nationality

Nationality in accordance with ITB Subclause 4.2.	must meet requirement	must meet requirement	not applicable	Forms ELI - 1; ELI - 2 with attachments
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2.1.2 Conflict of Interest

No conflicts of interest in accordance with ITB Subclause 4.3.	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
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2.1.3 ADB Eligibility

Not having been declared ineligible by ADB, as described in ITB Subclause 4.4.	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
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2.1.4 Government-Owned Enterprise

Bidder required to meet conditions of ITB Subclause 4.5.	must meet requirement	must meet requirement	must meet requirement	not applicable	Forms ELI - 1; ELI - 2 with attachments
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2.1.5 United Nations Eligibility

Not having been excluded by an act of compliance with a United Nations Security Council resolution in accordance with ITB Subclause 4.8.	must meet requirement	must meet requirement	must meet requirement	not applicable	Letter of Technical Bid
--	-----------------------	-----------------------	-----------------------	----------------	-------------------------

2.2 Historical Contract Non-Performance

2.2.1 History of Non-Performing Contracts

Criteria	Compliance Requirements			Documents
	Single Entity	Joint Venture		
Requirement ^a		All Partners Combined	One Partner	Submission Requirements
Non-performance of a contract did not occur as a result of contractor default since 1st January 2015	must meet requirement	must meet requirements	must meet requirement ^b	Form CON-1

^a Nonperformance, as decided by the Employer, shall include all contracts where (a) nonperformance was not challenged by the contractor, including through referral to the dispute resolution mechanism under the respective contract, and (b) where Employer's decision was overruled by the dispute resolution mechanism. Nonperformance shall not include contracts information on fully settled disputes or litigation, i.e. dispute or litigation that has been resolved in accordance with the dispute resolution mechanism under the respective contract and where all appeal instances available to the Bidder have been exhausted.

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

2.2.2 Suspension Based on Execution of Bid-Securing Declaration

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

2.3 Financial Situation

2.3.1 Historical Financial Performance

Criteria	Compliance Requirements				Documents
	Single Entity	All Partners Combined	Each Partner	One Partner	
Submission of audited financial statements or, if not required by the law of the Bidder's country, other financial statements acceptable to the Employer, for the last five (5) years to demonstrate the current soundness of the Bidder's financial position. As a minimum, the Bidder's net worth for the last year calculated as the difference between total assets and total liabilities should be positive.	must meet requirement	not applicable	must meet requirement	not applicable	Form FIN - 1 with attachments

2.3.2 Average Annual Turnover

Criteria	Compliance Requirements				Documents
	Single Entity	All Partners Combined	Each Partner	One Partner	
Minimum average annual turnover of \$192 million calculated as total certified payments received for contracts in progress or completed, within the last five (5) years.	must meet requirement	must meet requirement	must meet at least 25% (twenty five percent) of the requirement	must meet at least 40% (forty percent) of the requirement	Form FIN - 2

2.3.3 Financial Resources

Criteria	Compliance Requirements				Documents
	Single Entity	All Partners Combined	Joint Venture Each Partner	One Partner	
<p>Requirement</p> <p>For Single Entities: The Bidder must demonstrate that its financial resources defined in FIN-3, less its financial obligations for its current contract commitments defined in FIN-4, meet or exceed the total requirement for the Subject Contract of \$35 (thirty five) million</p> <p>For Joint Ventures: (1) One partner must demonstrate that its financial resources defined in FIN-3, less its financial obligations for its own current contract commitments defined in FIN-4, meet or exceed its required share of 40% (forty percent) from the total requirement for the Subject Contract. AND</p> <p>(2) Each partner must demonstrate that its financial resources defined in FIN-3, less its financial obligations for its own current contract commitments defined in FIN-4, meet or exceed its required share of 25% (twenty five percent) from the total requirement for the Subject Contract. AND</p> <p>(3) The joint venture must demonstrate that the combined financial resources of all partners defined in FIN-3, less all the partners' total financial obligations for the current contract commitments defined in FIN-4, meet or exceed the total requirement for the Subject Contract of \$35 (thirty five) million</p>	<p>must meet requirement</p>	<p>not applicable</p>	<p>not applicable</p>	<p>not applicable</p>	<p>Form FIN - 3 and Form FIN - 4</p>
	<p>not applicable</p>	<p>not applicable</p>	<p>not applicable</p>	<p>must meet requirement</p>	<p>Form FIN - 3 and Form FIN - 4</p>
	<p>not applicable</p>	<p>not applicable</p>	<p>must meet requirement</p>	<p>not applicable</p>	<p>Form FIN - 3 and Form FIN - 4</p>
	<p>not applicable</p>	<p>must meet requirement</p>	<p>not applicable</p>	<p>not applicable</p>	<p>Form FIN - 3 and Form FIN - 4</p>

2.4 Bidder's Experience

2.4.1 Contracts of Similar Size and Nature

Criteria	Compliance Requirements			Documents
	Single Entity	Joint Venture Each Partner	One Partner	
Requirement	<p>Participation as sole contractor, joint venture partner, or subcontractor in at least two contracts that have been successfully or substantially completed within the last 10 years and that are similar to the proposed contract, where the value of the Bidder's participation under each contract exceeds \$480 million. The two contracts used as reference should pertain to the provision, on a single responsibility basis of inter alia design, supply, installation of 500kV HPP with similar transmission lines, equipment and hydraulic structures (i.e. similar HPP as per Section 6 of the Bidding Documents).</p>			Submission Requirements
	not applicable	Must meet the requirement of one contract	must meet requirement	Form EXP - 1

2.4.2 Experience in Key Activities

2.4.2(a) Must be complied with by the Bidder. In case of a Joint Venture Bidder, at least one of the partners must meet the requirement in the key activity.

Table A

Criteria	Compliance Requirements			Documents
	Single Entity	Joint Venture- One Partner	Submission Requirements	
Requirement	<p>For the above or other contracts executed during the period stipulated in 2.4.1, a minimum experience in the following key activities:</p>			Submission Requirements
	must meet requirement	must meet requirement	must meet requirement	Form EXP - 2

Criteria			
Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture- One Partner	Submission Requirements
1. Detailed Design of at least 2 (two) Large Hydropower Schemes, including: <ul style="list-style-type: none"> • a concrete dam with minimum height of 40 m; • pressure tunnel with minimum inner diameter of 6 m and minimum length of 4km; • a cavern powerhouse with minimum installed capacity of 100 MW. 		Must meet the Requirement	
2. Dams and River Diversion works, including: <ul style="list-style-type: none"> • 1(one) river diversion scheme with a minimum design flow of 500 m³/s; • 1(ne) concrete dam with minimum height of 50 m; • 1 (one) dam spillways with maximum discharge capacity equal or greater than 3000 m³/s. 		Must meet requirements.	NA
3. Hydraulic Tunnel works, including: <ul style="list-style-type: none"> • 1 (one) pressure tunnel with minimum inner diameter of 6 m and minimum length of 10 km OR 2 (two) pressure tunnels with minimum inner diameter of 6 m and minimum length of 6 km each; • 2 (two) steel lined tunnels with minimum inner diameter of 4 m and minimum length of 200 m. • Two (2) vertical shafts with minimum length of 150 m., and 2.5 m diameter, executed by raise-boring method. 		Must meet requirements.	

Criteria			
Requirement	Compliance Requirements		Documents
	Single Entity	Joint Venture- One Partner	
<p>4. Cavern Powerhouse works, including:</p> <ul style="list-style-type: none"> • 1(one) cavern powerhouse with minimum installed capacity of 100 MW; • 1(one) vertical shaft executed by raise-boring method. 		Must meet requirements.	
<p>5. Design, Manufacture, Supply, Erection, Testing and Commissioning of Mechanical Equipment, including:</p> <ul style="list-style-type: none"> • 2 (two) radial gates with minimum height of 8 m and span of 10 m; • 2 (two) trash racks with minimum height of 8 m and span of 6 m; • 2 (two) fixed wheel gates with minimum height of 4 m and span of 4 m; • 1(one) overhead crane with minimum span of 10 m and 70 t nominal capacity. 		Must meet requirements.	
<p>6. Design, Manufacture, Supply, Erection, Testing and Commissioning of Turbine-Generator units, having in house facility of hydraulic model testing and CFD modeling for turbines, including:</p> <ul style="list-style-type: none"> • 1 (one) unit with minimum capacity of 100 MW; • 2 (two) Francis units with minimum capacity of 75 MW that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline; 		Must meet requirements.	

Criteria			
Compliance Requirements			Documents
Requirement	Single Entity	Joint Venture- One Partner	Submission Requirements
<ul style="list-style-type: none"> 2 (two) spherical valves with minimum diameter 1500 mm and nominal pressure of 150 m. and having in house facility of Hydraulic Model Testing and Computational Flow Diagnostic (CFD) modelling for Turbines 			
<p>7. Design, Manufacture, Supply, Erection, Testing and Commissioning of 500 kV Indoor Type Power Transformers, including:</p> <ul style="list-style-type: none"> 2(two) transformers with minimum unit capacity of 20 MVA, 500 kV, and two at least Cavern Type Transformers that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline 		Must meet requirements.	
<p>8. Design, Manufacture, Supply, Erection, Testing and Commissioning of Plant Control Systems:</p> <ul style="list-style-type: none"> 1 (one) full control system, including DCS architecture, SCADA and Telemetry, in a hydropower plant with minimum capacity of 100 MW that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline 		Must meet requirements.	
<p>9. Design, Manufacture, Supply, Erection, Testing and Commissioning of 500 kV GIS equipment:</p> <ul style="list-style-type: none"> 1(one) system in a hydropower plant with minimum capacity of 500 kV that have been in successful operation for at least 2 years 		Must meet requirements.	



Compliance Requirements			
Criteria	Single Entity	Joint Venture- One Partner	Documents
Requirement			Submission Requirements
after commissioning as of date of Bid submission deadline.			
<p>10. Design, Manufacture, Supply, Erection, Testing and Commissioning of high voltage Transmission lines, including:</p> <ul style="list-style-type: none"> • 220/330/500 kV lines for 2 (two) different hydropower plants with minimum length of 10 km each and one line must be 340/500 kV line that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline. 		Must meet requirements.	
<p>11. Design, Manufacture, Supply, Erection, Testing and Commissioning of 500 kV Gas Insulated Lines, including:</p> <ul style="list-style-type: none"> • 220/330/500 kV GIL/s for 2 (two) different hydropower plants with minimum length of 300 meter each and one must be 340/500 kV GIL that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline. 		Must meet requirements.	

2.4.2(b) The Employer accepts any of the following activities to be subcontracted. They may be complied with by the Bidder or by its proposed specialist subcontractor.

Table B

Compliance Requirements			
Criteria	Single Entity or its Specialist Subcontractors	Specialist Subcontractors	Documents
Requirement			Submission Requirements
For the above or other contracts executed during the period stipulated in 2.4.1, a minimum experience in the following key activities:	One must meet requirement	One must meet requirement	Form EXP - 2
12. Roads			
• The sub-contractor for roads shall have qualification experience as per PEC Code CE01 or equivalent.	One must meet requirement	One must meet requirement	Form EXP - 2
13. Bridges			
• The sub-contractor for bridges shall have qualification experience as per PEC Code CE02 or equivalent.	One must meet requirement	One must meet requirement	Form EXP - 2
14. Permanent Staff Colony			
• The sub-contractor for Permanent Staff Colony shall have qualification experience as per PEC Code CE010 or equivalent.	One must meet requirement	One must meet requirement	Form EXP - 2
15. Transmission Lines			
• Design, Manufacture, Supply, Erection, Testing and Commissioning of high voltage Transmission lines, including: <ul style="list-style-type: none"> • 220/330/500 kV lines for 2 (two) different hydropower plants with minimum length of 10 km each and one line must be 340/500 kV line that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline. • Design, Manufacture, Supply, Erection, Testing and Commissioning of 	One must meet requirement	One must meet requirement	Form EXP - 2

Criteria			
Requirement	Compliance Requirements		Documents
	Single Entity or its Specialist Subcontractors	Specialist Subcontractors	
500 kV Gas Insulated Lines, including: <ul style="list-style-type: none"> • 220/330/500 kV GIL/s for 2 (two) different hydropower plants with minimum length of 300 meter each and one must be 340/500 kV GIL that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline. 			
16. Hydropower Design <ul style="list-style-type: none"> • Detailed Design of at least 2 (two) Large Hydropower Schemes, including: <ul style="list-style-type: none"> • a concrete dam with minimum height of 40 m; • pressure tunnel with minimum inner diameter of 6 m and minimum length of 4km; • a cavern powerhouse with minimum installed capacity of 100 MW. 	One must meet requirement	One must meet requirement	Form EXP - 2

2.5 Subcontractors

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

Item No.	Description of Item	Minimum Criteria to be met	Documents Submission Requirements
1	Roads	The sub-contractor for roads shall have qualification experience as per PEC Code CE01 or equivalent.	Form EXP-3

2	Bridges	The sub-contractor for bridges shall have qualification experience as per PEC Code CE02 or equivalent.
3	Permanent Staff Colony	The sub-contractor for Permanent Staff Colony shall have qualification experience as per PEC Code CE010 or equivalent.
4	Transmission Lines	<ul style="list-style-type: none"> • Design, Manufacture, Supply, Erection, Testing and Commissioning of high voltage Transmission lines, including: <ul style="list-style-type: none"> • 220/330/500 kV lines for 2 (two) different hydropower plants with minimum length of 10 km each and one line must be 340/500 kV line that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline. • Design, Manufacture, Supply, Erection, Testing and Commissioning of 500 kV Gas Insulated Lines, including: <ul style="list-style-type: none"> • 220/330/500 kV GIL/s for 2 (two) different hydropower plants with minimum length of 300 meter each and one must be 340/500 kV GIL that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline.
5	Hydropower Design	<ul style="list-style-type: none"> • Detailed Design of at least 2 (two) Large Hydropower Schemes, including: <ul style="list-style-type: none"> • a concrete dam with minimum height of 40 m; • pressure tunnel with minimum inner diameter of 6 m and minimum length of 4km; • a cavern powerhouse with minimum installed capacity of 100 MW.

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

Section 4 - Bidding Forms

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

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Letter of Technical Bid

Note

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

Date:

OCB No.:

Invitation for Bid No.:

To: [... insert complete name of the employer ...]

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda issued in accordance with Instructions to Bidders (ITB) 8.
- (b) We offer to design, manufacture, test, deliver, install, pre-commission, and commission in conformity with the Bidding Document the following Plant and Services: [... insert narrative ...]
- (c) Our Bid consisting of the Technical Bid and the Price Bid shall be valid for a period of [... insert bid validity period as specified in ITB 20.1 of the BDS ...] days from the date fixed for the bid submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (d) We, including any Subcontractors or Manufacturers for any part of the Contract, have or will have nationalities from eligible countries, in accordance with ITB 4.2.
- (e) We, including any Subcontractors or Suppliers for any part of the Contract, do not have any conflict of interest in accordance with ITB 4.3.
- (f) We are not participating, as a Bidder, either individually or as partner in a joint venture, in more than one bid in this bidding process in accordance with ITB 4.3(e), other than alternative offers submitted in accordance with ITB 13.
- (g) Our firm, joint venture partners, associates, parent company, its affiliates or subsidiaries, including any Subcontractors or Suppliers for any part of the contract, are not subject to, or not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the Asian Development Bank or a debarment imposed by the Asian Development Bank in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the Asian Development Bank and other development banks.¹

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

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

If so debarred, declared ineligible, temporarily suspended, or blacklisted, please state details (as applicable to each joint venture partner/associate/parent company/affiliate/subsidiaries/subcontractors/suppliers):

- (i) Name of Institution: _____
 (ii) Period of debarment, ineligibility, or blacklisting (start and end date): _____
 (iii) Reason for the debarment, ineligibility, or blacklisting: _____

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

If so charged or convicted, please state details:

- (i) Nature of the offense/violation: _____
 (ii) Court/Area of jurisdiction: _____
 (iii) Resolution (i.e. dismissed; settled; convicted/duration of penalty): _____
 (iv) Other relevant details: _____

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

- (k) Our firm, joint venture partners, associates, parent company, affiliates or subsidiaries, including any subcontractors or suppliers, are not from a country which is prohibited to export goods to or receive any payments from the employer's country by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations.

- (l) [We are not a government-owned enterprise] / [We are a government-owned enterprise but meet the requirements of ITB 4.5].²

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

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

² Use one of the two options as appropriate.

- (o) If our Bid is accepted, we commit to mobilizing key equipment and personnel in accordance with the requirements set forth in Section 6 (Employer's Requirements) and our technical proposal, or as otherwise agreed with the Employer.
- (p) We understand that any misrepresentation that knowingly or recklessly misleads, or attempts to mislead may lead to the automatic rejection of the Bid or cancellation of the contract, if awarded, and may result in remedial actions, in accordance with ADB's Anticorruption Policy (1998, as amended to date) and Integrity Principles and Guidelines (2015, as amended from time to time).

Name

In the capacity of

Signed

Duly authorized to sign the Bid for and on behalf of

Date



Country of Origin Declaration Form

Name of Bidder _____ IFB Number _____ Page _____ of _____

Item	Description	Country of Origin



Letter of Price Bid

Note

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

Date:

OCB No.:

Invitation for Bid No.:

To: [... insert complete name of the employer ...]

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Document, including Addenda issued in accordance with Instructions to Bidders (ITB) 8.
- (b) We offer to design, manufacture, test, deliver, install, pre-commission, and commission in conformity with the Bidding Document the following Plant and Services: [... insert narrative ...]
- (c) The total price of our Bid, excluding any discounts offered in item (d) below is the sum of

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

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

- (d) The discounts offered and the methodology for their application are as follows: [... insert discounts and methodology for their application if any ...]
- (e) Our Bid shall be valid for a period of [... insert bid validity period as specified in ITB 20.1 of the BDS ...] days from the date fixed for the submission deadline in accordance with the Bidding Documents, and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
- (f) If our Bid is accepted, we commit to obtain a performance security in accordance with the Bidding Document.

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

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

- (h) We understand that this bid, together with your written acceptance thereof included in your notification of award, shall constitute a binding contract between us, until a formal contract is prepared and executed.
- (i) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.
- (j) We agree to permit ADB or its representative to inspect our accounts and records and other documents relating to the bid submission and to have them audited by auditors appointed by ADB.



Name

In the capacity of

Signed

Duly authorized to sign the Bid for and on behalf of

Date

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

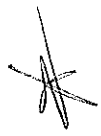
Price Schedules

PREAMBLE

General

1. The Price Schedules are divided into separate Schedules as follows:
 - Schedule No. 1: Plant and Mandatory Spare Parts Supplied from Abroad
 - Schedule No. 2: Plant and Mandatory Spare Parts Supplied from within the Employer's Country
 - Schedule No. 3: Design Services
 - Schedule No. 4: Installation and Other Services
 - Schedule No. 5: Grand Summary
 - Schedule No. 6: Recommended Spare Parts

2. The Schedules do not generally give a full description of the plant to be supplied and the services to be performed under each item. Bidders shall be deemed to have read the Employer's Requirements and other sections of the Bidding Document and reviewed the Drawings to ascertain the full scope of the requirements included in each item prior to filling in the rates and prices. The entered rates and prices shall be deemed to cover the full scope as aforesaid, including overheads and profit.
3. If Bidders are unclear or uncertain as to the scope of any item, they shall seek clarification in accordance with ITB 7 prior to submitting their bid.



Pricing

4. The units and rates in figures entered into the Price Schedules should be typewritten or if written by hand, must be in print form. Price Schedules not presented accordingly may be considered nonresponsive. Any alterations necessary due to errors, etc., shall be initialed by the Bidder. As specified in the Bid Data Sheet and Special Conditions of Contract, prices shall be fixed and firm for the duration of the Contract, or prices shall be subject to adjustment in accordance with the corresponding Appendix (Price Adjustment) to the Contract Agreement.
5. Bid prices shall be quoted in the manner indicated and in the currencies specified in the Instructions to Bidders in the Bidding Document.
For each item, Bidders shall complete each appropriate column in the respective Schedules, giving the price breakdown as indicated in the Schedules.
Prices given in the Schedules against each item shall be for the scope covered by that item as detailed in Section 6 (Employer's Requirements) or elsewhere in the Bidding Document.
6. Payments will be made to the Contractor in the currency or currencies indicated under each respective item.
7. When requested by the Employer for the purposes of making payments or part payments, valuing variations or evaluating claims, or for such other purposes as the Employer may reasonably require, the Contractor shall provide the Employer with a breakdown of any composite or lump sum items included in the Schedules.

Schedules of Rates and Prices (Need to be filled)

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

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				United States Dollars (\$)	CIP		
1	2	3	4	5	6	United States Dollars (\$)	Pakistani Rupees (PKR)
A	EQUIPMENT					7 = 4 x 6	8
I	Hydromechanical Equipment						
1	Dam						
1.1	Upper spillway						
1.1.1	Radial gate		3				
1.1.2	Stoplogs		1				
1.2	Bottom outlets						
1.2.1	Sluice gate		2				
1.2.2	Stoplogs		2				
2	Sediment by-pass tunnel						
2.1	Intake structure						
2.1.1	Radial gate		1				
2.1.2	Stoplog		1				
3	Draft Tube						
3.1	Sluice gate		3				
4	Tailrace						
4.1	Stoplogs		2				
II	Electromechanical equipment						
1	Dam						
1.1	Mobile crane Spillway		1				

Item	Description	Country of Origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				United States Dollars (\$)	CIP		
1	2	3	4	5	6	7 = 4 x 6	8
1.2	Gantry Crane Bottom outlet		1				
2	Sediment by-pass tunnel						
2.1	Intake structure						
2.1.1	Gantry Crane		1				
3	Power Intake						
3.1	Mobile crane		1				
3.2	Gantry Crane stoplogs		1				
3.3	Trash-rack cleaner		1				
4	Tailrace						
4.1	Gantry crane		1				
4.2	Lifting Beam		1				
5	Powerhouse						
5.1	Main cavern						
5.1.1	Turbine		3				
5.1.2	Main Inlet Valve		3				
5.1.3	EOT crane		2				
5.1.4	Compressed air system		1				
5.1.5	Cooling water system		1				
5.1.6	Water supply system		1				
5.1.7	Drainage/dewatering system		1				
5.1.8	Tailrace emptying system		1				
5.1.9	Firefighting system		1				
5.1.10	HVAC system		1				

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				United States Dollars (\$)	CIP		
1	2	3	4	5	6	7 = 4 x 6	Pakistani Rupees (PKR) 8
5.1.11	Governing System		3				
5.1.12	Lubrication oil treatment system		1				
5.1.13	Passenger lift		2				
5.1.14	Workshop equipment		1				
5.2	Transformer cavern						
5.2.1	Gantry crane		1				
III	Electrical Works						
1	500 kV GIS		1				
2	500 kV GIL		1				
3	132 kV GIS		1				
4	18/132 kV GSU		6				
5	18/500 kV GSU		3				
6	Station Transformer		1				
7	Generator		3				
8	Generator Circuit Breaker		3				
9	MV Bus Duct		200				
10	Protection Panel & Metering Panels		9				
11	Excitation System		3				
12	Interconnection Transformer		1				
13	Batteries & Batteries Bank		7				
14	11 kV Switchgear		4				
15	400 V Switchgear, AC/DC Panel Boards & MCC's		8				
16	500 kV interconnection works		1				
17	02 km 500 kV loop-in loop-out with Suki Kinari transmission		1				

Item	Description	Country of Origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				United States Dollars (\$)	CIP		
1	2	3	4	5	6	7 = 4 x 6	Pakistani Rupees (PKR) 8
	line including Interconnection Works						
18	Distribution Transformer 1000 kV		8				
19	Grounding & Lightning Protection		1				
20	Lighting including Emergency Lights		1				
21	Miscellaneous Cables, Cable Trays, Consumables		1				
22	Diesel Generator Set 1000 kV		2				
23	Diesel Generator Set 100 kV		2				
24	UPS for power plant		2				
25	132 kV interconnection works		10				
26	10 km 132 kV transmission line to Balakot Grid Station including Interconnection works		1				
27	Miscellaneous works		1				
28	Electrical Automatic System (Synchronization, ATS, Fault recorder, GPS Panel etc.)		1				
B	SPARE PARTS (sets for 5 years as defined by manufacturer)						
I	Hydromechanical Equipment						

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				United States Dollars (\$)	CIP United States Dollars (\$)		
1	2	3	4	5	6	7 = 4 x 6	8
1	Dam						
1.1	Upper spillway		1				
1.1.1	Radial gate						
1.1.2	Stoplogs		1				
1.2	Bottom outlets						
1.2.1	Sluice gate		1				
1.2.2	Stoplogs		1				
2	Sediment by-pass tunnel						
2.1	Intake structure						
2.1.1	Radial gate		1				
2.1.2	Stoplog		1				
3	Draft Tube						
3.1	Sluice gate		2				
4	Tailrace						
4.1	Stoplogs		1				
II	Electromechanical equipment						
1	Dam						
1.1	Mobile crane Spillway		1				
1.2	Gantry Crane Bottom outlet		1				
2	Sediment by-pass tunnel						
2.1	Intake structure						
2.1.1	Gantry Crane		1				

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Item	Description	Country of Origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				United States Dollars (\$)	CIP		
1	2	3	4	5	6	7 = 4 x 6	Pakistani Rupees (PKR) 8
3	Power Intake						
3.1	Mobile crane		1				
3.2	Gantry Crane stoplogs		1				
3.3	Trash-rack cleaner		1				
4	Tailrace						
4.1	Gantry crane		1				
4.2	Lifting Beam		1				
5	Powerhouse						
5.1	Main cavern						
5.1.1	Turbine		3				
5.1.2	Main Inlet Valve		3				
5.1.3	Gantry crane		1				
5.1.4	Compressed air system		1				
5.1.5	Cooling water system		1				
5.1.6	Water supply system		1				
5.1.7	Drainage/dewatering system		1				
5.1.8	Tailrace emptying system		1				
5.1.9	Firefighting system		1				
5.1.10	HVAC system		1				
5.1.11	Governing System		3				
5.1.12	Lubrication oil treatment system		1				
5.1.13	Passenger lift		2				
5.1.14	Workshop equipment		1				
5.2	Transformer cavern						
5.2.1	Gantry crane		1				

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				United States Dollars (\$)	CIP		
1	2	3	4	5	6	7 = 4 x 6	Pakistani Rupees (PKR) 8
III	Electrical Works						
1	500 kV GIS		1				
2	500 kV GIL		100				
3	132 kV GIS		1				
4	18/132 kV GSU		1				
5	18/500 kV GSU		1				
6	Station Transformer		1				
7	Generator		3				
8	Generator Circuit Breaker		2				
9	MV Bus Duct		1				
10	Protection Panel & Metering Panels		1				
11	Excitation System		3				
12	Interconnection Transformer		1				
13	Batteries & Batteries Bank		1				
14	11 kV Switchgear		1				
15	400V Switchgear, AC/DC Panel Boards & MCC's		1				
16	500 kV interconnection works		1				
17	02 km 500 kV loop-in loop-out with Suki Kinari transmission line including Interconnection Works		1				
18	Distribution Transformer 1000 kV		2				
19	Grounding & Lightning Protection		1				
20	Lighting including Emergency Lights		1				

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Taxes and Duties
				United States Dollars (\$)	CIP		
1	2	3	4	5	6	United States Dollars (\$)	Pakistani Rupees (PKR)
21	Miscellaneous Cables, Cable Trays, Consumables		1			7 = 4 x 6	8
22	Diesel Generator Set 1000 kV		1				
23	Diesel Generator Set 100 kV		1				
24	UPS for power plant		1				
25	132 kV interconnection works		1				
26	10 km 132 kV transmission line to Balakot Grid Station including Interconnection works		1				
27	Miscellaneous works		-				
28	Electrical Automatic System (Synchronization, ATS, Fault recorder, GPS Panel etc.)		1				
TOTAL						Column 7 to be carried forward to Schedule No. 5: Grand Summary	

Name of Bidder _____

Signature of Bidder _____

^a Specify currencies in accordance with ITB 19.1 of the BDS.

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

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Sales and Other Taxes
				Pakistani Rupees (PKR)	EX-Works		
1	2	3	4	5	6	7 = 4 x 6	Pakistani Rupees (PKR) 8
A	<u>EQUIPMENT</u>						
I	Hydromechanical Equipment						
1	Dam						
1.1	Upper spillway		3				
1.1.1	Radial gate						
1.1.2	Stoplogs		1				
1.2	Bottom outlets						
1.2.1	Sluice gate		2				
1.2.2	Stoplogs		2				
2	Sediment by-pass tunnel						
2.1	Intake structure						
2.1.1	Radial gate		1				
2.1.2	Stoplog		1				
3	Draft Tube						
3.1	Sluice gate		3				
4	Tailrace						
4.1	Stoplogs		2				
II	Electromechanical equipment						
1	Dam						
1.1	Mobile crane Spillway		1				
1.2	Gantry Crane Bottom outlet		1				

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Sales and Other Taxes
				Pakistani Rupees (PKR)	EX-Works		
1	2	3	4	5	6	7 = 4 x 6	8
2	Sediment by-pass tunnel						
2.1	Intake structure						
2.1.1	Gantry Crane		1				
3	Power Intake						
3.1	Mobile crane		1				
3.2	Gantry Crane stoplogs		1				
3.3	Trash-rack cleaner		1				
4	Tailrace						
4.1	Gantry crane		1				
4.2	Lifting Beam		1				
5	Powerhouse						
5.1	Main cavern						
5.1.1	Turbine		3				
5.1.2	Main Inlet Valve		3				
5.1.3	Gantry crane		2				
5.1.4	Compressed air system		1				
5.1.5	Cooling water system		1				
5.1.6	Water supply system		1				
5.1.7	Drainage/dewatering system		1				
5.1.8	Tailrace emptying system		1				
5.1.9	Firefighting system		1				
5.1.10	HVAC system		1				
5.1.11	Lubrication oil treatment system		1				
5.1.12	Passenger lift		2				

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Sales and Other Taxes
				Pakistani Rupees (PKR)	EX-Works		
1	2	3	4	5	6	7 = 4 x 6	8
5.1.13	Workshop equipment		1				
5.2	Transformer cavern						
5.2.1	Gantry crane		1				
III	Electrical Works						
1	500 kV GIS		1				
2	500 kV GIL		1				
3	132 kV GIS		1				
4	18/132 kV GSU		6				
5	18/500 kV GSU		3				
6	Station Transformer		1				
7	Generator		3				
8	Generator Circuit Breaker		3				
9	MV Bus Duct		200				
10	Protection Panel & Metering Panels		9				
11	Excitation System		3				
12	Interconnection Transformer		1				
13	Batteries & Batteries Bank		7				
14	11 kV Switchgear		4				
15	400 V Switchgear, AC/DC Panel Boards & MCC's		8				
16	500 kV Interconnection Works		1				
17	02 km 500 kV loop-in loop-out with Suki Kinari transmission line including interconnection works.		1				

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Sales and Other Taxes
				Pakistani Rupees (PKR)	EX-Works		
1	2	3	4	5	6	7 = 4 x 6	Pakistani Rupees (PKR)
17	Distribution Transformer 1000 kV		8				8
18	Grounding & Lightning Protection		1				
19	Lighting including Emergency Lights		1				
20	Miscellaneous Cables, Cable Trays, Consumables		1				
21	Diesel Generator Set 1000 kV		2				
22	Diesel Generator Set 100 kV		2				
23	UPS for power plant		2				
24	132 kV interconnection works		10				
25	10 km 132 kV transmission line to Balakot Grid Station including Interconnection works		1				
25	Miscellaneous works		1				
26	Electrical Automatic System (Synchronization, ATS, Fault recorder, GPS Panel etc.)		1				
B	SPARE PARTS (sets for 5 years as defined by manufacturer)						
I	Hydromechanical Equipment						
1	Dam						
1.1	Upper spillway		1				

Section 4 - Bidding Forms

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Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Sales and Other Taxes
				Pakistani Rupees (PKR)	EX-Works		
1	2	3	4	5	6	7 = 4 x 6	Pakistani Rupees (PKR) 8
1.1.1	Radial gate						
1.1.2	Stoplogs		1				
1.2	Bottom outlets						
1.2.1	Sluice gate		1				
1.2.2	Stoplogs		1				
2	Sediment by-pass tunnel						
2.1	Intake structure						
2.1.1	Radial gate		1				
2.1.2	Stoplog		1				
3	Draft Tube						
3.1	Sluice gate		2				
4	Tailrace						
4.1	Stoplogs		1				
II	Electromechanical equipment						
1	Dam						
1.1	Mobile crane Spillway		1				
1.2	Gantry Crane Bottom outlet		1				
2	Sediment by-pass tunnel						
2.1	Intake structure						
2.1.1	Gantry Crane		1				
3	Power Intake						
3.1	Mobile crane		1				

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Sales and Other Taxes
				Pakistani Rupees (PKR)	EX-Works		
1	2	3	4	5	6	7 = 4 x 6	8
3.2	Gantry Crane stoplogs		1				
3.3	Trash-rack cleaner		1				
4	Tailrace						
4.1	Gantry crane		1				
4.2	Lifting Beam		1				
5	Powerhouse						
5.1	Main cavern						
5.1.1	Turbine		3				
5.1.2	Main Inlet Valve		3				
5.1.3	Gantry crane		1				
5.1.4	Compressed air system		1				
5.1.5	Cooling water system		1				
5.1.6	Water supply system		1				
5.1.7	Drainage/dewatering system		1				
5.1.8	Tailrace emptying system		1				
5.1.9	Firefighting system		1				
5.1.10	HVAC system		1				
5.1.11	Lubrication oil treatment system		1				
5.1.12	Passenger lift		2				
5.1.13	Workshop equipment		1				
5.2	Transformer cavern						
5.2.1	Gantry crane		1				
III	Electrical Works						
1	500 KV GIS		1				
2	500 KV GIL		100				

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Sales and Other Taxes
				Pakistani Rupees (PKR)	EX-Works		
1	2	3	4	5	6	7 = 4 x 6	8
3	132 kV GIS		1				
4	18/132 kV GSU		1				
5	18/500 kV GSU		1				
6	Station Transformer		1				
7	Generator		3				
8	Generator Circuit Breaker		2				
9	MV Bus Duct		1				
10	Protection Panel & Metering Panels		1				
11	Excitation System		3				
12	Interconnection Transformer		1				
13	Batteries & Batteries Bank		1				
14	11 kV Switchgear		1				
15	400V Switchgear, AC/DC Panel Boards & MCC's		1				
16	500kV Interconnection Works		1				
17	Distribution Transformer 1000 kV		2				
18	Grounding & Lightning Protection		1				
19	Lighting including Emergency Lights		1				
20	Miscellaneous Cables, Cable Trays, Consumables		1				
21	Diesel Generator Set 1000 kV		1				
22	Diesel Generator Set 100 kV		1				
23	UPS for power plant		1				

Item	Description	Count ry of Origin	Quantity	Unit Price ^a		Total Price ^a	Sales and Other Taxes	
				Pakistani Rupees (PKR)	EX-Works			
1	2	3	4	5	6	7 = 4 x 6	Pakistani Rupees (PKR)	
24	132 kV Interconnection works		1				8	
25	Miscellaneous works		-					
26	Electrical Automatic System (Synchronization, ATS, Fault recorder, GPS Panel etc.)		1					
TOTAL Column 7 to be carried forward to Schedule No. 5: Grand Summary								

Name of Bidder _____

Signature of Bidder _____

^a Specify currency in accordance with ITB 19.1 of the BDS.

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

Schedule No. 3: Design Services

Item	Description	Quantity	Unit Price ^a		Total Price ^a	
			Pakistani Rupees (PKR)	United States Dollars (\$)	Pakistani Rupees (PKR)	United States Dollars (\$)
1	2	3	4	5	6 = 3 x 4	7 = 3 x 5
1	Preparation of the Basic Design	1				
2	Preparation of the Detailed Design along with working drawings	1				
3	Preparation of the "As Built" drawings	1				
4	Hydraulic model investigations of the Dam Spillway	1				
5	Hydraulic and Sediment model investigations of the Sediment By-pass tunnel and of the Dam Outlets	1				
6	Structural model of the dam (nonlinear three-dimensional time dependent analyses)	1				
TOTAL Columns 6 and 7 to be carried forward to Schedule No. 5: Grand Summary						

Name of Bidder _____

Signature of Bidder _____

^a Specify currency in accordance with ITB 19.1 of the BDS.

Schedule No. 4 - Installation and Other Services

Item	Description	Country of Origin	Quantity	Unit Price ^a		Total Price ^a
				Pakistani Rupees (PKR)	CIP	
1	2	3	4	5	6	7 = 4 x 6
A	CIVIL WORKS					
1	Mobilization & De-mobilization		1			
2	Access Roads to the Works Sites		1			
3	Camps and Housing During Construction		1			
4	Permanent Staff Residential Colony		12000 m ²			
5	Environmental Mitigation Cost		1			
6	Land Acquisition		1			
7	Reservoir Slope Stabilization		1			
8	Valley Up-gradation Covering		1			
9	River diversion works		1			
10	Dam and associated works		1			
11	Sediment by-pass tunnel		1			

Item	Description	Country of Origin	Quantity	Unit Price ^a			Total Price ^a
				Pakistani Rupees (PKR)	CIP	Pakistani Rupees (PKR)	
1	2	3	4	5	6	7 = 4 x 6	
12	Power Intake		1				
13	Headrace Tunnel		1				
14	Upstream Surge Shaft (including steel lining)		1				
15	Pressure Shaft and penstocks (including steel lining)		1				
16	Powerhouse and underground access tunnels		1				
17	Downstream Surge Shaft (including steel lining)		1				
18	Tailrace		1				
19	Access Roads + Affected Roads and Bridges.		1				
20	Switchyard platform		1				
21	Workshop/Store Building		1				
B	<u>EQUIPMENT INSTALLATION</u>						

Item	Description	Country of Origin	Quantity	Unit Price ^a		Total Price ^a
				Pakistani Rupees (PKR)	CIP	
1	2	3	4	5	6	7 = 4 x 6
I	Hydromechanical Equipment					
1	Dam		1			
2	Sediment by-pass tunnel		1			
3	Draft Tubes		1			
4	Tailrace		1			
II	Electromechanical equipment					
1	Dam		1			
2	Sediment by-pass tunnel		1			
3	Power Intake		1			
4	Tailrace		1			
5	Powerhouse					
5.1	Main cavern		1			
5.2	Transformer cavern		1			
III	Electrical Works					
1	Powerhouse		1			
2	Interconnection		1			
3	Other works		1			
4	Electrical Automatic System		6			

TOTAL Column 7 to be carried forward to Schedule No. 5: Grand Summary

Item	Description	Country of Origin	Quantity	Unit Price ^a		Total Price ^a
				Pakistani Rupees (PKR)	CIP	
1	2	3	4	5	6	7 = 4 x 6

Name of Bidder _____

Signature of Bidder _____

^a Specify currency in accordance with ITB 19.1 of the BDS.^b As described in SCC 22.2.7.


Schedule No. 5: Grand Summary

Schedule No.	Title	Total Price ^a	
		United States Dollars (\$)	Pakistani Rupees (PKR)
1	Plant and Mandatory Spare Parts Supplied from Abroad ^b		
2	Plant and Mandatory Spare Parts Supplied from Within the Employer's Country ^b		
3	Design Services		
4	Installation and Other Services		
Grand Total to be carried forward to Letter of Price Bid			

Name of Bidder _____

Signature of Bidder _____

- ^a Specify currency in accordance with ITB 19.1 of the BDS. Create additional columns for foreign currencies if so required.
- ^b Taxes and/or duties from Schedules 1 and 2 may be added to the contract price in accordance with GCC 14 (Taxes and Duties) but excluded from bid evaluation in accordance with ITB 39.2.

Tables of Adjustment Data

Table A - Local Currency

Index Code	Index Description	Source of Index	Base Value and Date	Bidder's Local Currency Amount	Bidder's Proposed Weighting
a.	Nonadjustable	—	—	—	a: 0.35
b.	Labour	Government of Pakistan	—	—	b: _____
c.	Fuel	Statistical Bulletin of Federal Bureau of Statistics, Pakistan	—	—	c: _____
d.	Cement	Statistical Bulletin of Federal Bureau of Statistics, Pakistan	—	—	d: _____
e.	Reinforcing Steel	Statistical Bulletin of Federal Bureau of Statistics, Pakistan	—	—	e: _____
f.	Miscellaneous Material	General Index provided in Monthly Statistical Bulletin of Federal Bureau of Statistics, Pakistan	—	—	f: _____
Total					1.00

To be entered by the bidder

- For local labour, the index shall be minimum wage for unskilled labour as fixed by the Government of Pakistan.
- For fuel purchased locally, the index shall be the cost of one litre of high speed diesel published by the Federal Bureau of Statistics in the Monthly Statistical Bulletin pertaining to the area.
- For miscellaneous materials purchased locally, the index shall be the General Consumer Price Index published by the Federal Bureau of Statistics in the Monthly Statistical Bulletin pertaining to the area,

The bidder should state the base value of the index as at 28 days prior to the date of tender closing, or tentatively the latest available index with date to be substituted by the actual index when published.

The factors for adjustment of each element must be quoted by the bidder. The sum of all factors should equal 1.00.

Table B - Foreign Currency

Name of Currency: _____

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

To be entered by the bidder

Index Code	Index Description	Source of Index	Base Value and Date	Bidder's Currency in Type/Amount	Equivalent in FC1	Bidder's Proposed Weighting
	Nonadjustable	---	---	---		a: 0.35 b: _____ c: _____ d: _____ e: _____
Total						1.00

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

Bid Security

Bank Guarantee

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

Beneficiary:*Name and address of the employer*

Date:.....

Bid Security No.:

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

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

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

- (a) has withdrawn its Bid during the period of bid validity specified by the Bidder in the Letters of Technical and Price Bid; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "the ITB"); or
- (c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails or refuses to execute the Contract Agreement, or (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

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

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

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458.⁵

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

⁴

All italicized text is for use in preparing this form and shall be deleted from the final document.
⁵ Or 758 as applicable.



Technical Proposal

Site Organization

Method Statement

Mobilization Schedule

Construction Schedule

Plant

Personnel

Equipment

Proposed Subcontractors for Major Items of Plant and Services

Manufacturer's Authorization

Affiliate Company Guarantee

Time Schedule

Functional Guarantee of the Proposed Facilities



Site Organization



Method Statement




Mobilization Schedule



Construction Schedule

Project Milestones	
Nº	Milestone
1	Basic Design completed and approved
2	Preparatory Works Completed
3	Detailed Design of the Water Diversion/SBT completed and approved
4	Water Diversion / SBT Works completed
5	Detailed Design of the Intake Structure completed and approved
6	Intake Structure Works completed
7	Detailed Design of the Dam completed and approved
8	Dam Works completed
9	Detailed Design of the Headrace Tunnel completed and approved
10	Headrace Tunnel Works completed
11	Detailed Design of the Surge Tank, Pressure Shaft & Penstocks completed and approved
12	Upstream Surge Tank Works completed
13	Pressure Shaft & Penstocks Works completed
14	Detailed Design of the Transformer Cavern completed and approved
15	Transformer Cavern Works completed
16	Detailed Design of the Power House Cavern & Tailrace Tunnel completed and approved
17	Power House Cavern Works completed
18	Tailrace Tunnel and Downstream Surge Tank Works completed
19	Transmission Line Works completed
20	Completion of the Facilities
21	Commissioning of the Facilities
22	Operational Acceptance of the Facilities

Plant



Personnel

Form PER - 1: Proposed Personnel

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

A	Management Key Personnel
1A.	Project Manager
	<i>Name</i>
2A.	Contracts Manager
	<i>Name</i>
3A.	Planning Engineer
4A.	Procurement Expert
	<i>Name</i>
B	Key Personnel of the Design Team
1B.	Team Leader
	<i>Name</i>
2B.	Dam Expert (Structural)
	<i>Name</i>
3B.	Hydraulic Structures Expert
	<i>Name</i>
4B.	Underground Works Expert
	<i>Name</i>
5B.	Geologist
	<i>Name</i>
6B.	Geotechnical/Foundations Expert
	<i>Name</i>

7B.	Electrical Equipment Expert
	Name
8B.	Mechanical Equipment Expert
	Name
9B.	Automation and Control System Expert
	Name
10B.	HVAC and Firefighting system Expert
	Name
C	Key Personnel at Works site
1C.	Site Manager
	Name
2C.	Dam Works Chief Engineer
	Name
3C.	Underground Works Chief Engineer
	Name
4C.	Electrical Equipment Chief Engineer
	Name
5C.	Mechanical Equipment Chief Engineer
	Name
6C.	Scheduling Engineer
	Name
7C.	Costing Engineer
	Name
8C.	Assembly and testing Engineer (Mechanical)
	Name

9C.	Assembly and testing Engineer (Electrical)
	<i>Name</i>
10C.	Health and Safety Manager
	<i>Name</i>
12C.	Environmental Manager
	<i>Name</i>



Equipment

Form EQU: Equipment

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

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

[Handwritten mark]

Omit the following information for equipment owned by the Bidder.

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

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

The following Subcontractors and/or Manufacturers are proposed for carrying out the item of the facilities indicated based on Criterion 2.5 of Section 3 (Evaluation and Qualification Criteria). Bidders are free to propose more than one for each item.

Major Items of Plant and Services	Proposed Subcontractors or Manufacturers	Nationality
Road		
Bridges		
Permanent Staff Colony		
Transmission Lines		
Hydropower Design		



Manufacturer's Authorization

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

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

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

WHEREAS

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

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

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



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

Title: *[insert title]*

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

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

Note

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

Affiliate Company Guarantee

Name of Contract/Contract No.: _____
 Name and address of Employer: _____

 (together with successors and assigns).

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

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

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

This guarantee shall come into full force and effect when the Contract comes into full force and effect. If the Contract does not come into full force and effect within a year of the date of this guarantee, or if you demonstrate that you do not intend to enter into the Contract with the Contractor, this guarantee shall be void and ineffective. This guarantee shall continue in full force and effect until all the Contractor's obligations and liabilities under the Contract have been discharged, when this guarantee shall expire and shall be returned to us, and our liability hereunder shall be discharged absolutely.

This guarantee shall apply and be supplemental to the Contract as amended or varied by the Employer and the Contractor from time to time. We hereby authorize them to agree on any such amendment or variation, the due performance of which and compliance with which by the Contractor are likewise guaranteed hereunder. Our obligations and liabilities under this guarantee shall not be discharged by any allowance of time or other indulgence whatsoever by the Employer to the Contractor, or by any variation or suspension of the works to be executed under the Contract, or by any amendments to the Contract or to the constitution of the Contractor or the Employer, or by any other matters, whether with or without our knowledge or consent.

This guarantee shall be governed by the law of the same country (or other jurisdiction) as that which governs the Contract and any dispute under this guarantee shall be finally settled under the [Rules or Arbitration provisions for assignment of the Contract]. We confirm that the benefit of this guarantee may be assigned subject only to the

Signed by: Signed by:
 [signature] [signature]

..... [name]
 [position in parent/subsidiary company] [position in parent/subsidiary company]

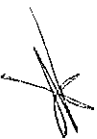
Date:

Note

If permitted in accordance with ITB 35.2 of the BDS, the Bidder shall fill out the Affiliate Company Guarantee Form for each subsidiary, parent entity, affiliate, subcontractor, etc. that the Bidder submits for consideration of the Employer in determining its qualifications.

Time Schedule

To be used by Bidder when alternative Time for Completion is invited in ITB 13.2.



Functional Guarantee of the Proposed Facilities

Form FUNC

The Bidder shall copy on the left column of the table below, the identification of each functional guarantee required in the Specification and stated by the Employer in EQC 1.3.4 of Section 3, Evaluation and Qualification Criteria, and on the right column, provide the corresponding value for each functional guarantee of the proposed plant and equipment.

Functional Guarantee [as required by the Employer in Section 3]	Functional Guarantee Value Offered by the Bidder
1.	
2.	
3.	
...	



Bidder's Qualification

To establish its qualifications to perform the contract in accordance with Section 3 (Evaluation and Qualification Criteria) the Bidder shall provide the information requested in the corresponding Information Sheets included hereunder.



Form ELJ - 1: Bidder's Information Sheet

Bidder's Information	
Bidder's legal name	
In case of a Joint Venture, legal name of each partner	
Bidder's country of constitution	
Bidder's year of constitution	
Bidder's legal address in country of constitution	
Bidder's authorized representative (name, address, telephone number(s), fax number(s), e-mail address)	
<p>Attached are copies of the following documents:</p> <p><input type="checkbox"/> 1. In case of a single entity, articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and ITB 4.2</p> <p><input type="checkbox"/> 2. Authorization to represent the firm or Joint Venture named above, in accordance with ITB 22.2</p> <p><input type="checkbox"/> 3. In case of a Joint Venture, a letter of intent to form a Joint Venture or Joint Venture agreement, in accordance with ITB 4.1</p> <p><input type="checkbox"/> 4. In case of a government-owned enterprise, any additional documents not covered under 1 above required to comply with ITB 4.5</p>	

Form ELI - 2: Joint Venture Information Sheet

Each member of the Joint Venture must fill out this form separately. Subcontractor must fill out this form.

Joint Venture/Subcontractor Information	
Bidder's legal name	
Joint Venture Partner's or Subcontractor's legal name	
Joint Venture Partner's or Subcontractor's country of constitution	
Joint Venture Partner's or Subcontractor's year of constitution	
Joint Venture Partner's or Subcontractor's legal address in country of constitution	
Joint Venture Partner's or Subcontractor's authorized representative information (name, address, telephone number(s), fax number(s), e-mail address)	
<p>Attached are copies of the following documents:</p> <p><input type="checkbox"/> 1. Articles of incorporation or constitution of the legal entity named above, in accordance with ITB 4.1 and ITB 4.2</p> <p><input type="checkbox"/> 2. Authorization to represent the firm named above, in accordance with ITB 22.2</p> <p><input type="checkbox"/> 3. In the case of a government-owned enterprise, documents establishing legal and financial autonomy and compliance with commercial law, in accordance with ITB 4.5</p>	

Subcontractors are those listed in Technical Proposal – Proposed Subcontractors and/or Manufacturers for Major Items of Plant and Services.



Form CON – 1: Historical Contract Non-Performance

Each Bidder must fill out this form in accordance with Criteria 2.2.1 and 2.2.3 of Section 3 (Evaluation and Qualification Criteria) to describe any history of non-performing contracts and pending litigation or arbitration formally commenced against it.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Table 1: History of Non-Performing Contracts

Choose one of the following:
 No non-performing contracts.
 Below is a description of non-performing contracts involving the Bidder (or each Joint Venture member if Bidder is a Joint Venture).

Year	Description	Amount of non-performed portion of contract (\$ equivalent)	Total Contract Amount (\$ equivalent)
[insert year]	Contract Identification: [indicate complete contract name/number, and any other identification] Name of Employer: [insert full name] Address of Employer: [insert street/city/country] Reason(s) for non-performance: [indicate main reason(s)]	[insert amount]	[insert amount]



Form FIN - 1: Historical Financial Performance

Each Bidder must fill out this form.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Financial Data for Previous 5 Years [\$ Equivalent]				
Year 1:	Year 2:	Year 3:	Year 4:	Year 5:

Information from Balance Sheet

Total Assets (TA)					
Total Liabilities (TL)					
Net Worth = TA-TL					
Current Assets (CA)					
Current Liabilities (CL)					
Working Capital = CA - CL					
Most Recent Working Capital					To be obtained for most recent year and carried forward to FIN - 3 Line 1; in case of Joint Ventures, to the corresponding Joint Venture Partner's FIN - 3.

Information from Income Statement

Total Revenues					
Profits Before Taxes					
Profits After Taxes					

Attached are copies of financial statements (balance sheets including all related notes, and income statements) for the last 5 years, as indicated above, complying with the following conditions.

- Unless otherwise required by Section 3 of the Bidding Documents, all such documents reflect the financial situation of the legal entity or entities comprising the Bidder and not the Bidder's parent companies, subsidiaries or affiliates.
- Historical financial statements must be audited by a certified accountant.
- Historical financial statements must be complete, including all notes to the financial statements.
- Historical financial statements must correspond to accounting periods already completed and audited (no statements for partial periods shall be requested or accepted).

Form FIN - 2: Average Annual Turnover

Each Bidder must fill out this form.

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

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____



Annual Turnover Data for the Last 5 Years			
Year	Amount Currency	Exchange Rate	\$ Equivalent
Average Annual Turnover			

Form FIN - 3: Availability of Financial Resources

Bidders must demonstrate sufficient financial resources, usually comprising of Working Capital supplemented by credit line statements or overdraft facilities and others to meet the Bidder's financial requirements for

- (a) its current contract commitments, and
- (b) the subject contract.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Financial Resources		
No.	Source of financing	Amount (\$ equivalent)
1	Working Capital (to be taken from FIN - 1)	
2	Credit Line ^a	
3	Other Financial Resources	
Total Available Financial Resources		

^a To be substantiated by a letter from the bank issuing the line of credit.

Form FIN- 4: Financial Requirements for Current Contract Commitments

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

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Current Contract Commitments						
No.	Name of Contract	Employer's Contact (Address, Tel, Fax)	Contract Completion Date	Outstanding Contract Value (X) ^a	Remaining Contract Period in months (Y) ^b	Monthly Financial Resources Requirement (X / Y)
1						
2						
3						
4						
Total Monthly Financial Requirement for Current Contract Commitments						\$



^a Remaining outstanding contract values to be calculated from 28 days prior to the bid submission deadline (\$ equivalent based on the foreign exchange rate as of the same date).

^b Remaining contract period to be calculated from 28 days prior to bid submission deadline.

Form FIN - 5: Self-Assessment Tool for Bidder's Compliance to Financial Resources (Criterion 2.3.3 of Section 3)

This form requires the same information submitted in Forms FIN - 3 and FIN - 4. All conditions of "Available Financial Resources Net of CCC \geq Requirement for the Subject Contract" must be satisfied to qualify.

Form FIN - 5A: For Single Entities

For Single Entities: (A)	Total Available Financial Resources from FIN - 3 (B)	Total Monthly Financial Contract Commitments (CCC) from FIN - 4 (C)	Available Financial Resources Net of CCC $D = (B - C)$	Requirement for the Subject Contract (E)	Results: Yes or No [D must be greater than or equal to E] (F)
(Name of Bidder)				

Form FIN - 5B: For Joint Ventures

For Joint Ventures: (A)	Total Available Financial Resources from FIN - 3 (B)	Total Monthly Financial Contract Commitments (CCC) from FIN - 4 (C)	Available Financial Resources Net of CCC $D = (B - C)$	Requirement for the Subject Contract (E)	Results: Yes or No [D must be greater than or equal to E] (F)
One Partner:					
(Name of Partner)				
Each Partner:					
(Name of Partner 1)				
(Name of Partner 2)				
(Name of Partner 3)				
All partners combined	$\Sigma D =$ Sum of available financial resources net of current contract commitments for all partners		$\Sigma D =$ _____	

Note -

Form FIN - 5 is made available for use by the bidder as a self-assessment tool, and by the employer as an evaluation work sheet, to determine compliance with the financial resources requirement as stated in 2.3.3. Failure to submit Form FIN - 5 by the Bidder shall not lead to bid rejection.

Form EXP - 1: Contracts of Similar Size and Nature

Fill out one (1) form per contract.

The exchange rate to be used to calculate the value of the contract for conversion to a specific currency shall be the selling rate of the borrower's national bank on the date of the contract.

Contract of Similar Size and Nature			
Contract No of		Contract Identification	
Award Date		Completion Date	
Role in Contract		<input type="checkbox"/> Contractor	<input type="checkbox"/> Management Contractor <input type="checkbox"/> Subcontractor
Total Contract Amount			
If partner in a Joint Venture or subcontractor, specify participation of total contract amount		Percent of Total	Amount
Employer's name Address Telephone number Fax number E-mail			
Description of the Similarity in Accordance with Criterion 2.4.1 of Section 3 (Evaluation and Qualification Criteria)			
Participation as sole contractor, joint venture partner, or subcontractor in at least two contracts that have been successfully or substantially completed within the last 10 years and that are similar to the proposed contract, where the value of the Bidder's participation under each contract exceeds \$480 million. The two contracts used as reference should pertain to the provision, on a single responsibility basis of inter alia design, supply, installation of 500kV HPP with similar transmission lines, equipment and hydraulic structures (i.e. similar HPP as per Section 6 of the Bidding Documents).			

Form EXP - 2: Experience in Key Activities

Fill out one (1) form per contract.

Each Bidder must fill out this form.

In case of a Joint Venture, at least one of the Joint Venture Partners who will comply with the requirements must fill out this form and provide the Joint Venture Partner's name below:


Joint Venture Partner: _____

If complied by Specialist Subcontractor, the Specialist Subcontractor must fill out this form and provide the Specialist Subcontractor's name below:

Specialist Subcontractor: _____

Contract with Similar Key Activities			
Contract No of	Contract Identification		
Award Date	Completion Date		
Role in Contract	<input type="checkbox"/> Contractor	<input type="checkbox"/> Management Contractor	<input type="checkbox"/> Subcontractor
Total Contract Amount			\$
If partner in a Joint Venture or subcontractor, specify participation of total contract amount	Percent of Total	Amount	
Employer's name Address Telephone number Fax number E-mail			
Description of the Key Activities in Accordance with Criterion 2.4.2 of Section 3 (Evaluation and Qualification Criteria)			
1. Detailed Design of at least 2 (two) Large Hydropower Schemes, including: <ul style="list-style-type: none"> • a concrete dam with minimum height of 40 m; • pressure tunnel with minimum inner diameter of 6 m and 			

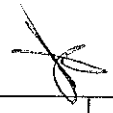
<p>minimum length of 4 km;</p> <ul style="list-style-type: none"> a cavern powerhouse with minimum installed capacity of 100 MW. 	
<p>2. Dams and River Diversion works, including:</p> <ul style="list-style-type: none"> 1 (one) river diversion schemes with a minimum design flow of 500 m³/s; 1 (one) concrete dams with minimum height of 50 m; 1 (one) dam spillways with maximum discharge capacity equal or greater than 3000 m³/s. 	
<p>3. Hydraulic Tunnel works, including:</p> <ul style="list-style-type: none"> 1 (one) pressure tunnel with minimum inner diameter of 6 m and minimum length of 10 km OR 2 (two) pressure tunnels with minimum inner diameter of 6 m and minimum length of 6 km each; 2 (two) steel lined tunnels with minimum inner diameter of 4 m and minimum length of 200 m. Two (2) vertical shafts with minimum length of 150 m., and 2.5 m diameter, executed by raise-boring method. 	
<p>4. Cavern Powerhouse works, including:</p> <ul style="list-style-type: none"> 1 (one) cavern powerhouse with minimum installed capacity of 100 MW; 1 (one) vertical shaft executed by raise-boring method. 	
<p>5. Design, Manufacture, Supply, Erection, Testing and Commissioning of Mechanical Equipment, including:</p> <ul style="list-style-type: none"> 2 (two) radial gates with minimum height of 8 m and span of 10 m; 	

<ul style="list-style-type: none"> • 2 (two) trash racks with minimum height of 8 m and span of 6 m; • 2 (two) fixed wheel gates with minimum height of 4 m and span of 4 m; • 1 (one) overhead crane with minimum span of 10 m and 70 t nominal capacity. 	
<p>6. Design, Manufacture, Supply, Erection, Testing and Commissioning of Turbine-Generator units, including:</p> <ul style="list-style-type: none"> • 1 (one) unit with minimum capacity of 100 MW; • 2 (two) Francis units with minimum capacity of 75 MW that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline; • 2 (two) spherical valves with minimum diameter 1500 mm and nominal pressure of 150 m. • having in house facility of Hydraulic Model Testing and Computational Flow Diagnostic (CFD) modelling for Turbines 	
<p>7. Design, Manufacture, Supply, Erection, Testing and Commissioning of 500 kV Indoor Type Power Transformers, including:</p> <ul style="list-style-type: none"> • 2 (two) transformers with minimum unit capacity of 20 MVA, 500 kV, and two at least Cavern Type Transformers that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline 	
<p>8. Design, Manufacture, Supply, Erection, Testing and Commissioning of Plant Control Systems:</p> <ul style="list-style-type: none"> • 1 (one) full control system, including DCS 	

<p>architecture, SCADA and Telemetry, in a hydropower plant with minimum capacity of 100 MW that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline</p>	
<p>9. Design, Manufacture, Supply, Erection, Testing and Commissioning of 500 kV GIS equipment:</p> <ul style="list-style-type: none"> 1 (one) system in a hydropower plant with minimum capacity of 500 kV that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline. 	
<p>10. Design, Manufacture, Supply, Erection, Testing and Commissioning of high voltage Transmission lines, including:</p> <ul style="list-style-type: none"> 220/330/500 kV lines for 2 (two) different hydropower plants with minimum length of 10 km each and one line must be 340/500 kV line that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline. 	
<p>11. Design, Manufacture, Supply, Erection, Testing and Commissioning of 500 kV Gas Insulated Lines, including:</p> <ul style="list-style-type: none"> 220/330/500 kV GIL/s for 2 (two) different hydropower plants with minimum length of 300 meter each and one must be 340/500 kV GIL that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline. 	

Form EXP - 3: Subcontractors

Fill out one (1) form per contract.

Contract for the Major Items			
Contract No of	Contract Identification		
Award Date	Completion Date		
Role in Contract	<input type="checkbox"/> Contractor	<input type="checkbox"/> Management Contractor	<input type="checkbox"/> Subcontractor
Total Contract Amount			\$
If partner in a Joint Venture or subcontractor, specify participation of total contract amount	Percent of Total		Amount
Employer's name Address Telephone number Fax number E-mail			
Description of the Major Items in Accordance with Criterion 2.5 of Section 3 (Evaluation and Qualification Criteria)			
Roads The sub-contractor for roads shall have qualification experience as per PEC Code CE01 or equivalent.			
Bridges The sub-contractor for bridges shall have qualification experience as per PEC Code CE02 or equivalent.			
Permanent Staff Colony The sub-contractor for Permanent Staff Colony shall have qualification experience as per PEC Code CE010 or equivalent.			

<p>Transmission Lines</p> <ul style="list-style-type: none"> • Design, Manufacture, Supply, Erection, Testing and Commissioning of high voltage Transmission lines, including: <ul style="list-style-type: none"> • 220/330/500 kV lines for 2 (two) different hydropower plants with minimum length of 10 km each and one line must be 340/500 kV line that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline. • Design, Manufacture, Supply, Erection, Testing and Commissioning of 500 kV Gas Insulated Lines, including: <ul style="list-style-type: none"> • 220/330/500 kV GIL/s for 2 (two) different hydropower plants with minimum length of 300 meter each and one must be 340/500 kV GIL that have been in successful operation for at least 2 years after commissioning as of date of Bid submission deadline. 	
<p>Hydropower Design</p> <ul style="list-style-type: none"> • Detailed Design of at least 2 (two) Large Hydropower Schemes, including: <ul style="list-style-type: none"> • a concrete dam with minimum height of 40 m; • pressure tunnel with minimum inner diameter of 6 m and minimum length of 4km; <p>a cavern powerhouse with minimum installed capacity of 100 MW.</p>	

Section 5 - Eligible Countries

No nationality restrictions apply, other than restrictions arising from ITB 4.8.



Section 6 - Employer's Requirements

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APPENDIX 1 -Technical Specifications

1. Scope of Supply of Plant and Services

a.1 Project Layout

The envisaged Project Layout is defined in the Feasibility Study report of the 300 MW Balakot Hydropower Project¹. The layout mainly includes:

- 58 m high gravity concrete dam in the Kunhar river, near the Paras village, and related appurtenant structures;
- river diversion works and sediment by-pass tunnel;
- power circuit, including power intake, concrete lined headrace tunnel, upstream surge shaft, steel lined pressure shaft and penstocks, downstream surge shaft, and concrete lined headrace tunnel;
- cavern type powerhouse for 3 Francis groups with 300 MW installed capacity, including access tunnels, exterior switch yard and workshop/store building;
- new access roads + affected roads and bridges of the hydropower scheme.

a.2 Scope of works

The scope of works is defined according to the Project Layout and includes the following main activities for the construction and commence of operation of the Balakot Hydropower Project:

a.2.1 Permanent Staff Residential Colony

The Contractor will construct Permanent Staff Residential Colony of 12000 m² with all allied structures (Office Building, Rest House, Staff Houses, Bachelor Hostel, Market, Dispensary, Community Centre, Masjid, School, Park, Guard Room, Watch Towers, Boundary Wall with security fence/system, etc.). The Permanent Staff Colony shall have all the required facilities/services i.e. Sewerage, drainage, water supply, overhead water tank, treatment plant, internal and external roads, communication lines, 11 kV power supply, etc. The Contractor will also develop plans elevations of each category of buildings and roads and all services for approval of Management Consultant/Employer.

a.2.2 Temporary Facilities

The Contractor is required to supply all the necessary temporary facilities for the Work's execution, including but not limited to:

- Accommodations for labour and staff employed for the work;
- Offices, stores and workshops;
- Communications;
- Protection works against floods and other natural hazards; and
- Security.

The Contractor is required to assure the uninterrupted supply of water and electrical energy to the Temporary Facilities and the work fronts.

a.2.3 Recommendations and Particular Requirement for the EPC Stage

The Contractor shall fulfill recommendations and particular requirements for the EPC Stage annexed as Appendix-2

¹ 300 MW Balakot Hydropower Project PPTA. Final Report. Updated Feasibility Study (2019)

a.2.4 Civil Works

The anticipated Civil Engineering Works to be supplied under the Contract are the ones required to complete the structures defined in the Project Layout, as well as any complementary works that may be required to that purpose. The Project Layout defines the global scheme solution and the preferred type and arrangement for the civil engineering works. However, the Contractor may propose alternative solutions or optimizations, provided such alternative solutions or optimizations are compliant with the terms of the Contract, including the requisites set forth in the Employer's Requirements, are defined and duly justified to the satisfaction of the Employer, and approved at Basic Design or Detailed Design stage.

a.2.5 Equipment

The main Electrical equipment, Electromechanical equipment and Hydraulic Steel Structures to be supplied under the Contract are depicted below. The works under the power facilities shall include all works up to and including the connections at the Switchyard, with the 132 kV and 500 kV transmission lines to the defined connection points. The scope of work under this Contract includes all control equipment for communication with the Load Dispatch Centre (LDC). This includes, but not limited to, gateway to LDC, Automatic Generator Control Devices, and integration of this plant to LDC by modifying the data base of the LDC SCADA, and point-to-point testing of data communication. However, the Contractor may propose alternative solutions or optimizations, provided such alternative solutions or optimizations are compliant with the terms of the Contract, including the requisites set forth in the Employer's Requirements, are defined and duly justified to the satisfaction of the Employer and approved at Basic Design or Detailed Design stage.

- Hydraulic Steel Structures:
 - Upper spillway gates;
 - Low level gated spillway / Bottom outlet gates;
 - Radial gate of the Sediment by-pass tunnel;
 - Sluice gate;
 - Trash racks;
 - Bulkhead gate;
 - Power intake gates;
 - Tailrace gates;
 - Draft tube gates;
 - Stoplogs;
 - Shafts and tunnels steel lining.
- Electromechanical equipment:
 - Mobile cranes;
 - Trash rack cleaning machine;
 - Turbidity/Sediment Measurement systems;
 - Francis turbines;
 - Overhead cranes;
 - Compressed air system;
 - Governor air systems;
 - Generator air brake systems;
 - Service air system;

- Cooling water system;
- Service water system;
- Potable water system;
- Turbine units dewatering system;
- Plant drainage system;
- Tailrace dewatering system;
- Firefighting system;
- HVAC system;
- Lubrication oil treatment system;
- Passenger Lift.
- Electrical equipment:
 - 500 kV GIS;
 - 500 kV GIL;
 - 132 kV GIS;
 - 18/132 kV GSU;
 - 18/500 kV GSU;
 - Powerplant transformers;
 - Generators;
 - Generator circuit breakers;
 - MV Bus duct;
 - Protection panel and Metering panels;
 - Excitation systems;
 - Interconnection transformer;
 - Batteries and batteries bank;
 - 11 kV switch gear;
 - 400 V switch gear, AC/DC panel boards and MCC's;
 - 500 kV Interconnection works;
 - Distribution transformer;
 - Grounding and lightning protection;
 - Lighting, including emergency lights;
 - Miscellaneous cables, cable trays and consumables
 - Diesel generator set (1000 kV)
 - Diesel generator set (100 kV)
 - UPS for the powerplant;
 - 132 kV interconnection works;
 - Electrical Automatic System;
 - Telecommunications;



- o SCADA and Computer system for Plant local and remote control.

a.2.6 Employer's Personnel Training and Factory Inspections

The Contractor shall provide training and factory inspection facilities for the Employer's personnel as follows.

- 40 man-month (20 individuals for two months each) to attend training courses in the countries of the manufacturers of Electromechanical and Electrical equipment assemblies;
- 10 man-month (10 individuals for one month each) to attend training courses in the countries of the manufacturers of Hydraulic Steel Structures assemblies; and
- Factory and shop assembly inspections for each main equipment assemblies (including pressure testing, non-destructive testing and destructive testing if any) for 6 individuals in each trip.

The Contractor shall provide notice for factory and shop assembly inspections at least one month in advance. All expenses for conducting the referred training and inspections will be supported by the Contractor.

a.2.7 Facilities and Maintenance to be provided by the Contractor during Construction and Defect Liability Period.

a) Offices

The Contractor shall provide furnished site offices to the Employer, the Employer's Representative and Project Management Consultant and maintain, clean and keep in good conditions all the site offices especially all installations such as air conditioning, lighting, sanitary facilities and other services. Debris, scraps. Waste, etc. shall be removed from the offices daily.

b) Residences

The Contractor shall provide furnished residences and maintain the residences and equipment, fittings for the Employer and his Management Consultant

The Contractor shall also provide 3.5 m high security fencing with barbed wire and 24-hour security for the housing units.

c) Mosque

The Contractor shall construct and maintain the mosque to meet the requirement of the Employer's Representative inclusive of supplying electricity, drinkable water and general cleaning all through the construction period. The Contractor shall consult the Employer and appropriate Religious authorities to engage a local 'Imam' to conduct religious matters.

d) Vehicles

- Purchase of eight (08) Nos. 4x4 (Double Cabin) Vehicles for Employer including cost of insurance, Registration, salaries of drivers, POL, maintenances expenses up to completion of project including defect liability period.

The vehicles to be provided shall be specified in the Bid by submitting brochures. The stated eight (08) vehicles shall become the property of the Employer.

- Other than above mentioned vehicles for employer, the Contractor will provide POL and maintenance expenses for seven (07) Nos. Vehicles for Employer up to the completion of project including defect liability period.

e) Site Communication

The Contractor shall furnish and completely install a telephone system as communication facility at Site.

During the entire construction period and Defects Liability Period, the Contractor shall be responsible for the maintenance of the entire telephone system inclusive of rental and call charges.

In addition, the Contractor shall install the following telephone system for the Employer and the Management Consultant as indicated in the schedule below for exclusive use of the Employer and the Management Consultant.

Locations	No. of Connections		
	Telephone	Fax	Internal Exchange
Employer and Employer's Management Consultant Offices	7	2	As required
Laboratory	--	--	-do-
Power House	--	--	-do-
Guest House	--	--	-do-

The telephone system shall consist of:

- Telephone operators
- Telephone Exchange System
- Cabling system and installation
- All auxiliaries to put system in operation

The Contractor shall be responsible for the maintenance of the entire telephone system inclusive of rental and call charges.

The complete system and installation shall be subject to the approval by the Management Consultant. After completion of the Works it shall remain the property of the Employer.

f) Utilities

i) Water Supply System

The Contractor shall make provision for the regular supply of industrial and potable water in sufficient quantities for the demands at the Project site during the entire time for

Completion, Defect Liability Period and Period during which the Contractor rectify the defects.

The water supply shall include the complete equipment like wells, pumps, filters, chlorination units, storage tanks as required, all necessary tools, spare parts connection to the distribution system and all related civil works. All cost shall be included in the price of the Contractor's water supply system. Prior to execution, the approval of the Employer's Representative shall be obtained for the plans and the locations.

ii) Water Distribution System

The water distribution system shall be designed and installed by the Contractor and shall be maintained during the entire time for Completion, Defect Liability Period and Period during which the Contractor rectify the defects.

The pertinent price shall include all costs for civil works, furnishing and installation of pipes, fittings, valves making good existing system and connections to the buildings and treatment plants, ready for operation.

Prior to execution, the Contractor shall submit all necessary layouts and detailed drawings to the Employer's Representative for approval.

Every two (2) weeks, the Contractor shall, at his cost, furnish analyses of the potable water. The quality of water shall comply with Pakistan Regulations for drinking water. If the water produce is not suitable for consumption then the Contractor is to provide mineral water.

iii) Sewerage System

The Contractor shall design, execute and maintain a sewerage system for all of his site installations and facilities to the approval of the Employer's Representative during the entire time for Completion, Defect Liability Period and Period during which the Contractor remedies the defects.

The sewerage system shall be in accordance with the capacity of the water supply system comprising sewer pipes in all dimensions, manholes, complete sewage treatment plants and all other installations and civil works to put the complete system into operation.

The treated wastewater shall be discharged downstream of water intake structures located in the vicinity of the site installation area.

At all workshops and other areas where losses of lubrication oil can occur, the Contractor shall provide oil traps, oil separators or other measures to avoid environmental pollution. The oil shall be properly disposed at location and method approved by the relevant authorities.

2. Specifications

The Specifications for the Contract are included in the Appendix 1 – Technical Specifications.



3. Drawings

There are no specific Drawings for the Employer's Requirement's. However, the Project Layout is defined in the Feasibility Study report of the 300 MW Batakot Hydropower Project², including its Drawings.



² 300 MW Batakot Hydropower Project PPTA, Final Report, Updated Feasibility Study (2019)

4. Supplementary Information

Not applicable.



5. Certificates



5.1 Form of Completion Certificate

Contract: [. . . .insert name of contract and contract identification details. . . .]

Date:

Certificate No.:

To:[. . . .insert name and address of contractor. . . .]

Dear Ladies and/or Gentlemen,

Pursuant to GCC Clause 24 (Completion of the Facilities) of the General Conditions of the Contract entered into between yourselves and the Employer dated [. . . .insert date. . . .], relating to the [. . . .brief description of the Facilities], we hereby notify you that the following part(s) of the Facilities was (were) complete on the date specified below, and that, in accordance with the terms of the Contract, the Employer hereby takes over the said part(s) of the Facilities, together with the responsibility for care and custody and the risk of loss thereof on the date mentioned below.

1. Description of the Facilities or part thereof: [. . . .description]
2. Date of Completion: [. . . .date]

However, you are required to complete the outstanding items listed in the attachment hereto as soon as practicable.

This letter does not relieve you of your obligation to complete the execution of the Facilities in accordance with the Contract nor of your obligations during the Defect Liability Period.

Very truly yours,

[. . . .Signature]

Project Manager



5.2 Form of Operational Acceptance Certificate

Contract: [. . . insert name of contract and contract identification details. . . .]

Date:

Certificate No.:

To: [. . . insert name and address of contractor. . . .]

Pursuant to GCCSubclause 25.3 (Operational Acceptance) of the General Conditions of the Contract entered into between yourselves and the Employer dated [. . . date . . .], relating to the [. . . brief description of the facilities. . .], we hereby notify you that the Functional Guarantees of the following part(s) of the Facilities were satisfactorily attained on the date specified below.

1. Description of the Facilities or part thereof: [. . . description . . .]
2. Date of Operational Acceptance: [. . . date . . .]

This letter does not relieve you of your obligation to complete the execution of the Facilities in accordance with the Contract nor of your obligations during the Defect Liability Period.

Very truly yours,



[. . . Signature . . .]

Project Manager

6. Change Orders

- 6.1 Change Order Procedure**
 - 6.1.1 General
 - 6.1.2 Change Order Log
 - 6.1.3 References for Changes

- 6.2. Change Order Forms**
 - 6.2.1 Request for Change Proposal
 - 6.2.2 Estimate for Change Proposal
 - 6.2.3 Acceptance of Estimate
 - 6.2.4 Change Proposal
 - 6.2.5 Change Order
 - 6.2.6 Pending Agreement Change Order
 - 6.2.7 Application for Change Proposal



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

Note:

- (a) Requests for Change issued from the Employer's Home Office and the Site representatives of the Employer shall have the following respective references:

Home Office	CR-H-nnn
Site	CR-S-nnn

- (b) The above number "nnn" is the same for Request for Change, Estimate for Change Proposal, Acceptance of Estimate, Change Proposal and Change Order.



6.2 Change Order Forms

6.2.1 Request for Change Proposal Form

[Employer's letterhead]

To: [Contractor's name and address]

Date:

Attention: [Name and title]

Contract Name: [Contract name]

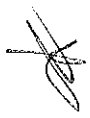
Contract Number: [Contract number]

Dear Ladies and/or Gentlemen:

With reference to the captioned Contract, you are requested to prepare and submit a Change Proposal for the Change noted below in accordance with the following instructions within [number] days of the date of this letter[or on or before (date)].

1. Title of Change: [Title]
2. Change Request No./Rev.: [Number]
3. Originator of Change:
Employer: [Name]
Contractor (by Application for Change Proposal No. [Number Refer to Annex 6.2.7])
4. Brief Description of Change: [Description]
5. Facilities and/or Item No. of equipment related to the requested Change: [Description]
6. Reference drawings and/or technical documents for the request of Change:
Drawing No./Document No. Description
7. Detailed conditions or special requirements on the requested Change: [Description]
8. General Terms and Conditions:
 - (a) Please submit your estimate showing what effect the requested Change will have on the Contract Price.
 - (b) Your estimate shall include your claim for the additional time, if any, for completing the requested Change.
 - (c) If you have any opinion that is critical to the adoption of the requested Change in connection with the conformability to the other provisions of the Contract or the safety of the Plant or Facilities, please inform us in your proposal of revised provisions.
 - (d) Any increase or decrease in the work of the Contractor relating to the services of its personnel shall be calculated.
 - (e) You shall not proceed with the execution of the work for the requested Change until we have accepted and confirmed the amount and nature in writing.

[Employer's name]
 [Signature]
 [Name of signatory]
 [Title of signatory]



6.2.2 Estimate for Change Proposal Form

[Contractor's letterhead]

To: [Employer's name and address]

Date:

Attention: [Name and title]

Contract Name: [Contract name]

Contract Number: [Contract number]

Dear Ladies and/or Gentlemen:

With reference to your Request for Change Proposal, we are pleased to notify you of the approximate cost to prepare the below-referenced Change Proposal in accordance with GCCSubclause 39.2.1 of the General Conditions. We acknowledge that your agreement to the cost of preparing the Change Proposal, in accordance with GCCSubclause 39.2.2, is required before estimating the cost for change work.

1. Title of Change: [Title]
2. Change Request No./Rev.: [Number]
3. Brief Description of Change: [Description]
4. Scheduled Impact of Change: [Description]
5. Cost for Preparation of Change Proposal: [insert costs, which shall be in the currencies of the contract]

(a) Engineering	(Amount)
(i) Engineer _____ hours (hrs) x _____ rate/hr = _____	
(ii) Draftsperson _____ hrs x _____ rate/hr = _____	
Sub-total _____ hrs	
Total Engineering Cost _____	
(b) Other Cost _____	
Total Cost (a) + (b) _____	

[Contractor's name]

[Signature]

[Name of signatory]

[Title of signatory]

6.2.3 Acceptance of Estimate Form

[Employer's letterhead]

To: [Contractor's name and address]

Date:

Attention: [Name and title]

Contract Name: [Contract name]

Contract Number: [Contract number]

Dear Ladies and/or Gentlemen:

We hereby accept your Estimate for Change Proposal and agree that you should proceed with the preparation of the Change Proposal.

1. Title of Change: [Title]
2. Change Request No./Rev.: [Request number/revision]
3. Estimate for Change Proposal No./Rev.: [Proposal number/revision]
4. Acceptance of Estimate No./Rev.: [Estimate number/revision]
5. Brief Description of Change: [Description]

6. Other Terms and Conditions: In the event that we decide not to order the Change accepted, you shall be entitled to compensation for the cost of preparing the Change Proposal described in your Estimate for Change Proposal mentioned in para. 3 above in accordance with GCC 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]

To: [Employer's name and address]

Date:

Attention: [Name and title]

Contract Name: [Contract name]

Contract Number: [Contract number]

Dear Ladies and/or Gentlemen:

In response to your Request for Change Proposal No. [Number], we hereby submit our proposal as follows:

1. Title of Change: [Name]
2. Change Proposal No./Rev.: [Proposal number/revision]
3. Originator of Change: Employer: [Name] / Contractor: [Name]
4. Brief Description of Change: [Description]
5. Reasons for Change: [Reason]
6. Facilities and/or Item No. of Equipment related to the requested Change: [Facilities]
7. Reference drawings and/or technical documents for the requested Change: [Drawing/Document No./Description]
8. Estimate of increase/decrease to the Contract Price resulting from the Change Proposal:



	Amount
	<i>[insert amount in the currencies of the Contract]</i>
(a) Direct material	_____
(b) Major construction equipment	_____
(c) Direct field labor (Total hrs)	_____
(d) Subcontracts	_____
(e) Indirect material and labor	_____
(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	
Total _____ hrs	
(h) Extraordinary costs (computer, travel, etc.)	_____

- (i) Fee for general administration, % of Items _____
- (j) Taxes and customs duties _____
- Total lump sum cost of Change Proposal [Sum of items (a) to (j)] _____
- Cost to prepare Estimate for Change Proposal [Amount payable if Change is not accepted] _____

9. Additional time for Completion required due to Change Proposal
10. Effect on the Functional Guarantees
11. Effect on the other terms and conditions of the Contract
12. Validity of this Proposal: within [Number] days after receipt of this Proposal by the Employer
13. Other terms and conditions of this Change Proposal:
- (a) You are requested to notify us of your acceptance, comments or rejection of this detailed Change Proposal within [Number] days from your receipt of this Proposal.
- (b) The amount of any increase and/or decrease shall be taken into account in the adjustment of the Contract Price.
- (c) Contractor's cost for preparation of this Change Proposal [. . . insert amount. This cost shall be reimbursed by the employer in case of employer's withdrawal or rejection of this Change Proposal without default of the contractor in accordance with GCC Clause 39 of the General Conditions . . .]

[Contractor's name]
 [Signature]
 [Name of signatory]
 [Title of signatory]



6.2.5 Change Order Form

[Employer's letterhead]

To: [Contractor's name and address]

Date:

Attention: [Name and title]

Contract Name: [Contract name]

Contract Number: [Contract number]

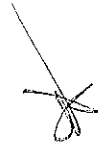
Dear Ladies and/or Gentlemen:

We approve the Change Order for the work specified in the Change Proposal (No. [number]), and agree to adjust the Contract Price, Time for Completion, and/or other conditions of the Contract in accordance with GCC Clause 39 of the General Conditions.

1. Title of Change: [Name]
2. Change Request No./Rev.: [Request number/revision]
3. Change Order No./Rev.: [Order number/revision]
4. Originator of Change: Employer: [Name] / Contractor: [Name]
5. Authorized Price:
Ref. No.: [Number] Date: [Date]
Foreign currency portion [Amount] plus Local currency portion [Amount]
6. Adjustment of Time for Completion
None Increase [Number] days Decrease [Number] days
7. Other effects, if any

Authorized by: _____ Date: _____
Employer

Accepted by: _____ Date: _____
Contractor



6.2.6 Pending Agreement Change Order Form

[Employer's letterhead]

To: [Contractor's name and address]

Date:

Attention: [Name and title]

Contract Name: [Contract name]

Contract Number: [Contract number]

Dear Ladies and/or Gentlemen:

We instruct you to carry out the work in the Change Order detailed below in accordance with GCC Clause 39 of the General Conditions.

1. Title of Change: [Name]
2. Employer's Request for Change Proposal No./Rev.: [number/revision] dated: [date]
3. Contractor's Change Proposal No./Rev.: [number/revision] dated: [date]
4. Brief Description of Change: [Description]
5. Facilities and/or Item No. of equipment related to the requested Change: [Facilities]
6. Reference Drawings and/or technical documents for the requested Change:
[Drawing/Document No. / Description]
7. Adjustment of Time for Completion:
8. Other change in the Contract terms:
9. Other terms and conditions:

[Employer's name]

[Signature]

[Name of signatory]

[Title of signatory]



6.2.7 Application for Change Proposal Form

[Contractor's letterhead]

To: [Employer's name and address]

Date:

Attention: [Name and title]

Contract Name: [Contract name]

Contract Number: [Contract number]

Dear Ladies and/or Gentlemen:

We hereby propose that the work mentioned below be treated as a Change in the Facilities.

1. Title of Change: [Name]
2. Application for Change Proposal No./Rev.: [Number/revision] dated: [Date]
3. Brief Description of Change: [Description]
4. Reasons for Change:
5. Order of Magnitude Estimation (amount in the currencies of the Contract): [Amount]
6. Scheduled Impact of Change:
7. Effect on Functional Guarantees, if any:
8. Appendix:

[Contractor's name]

[Signature]

[Name of signatory]

[Title of signatory]



7. Personnel Requirements

Using Form PER-1 and PER-2 in Section 4 (Bidding Forms), the Bidder must demonstrate that it has personnel who meet the following requirements:

No.	Position	Total Work Experience [years]	Experience in Similar Work [years]
A	<i>Management Key Personnel</i>		
1	Project Manager	20	15
2	Contract Manager	15	10
3	Planning Engineer	15	10
4	Procurement Expert	15	10
B	<i>Key Personnel of the Design Team</i>		
1	Team Leader	20	15
2	Dam Expert (Structural)	25	15
3	Hydraulic Structures Expert	25	15
4	Underground Works Expert	25	15
5	Geologist	25	15
6	Geotechnical/Foundations Expert	20	15
7	Electrical Equipment Expert	20	15
8	Mechanical Equipment Expert	20	15
9	Automation and Control System Expert	15	10
10	HVAC and FirefightingsystemExpert	15	10
C	<i>Key Personnel at Works site</i>		
1	Site Manager	20	15
2	Dam Works Chief Engineer	20	15
3	Underground Works Chief Engineer	20	15
4	Electrical Equipment Chief Engineer	20	10
5	Mechanical Equipment Chief Engineer	20	10
6	Scheduling Engineer	15	10
7	Costing Engineer	15	10
8	Assembly and testing Engineer (Mechanical)	15	10
9	Assembly and testing Engineer (Electrical)	15	10
10	Health and Safety Manager	15	10
12	Environmental Manager	15	10

8. Equipment Requirements

Using Form EQU in Section 4 (Bidding Forms), the Bidder must demonstrate that it has the key equipment listed below:

No.	Equipment Type and Characteristics	Minimum Number Required
1	Material testing laboratories.	1
2	Testing laboratories for Hydraulic turbines, governors, draft tube & runnerfactory.	1
3	Mechanical excavation equipment (roadheaders, raiseborers) to maintain continuous operation in the different work fronts.	Compliant with the proposed works schedule
4	Erection and Testing Equipment and Tools for Turbines, Governors, Drafttube installation, runner factory, oil and cooling system, generator, generator transformers, switchgears, cables etc.	1 set

Section 06 – Appendix 02

Area / Element		Phase Type		Concern		Action	
Topographic survey	D	RQ	Compatibility among different surveys.		Perform a verification and adjustment, if required, among surveys.		
Reservoir / catchment	O	RQ	Slope instability in the vicinity of the reservoir.		Monitor identified potential sliding areas.		
Sediments / abrasion	D + O	RQ	Sediment peaks in the river can cause excessive wear of the power circuit equipment, in particular the turbines.		Install and operate a real-time sediment monitoring system.		
	D + O	RQ	Have information about incoming sediments to the reservoir and deposited sediments.		Install and continuously operate a turbidity measurement system at the reservoir entrance. Carry out frequent bathymetric surveys of the reservoir.		
Sediments / flushing	D + O	RQ	Move deposited sediments inside the reservoir.		Design and construct accesses in the reservoir that allow earth moving equipment to operate efficiently.		
	D	RQ	The available information to reliably characterize the structure's ground conditions is insufficient, in particular for the headrace and tailrace tunnels.		Carry out supplementary geological and geotechnical investigations for the detailed design.		
Sediment by-pass tunnel	D	RQ	Optimize the flushing arrangements (SBT) design and flushing procedures.		Develop and test with a physical model the SBT and the sediment flushing operations. The model shall include the sediment transport process within the reservoir.		
Sediment by-pass tunnel	D	RQ	Design the tunnel lining to resist long term abrasion from flowing sediments.		Characterize the sediment flow regime in the tunnel, taking into account the physical modelling. Specify the lining to prevent long term abrasion, namely considering the experience from other projects.		
	D	RE	Optimize the power intake for vortex avoidance and floating debris dragging.		Develop and test with a 3D hydraulic model (CFD software model).		
Dam / stability	D	RQ	The tri-dimensional effects of the seismic action in the dam must be taken into account in the final dam stability verifications.		Develop and test with a 3D structural analysis software model.		
Dam / spillway	D	RQ	The theoretical calculations may not fully and adequately reproduce the hydraulics along the chute, jet behaviour and erosion of the plunge pool.		Develop and test with a full physical model.		

Legend: Phase - Design (D) / Operation (O)

Type - Recommended (RE) / Required (RQ)

Section 06 – Appendix 02

Area / Element		Phase	Type	Concern		Action
Dam / rupture risk	D		RQ			Prepare and implement a Dam Emergency Action Plan.
	D + O		RE	The dam break risk is classified as high and measures should be in place in case of threat or accident.		Design and install a warning system in the downstream valley (action to be decided by the project Owner, recommended to be done in coordination with the other projects in the cascade).
Power circuit / hydraulic transients	D		RQ	The assumptions of the hydraulic transient analysis may not reflect the specific characteristics of the final design and of the equipment to be installed.		Perform a hydraulic transient analysis (ideally by the generation equipment supplier) with the definitive characteristics of the scheme.
Powerhouse / layout	D		RQ	Additional geological information is required to validate the design of the powerhouse and optimize its orientation.		Obtain additional geological investigation at the powerhouse level. The construction of a exploration tunnel along the tunnel access alignment is highly recommended.
Powerhouse / turbines	D		RQ	The sediments entering the power circuit may contain hard mineral elements (Mohs hardness > 6) that may cause excessive wear of the power circuit equipment, in particular of the turbine blades.		Turbine design and construction must be specifically adapted to high erosion potential of the water.
	D		RE	Opportunity to increase efficiency and the life of the equipment.		The turbine supplier is encouraged to investigate and propose splitter blades in the turbine design.
Powerhouse / pumping stations	D		RQ	Sediment loaded water in the power circuit may cause malfunction of the powerhouse pumping installations for dewatering and, particularly, for the tailrace emptying.		The design of the pumping systems must take into account the sediment loads, with implications in the intake level, filters, sump arrangements and pumping equipment selection.
Switchyard	D		RQ	The area for the implantation of the external switch yard platform is recommended in the Report, though the suitability for the construction of the platform must be previously verified.		Execute detailed bathymetric and topographical survey of the area, as well as geological investigations works prior to the design. Detailed hydraulic calculations are required to evaluate possible impact on the water level profile and to design the platform protection against erosion.

Legend: Phase - Design (D) / Operation (O)
 Type - Recommended (RE) / Required (RQ)

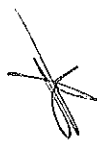
Section 7 - General Conditions of Contract

These General Conditions of Contract (GCC) are based on the Model Form of International Contract for Process Plant Construction published by the Engineering Advancement Association of Japan (ENAA). The Multilateral Development Banks (MDBs) participating in the procurement harmonization process gratefully acknowledge the contribution of ENAA to the advancement of good contracting practices by its borrowers. The GCC contain general clauses to be applied on all contracts. The GCC in this section, read in conjunction with the Special Conditions of Contract in Section 8 and other documents listed therein, should be a complete document expressing all the rights and obligations of the contracting parties. The General Conditions herein shall not be altered.

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General Conditions of Contract

A. Contract and Interpretation

1. Definitions

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

- a) "Contract" means the Contract Agreement entered into between the Employer and the Contractor, together with the Contract Documents referred to therein; they shall constitute the Contract, and the term "the Contract" shall in all such documents be construed accordingly.
- b) "Contract Documents" means the documents listed in Article 1.1 (Contract Documents) of the Contract Agreement (including any amendments thereto).
- c) "GCC" means the General Conditions of Contract.
- d) "SCC" means the Special Conditions of Contract.
- e) "day" means calendar day.
- f) "year" means 365 days.
- g) "month" means calendar month.
- h) "Party" means the Employer or the Contractor, as the context requires.
- i) "Employer" means the person named as such in the SCC and includes the legal successors or permitted assigns of the Employer.
- j) "Project Manager" means the person appointed by the Employer in the manner provided in GCC Subclause 17.1 (Project Manager) hereof and named as such in the SCC to perform the duties delegated by the Employer.
- k) "Contractor" means the person(s) named as Contractor in the Contract Agreement, and includes the legal successors or permitted assigns of the Contractor.
- l) "Contractor's Representative" means any person nominated by the Contractor and approved by the Employer in the manner provided in GCC Subclause 17.2 (Contractor's Representative and Construction Manager) hereof to perform the duties delegated by the Contractor.
- m) "Construction Manager" means the person appointed by the Contractor's Representative in the manner provided in GCC Subclause 17.2.4.
- n) "Subcontractor," including manufacturers, means any person to whom execution of any part of the Facilities, including preparation of any design or supply of any Plant, is sub-contracted directly or indirectly



by the Contractor, and includes its legal successors or permitted assigns.

- o) "Dispute Board" means the person or persons named as such in the SCC appointed by agreement between the Employer and the Contractor to make a decision on or to settle any dispute or difference between the Employer and the Contractor referred to him or her by the parties pursuant to GCC Subclause 45.1 (Dispute Board) hereof.
- p) "The Bank" means the financing institution named in the SCC.
- q) "Contract Price" means the sum specified in Article 2.1 (Contract Price) of the Contract Agreement, subject to such additions and adjustments thereto or deductions therefrom, as may be made pursuant to the Contract.
- r) "Facilities" means the Plant to be supplied and installed, as well as all the Installation Services to be carried out by the Contractor under the Contract.
- s) "Plant" means permanent plant, equipment, machinery, apparatus, articles and things of all kinds to be provided and incorporated in the Facilities by the Contractor under the Contract (including the spare parts to be supplied by the Contractor under GCC Subclause 7.3 hereof), but does not include Contractor's Equipment.
- t) "Installation Services" means all those services ancillary to the supply of the Plant for the Facilities, to be provided by the Contractor under the Contract, such as transportation and provision of marine or other similar insurance, inspection, expediting, site preparation works (including the provision and use of Contractor's Equipment and the supply of all construction materials required), installation, testing, precommissioning, commissioning, operations, maintenance, the provision of operations and maintenance manuals, training, etc. as the case may require.
- u) "Contractor's Equipment" means all facilities, equipment, machinery, tools, apparatus, appliances, or things of every kind required in or for installation, completion and maintenance of Facilities that are to be provided by the Contractor, but does not include Plant, or other things intended to form or forming part of the Facilities.
- v) "Country of Origin" means the countries and territories eligible under the rules of the Bank as further elaborated in the SCC.
- w) "Site" means the land and other places upon which the Facilities are to be installed, and such other land or places as may be specified in the Contract as forming part of the Site.
- x) "Effective Date" means the date of fulfillment of all conditions stated in Article 3 (Effective Date) of the Contract Agreement, upon which the period until the Time for Completion shall be counted from.
- y) "Time for Completion" means the time within which Completion of the Facilities as a whole (or of a part of the Facilities where a separate



Time for Completion of such part has been prescribed) is to be attained, as referred to in GCC Clause 8 and in accordance with the relevant provisions of the Contract.

- z) "Completion" means that the Facilities (or a specific part thereof where specific parts are specified in the Contract) have been completed operationally and structurally and put in a tight and clean condition, that all work in respect of Precommissioning of the Facilities or such specific part thereof has been completed, and that the Facilities or specific part thereof are ready for Commissioning as provided in GCC Clause 24 (Completion) hereof.
- aa) "Precommissioning" means the testing, checking and other requirements specified in the Employer's Requirements that are to be carried out by the Contractor in preparation for Commissioning as provided in GCC Clause 24 (Completion) hereof.
- bb) "Commissioning" means operation of the Facilities or any part thereof by the Contractor following Completion, which operation is to be carried out by the Contractor as provided in GCC Subclause 25.1 (Commissioning) hereof, for the purpose of carrying out Guarantee Test(s).
- cc) "Guarantee Test(s)" means the test(s) specified in the Employer's Requirements to be carried out to ascertain whether the Facilities or a specified part thereof is able to attain the Functional Guarantees specified in the Appendix (Functional Guarantees) to the Contract Agreement in accordance with the provisions of GCC Subclause 25.2 (Guarantee Test) hereof.
- dd) "Operational Acceptance" means the acceptance by the Employer of the Facilities (or any part of the Facilities where the Contract provides for acceptance of the Facilities in parts), which certifies the Contractor's fulfillment of the Contract in respect of Functional Guarantees of the Facilities (or the relevant part thereof) in accordance with the provisions of GCC Clause 28 (Functional Guarantees) hereof and shall include deemed acceptance in accordance with GCC Clause 25 (Commissioning and Operational Acceptance) hereof.
- ee) "Defect Liability Period" means the period of validity of the warranties given by the Contractor commencing at Completion of the Facilities or a part thereof, during which the Contractor is responsible for defects with respect to the Facilities (or the relevant part thereof) as provided in GCC Clause 27 (Defect Liability) hereof.
- 2. Contract Documents**
- 2.1 Subject to Article 1.2 (Order of Precedence) of the Contract Agreement, all documents forming part of the Contract (and all parts thereof) are intended to be correlative, complementary and mutually explanatory. The Contract shall be read as a whole.
- 3. Interpretation**
- 3.1 In the Contract, except where the context requires otherwise,
 (a) words indicating one gender include all genders;

- (b) words indicating the singular also include the plural and words indicating the plural also include the singular;
- (c) provisions including the word "agree," "agreed," or "agreement" require the agreement to be record in writing;
- (d) the word "tender" is synonymous with "bid," "tenderer" with "Bidder," and "tender documents" with "Bidding Documents;" and
- (e) "written" or "in writing" means handwritten, typewritten, printed or electronically made, and resulting in a permanent record.

The marginal words and other headings shall not be taken into consideration in the interpretation of these Conditions.

3.2 Incoterms

Unless inconsistent with any provision of the Contract, the meaning of any trade term and the rights and obligations of parties thereunder shall be as prescribed by Incoterms.

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

3.3 Entire Agreement

Subject to GCC Subclause 16.4 hereof, the Contract constitutes the entire agreement between the Employer and Contractor with respect to the subject matter of Contract and supersedes all communications, negotiations, and agreements (whether written or oral) of parties with respect thereto made prior to the date of Contract.

3.4 Amendment

No amendment or other variation of the Contract shall be effective unless it is in writing, is dated, expressly refers to the Contract, and is signed by a duly authorized representative of each party hereto.

3.5 Independent Contractor

The Contractor shall be an independent contractor performing the Contract. The Contract does not create any agency, partnership, joint venture, or other joint relationship between the parties hereto. Subject to the provisions of the Contract, the Contractor shall be solely responsible for the manner in which the Contract is performed. All employees, representatives, or Subcontractors engaged by the Contractor in connection with the performance of the Contract shall be under the complete control of the Contractor and shall not be deemed to be employees of the Employer, and nothing contained in the Contract or in any subcontract awarded by the Contractor shall be construed to create any contractual relationship between any such employees, representatives, or Subcontractors and the Employer.

3.6 Non-Waiver

3.6.1 Subject to GCC Subclause 3.6.2 below, no relaxation, forbearance, delay, or indulgence by either party in enforcing any of the terms and conditions of the Contract or the granting of time by either party to the other shall prejudice, affect, or restrict the rights of that party under the Contract, nor shall any

waiver by either party of any breach of Contract operate as waiver of any subsequent or continuing breach of Contract.

3.6.2 Any waiver of a party's rights, powers, or remedies under the Contract must be in writing, must be dated, and signed by an authorized representative of the party granting such waiver, and must specify the right and the extent to which it is being waived.

3.7 Severability

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

3.8 Country of Origin

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

4. **Communications**

4.1 Wherever these Conditions provide for the giving or issuing of approvals, certificates, consents, determinations, notices, requests, and discharges, these communications shall be

- (a) in writing and delivered against receipt; and
- (b) delivered, sent, or transmitted to the address for the recipient's communications as stated in the Contract Agreement.

When a certificate is issued to a Party, the certifier shall send a copy to the other Party. When a notice is issued to a Party, by the other Party or the Project Manager, a copy shall be sent to the Project Manager or the other Party, as the case may be.

5. **Law and Language**

5.1 The Contract shall be governed by and interpreted in accordance with laws of the country specified in the SCC.

5.2 The ruling language of the Contract shall be that stated in the SCC.

5.3 The language for communications shall be the ruling language unless otherwise stated in the SCC.

6. **Fraud and Corruption**

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

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

- (i) "corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, anything of value to influence improperly the actions of another party;
- (ii) "fraudulent practice" means any act or omission, including a misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain a financial or other benefit or to avoid an obligation;
- (iii) "coercive practice" means impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- (iv) "collusive practice" means an arrangement between two or more parties designed to achieve an improper purpose, including influencing improperly the actions of another party;
- (v) "abuse" means theft, waste or improper use of assets related to ADB-related activity, either committed intentionally or through reckless disregard;
- (vi) "conflict of interest" means any situation in which a party has interests that could improperly influence that party's performance of official duties or responsibilities, contractual obligations, or compliance with applicable laws and regulations;
- (vii) "obstructive practice" means (a) deliberately destroying, falsifying, altering or concealing of evidence material to an ADB investigation, or deliberately making false statements to investigators, with the intent to impede an ADB investigation; (b) threatening, harassing or intimidating any party to prevent it from disclosing its knowledge of matters relevant to a Bank investigation or from pursuing the investigation; or (c) deliberate acts intended to impede the exercise of ADB's contractual rights of audit or inspection or access to information; and
- (viii) "integrity violation" is any act, as defined under ADB's Integrity Principles and Guidelines (2015, as amended from time to time), which violates ADB's Anticorruption Policy, including (i) to (vii) above and the following: violations of ADB sanctions, retaliation against whistleblowers or witnesses, and other violations of ADB's Anticorruption Policy, including failure to adhere to the highest ethical standard.
- (b) will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations in competing for the Contract;
- (c) will cancel the portion of the financing allocated to a contract if it determines at any time that representatives of the borrower or of a beneficiary of ADB-financing engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations during the procurement or the execution of that

contract, without the borrower having taken timely and appropriate action satisfactory to ADB to remedy the situation;

- (d) will impose remedial actions on a firm or an individual, at any time, in accordance with ADB's Anticorruption Policy and Integrity Principles and Guidelines, including declaring ineligible, either indefinitely or for a stated period of time, to participate¹ in ADB-financed, -administered, or -supported activities or to benefit from an ADB-financed, -administered, or -supported contract, financially or otherwise, if it at any time determines that the firm or individual has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices or other integrity violations; and
- (e) will have the right to require suppliers and contractors to permit ADB or its representative to inspect their accounts and records and other documents relating to the bid submission and contract performance and to have them audited by auditors appointed by ADB.
- 6.2 All Bidders, consultants, contractors, suppliers and other third parties engaged or involved in ADB-related activities have a duty to cooperate fully in any screening or investigation when requested by ADB to do so. Such cooperation includes, but is not limited to, the following:
- (a) being available to be interviewed and replying fully and truthfully to all questions asked;
 - (b) providing ADB with any items requested that are within the party's control including, but not limited to, documents and other physical objects;
 - (c) upon written request by ADB, authorizing other related entities to release directly to ADB such information that is specifically and materially related, directly or indirectly, to the said entities or issues which are the subject of the investigation;
 - (d) cooperating with all reasonable requests to search or physically inspect their person and/or work areas, including files, electronic databases, and personal property used on ADB activities, or that utilizes ADB's ICT resources or systems (including mobile phones, personal electronic devices, and electronic storage devices such as external disk drives);
 - (e) cooperating in any testing requested by ADB, including but not limited to, fingerprint identification, handwriting analysis, and physical examination and analysis; and
 - (f) preserving and protecting confidentiality of all information discussed with, and as required by, ADB.
- 6.3 All Bidders, consultants, contractors and suppliers shall ensure that, in its contract with its sub-consultants, sub-contractors and other third parties engaged or involved in ADB-related activities, such sub-consultants, sub-contractors and other third parties similarly undertake the foregoing duty to cooperate fully in any screening or investigation when requested by ADB to do so.

¹

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

B. Subject Matter of Contract

- 7. Scope of Facilities**
- 7.1 Unless otherwise expressly limited in the Employer's Requirements, the Contractor's obligations cover the provision of all Plant and the performance of all Installation Services required for the design, the manufacture (including procurement, quality assurance, construction, installation, associated civil works, pre-commissioning and delivery) of the Plant and the installation, completion, and commissioning of the Facilities in accordance with the plans, procedures, specifications, drawings, codes, and any other documents as specified in the section Employer's Requirements. Such specifications include, but are not limited to, the provision of supervision and engineering services; the supply of labor, materials, equipment, spare parts (as specified in GCC Subclause 7.3 below) and accessories; Contractor's Equipment; construction utilities and supplies; temporary materials, structures, and facilities; transportation (including, without limitation, unloading and hauling to, from and at the Site); and storage, except for those supplies, works, and services that will be provided or performed by the Employer, as set forth in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement.
- 7.2 The Contractor shall, unless specifically excluded in the Contract, perform all such work and/or supply all such items and materials not specifically mentioned in the Contract but that can be reasonably inferred from the Contract as being required for attaining Completion of the Facilities as if such work and/or items and materials were expressly mentioned in the Contract.
- 7.3 In addition to the supply of Mandatory Spare Parts included in the Contract, the Contractor agrees to supply spare parts required for the operation and maintenance of the Facilities for the period specified in the SCC and the provisions, if any, specified in the SCC. However, the identity, specifications, and quantities of such spare parts and the terms and conditions relating to the supply thereof are to be agreed between the Employer and the Contractor, and the price of such spare parts shall be that given in Price Schedule No. 6, which shall be added to the Contract Price. The price of such spare parts shall include the purchase price therefore and other costs and expenses (including the Contractor's fees) relating to the supply of spare parts.
- 8. Time for Commencement and Completion**
- 8.1 The Contractor shall commence work on the Facilities within the period specified in the SCC and without prejudice to GCC Subclause 26.2 hereof, the Contractor shall thereafter proceed with the Facilities in accordance with the time schedule specified in the Appendix 4 (Time Schedule) to the Contract Agreement.
- 8.2 The Contractor shall attain Completion of the Facilities or of a part where a separate time for Completion of such part is specified in the Contract, within the time stated in the SCC or within such extended time to which the Contractor shall be entitled under GCC Clause 40 hereof.

9. Contractor's Responsibilities

- 9.1 The Contractor shall design, manufacture, including associated purchases and/or subcontracting, install, and complete the Facilities in accordance with the Contract. When completed, the Facilities should be fit for the purposes for which they are intended as defined in the Contract.
- 9.2 The Contractor confirms that it has entered into this Contract on the basis of a proper examination of the data relating to the Facilities, including any data as to boring tests provided by the Employer, and on the basis of information that the Contractor could have obtained from a visual inspection of the Site if access thereto was available and of other data readily available to it relating to the Facilities as of the date 28 days prior to bid submission. The Contractor acknowledges that any failure to acquaint itself with all such data and information shall not relieve its responsibility for properly estimating the difficulty or cost of successfully performing the Facilities.
- 9.3 The Contractor shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government authorities or public service undertakings in the country where the Site is located, which such authorities or undertakings require the Contractor to obtain in its name and which are necessary for the performance of the Contract, including, without limitation, visas for the Contractor's and Subcontractor's personnel and entry permits for all imported Contractor's Equipment. The Contractor shall acquire all other permits, approvals, and/or licenses that are not the responsibility of the Employer under GCC Subclause 10.3 hereof and that are necessary for the performance of the Contract.
- 9.4 The Contractor shall comply with all laws in force in the country where the Facilities are to be implemented. The laws will include all local, state, national, or other laws that affect the performance of the Contract and bind upon the Contractor. The Contractor shall indemnify and hold harmless the Employer from and against any and all liabilities, damages, claims, fines, penalties, and expenses of whatever nature arising or resulting from the violation of such laws by the Contractor or its personnel, including the Subcontractors and their personnel, but without prejudice to GCC Subclause 10.1 hereof.
- 9.5 Any plant and services that will be incorporated in or be required for the Facilities and other supplies shall have their origin as specified under GCC Clause 1 (Country of Origin). Any Subcontractors retained by the Contractor shall be from a country as specified in GCC Clause 1 (Country of Origin).
- 9.6 The Contractor shall permit ADB to inspect the Contractor's accounts and records relating to the performance of the Contractor and to have them audited by auditors appointed by ADB, if so required by ADB.
- 9.7 If the Contractor is a joint venture or consortium of two or more persons, all such persons shall be jointly and severally bound to the Employer for the fulfillment of the provisions of the Contract and shall designate one of such persons to act as a leader with authority to bind the joint venture or consortium. The composition or the constitution of the joint venture or

consortium shall not be altered without the prior consent of the Employer.

9.8 Protection of the Environment

- (a) The Contractor shall take all reasonable steps to protect the environment (both on and off the Site) and to limit damage and nuisance to people and property resulting from pollution, noise, and other results of his operations.
- (b) The Contractor shall ensure that emissions, surface discharges, and effluent from the Contractor's activities shall not exceed the values stated in the Specification or prescribed by applicable Laws.

10. Employer's Responsibilities

- 10.1 All information and/or data to be supplied by the Employer as described in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement shall be deemed to be accurate, except when the Employer expressly states otherwise.
- 10.2 The Employer shall be responsible for acquiring and providing legal and physical possession of the Site and access thereto, and for providing possession of and access to all other areas reasonably required for the proper execution of the Contract, including all requisite rights of way, as specified in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement. The Employer shall give full possession of and accord all rights of access thereto on or before the date(s) specified in that Appendix.
- 10.3 The Employer shall acquire and pay for all permits, approvals, and/or licenses from all local, state, or national government authorities, or public service undertakings in the country where the Site is located which (a) such authorities or undertakings require the Employer to obtain in the Employer's name, (b) are necessary for the execution of the Contract, including those required for the performance by both the Contractor and the Employer of their respective obligations under the Contract, and (c) are specified in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement.
- 10.4 If requested by the Contractor, the Employer shall use its best endeavors to assist the Contractor in obtaining in a timely and expeditious manner all permits, approvals, and/or licenses necessary for the execution of the Contract from all local, state, or national government authorities, or public service undertakings that such authorities or undertakings require the Contractor or Subcontractors or the personnel of the Contractor or Subcontractors, as the case may be, to obtain.
- 10.5 Unless otherwise specified in the Contract or agreed upon by the Employer and the Contractor, the Employer shall provide sufficient, properly qualified operating and maintenance personnel; shall supply and make available all raw materials, utilities, lubricants, chemicals, catalysts, other materials and facilities; and shall perform all work and services of whatsoever nature, including those required by the

Contractor to properly carry out Pre-commissioning, Commissioning, and Guarantee Tests, all in accordance with the provisions of the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement at or before the time specified in the program furnished by the Contractor under GCC Subclause 18.2 hereof and in the manner thereupon specified or as otherwise agreed upon by the Employer and the Contractor.

- 10.6 The Employer shall be responsible for the continued operation of the Facilities after Completion, in accordance with GCC Subclause 24.8, and shall be responsible for facilitating the Guarantee Test(s) for the Facilities, in accordance with GCC Subclause 25.2.
- 10.7 All costs and expenses involved in the performance of the obligations under this GCC Clause 10 shall be the responsibility of the Employer, except those incurred by the Contractor with respect to the performance of Guarantee Tests, in accordance with GCC Subclause 25.2.
- 10.8 In the event that the Employer shall be in breach of any of his obligations imposed by the Contract, then the additional cost reasonably incurred by the Contractor in consequence thereof shall be added to the Contract Price.

C. Payment

11. **Contract Price**
- 11.1 The Contract Price shall be as specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement.
- 11.2 Unless an adjustment clause is provided for in the SCC, the Contract Price shall be a firm lump sum not subject to any alteration, except in the event of a Change in the Facilities or as otherwise provided in the Contract.
- 11.3 Subject to GCC Subclauses 9.2, 10.1, and 35 hereof, the Contractor shall be deemed to have satisfied itself as to the correctness and sufficiency of the Contract Price, which shall, except as otherwise provided for in the Contract, cover all its obligations under the Contract.
12. **Terms of Payment**
- 12.1 The Contract Price shall be paid as specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement and in the Appendix (Terms and Procedures of Payment) to the Contract Agreement, which also outlines the procedures to be followed in making application for and processing payments.
- 12.2 No payment made by the Employer herein shall be deemed to constitute acceptance by the Employer of the Facilities or any part(s) thereof.
- 12.3 In the event that the Employer fails to make any payment by its respective due date or within the period set forth in the Contract, the Employer shall pay to the Contractor interest on the amount of such delayed payment at the rate(s) shown in the Appendix (Terms and Procedures of Payment) to the Contract Agreement for the period of

delay until payment has been made in full, whether before or after judgment or arbitrage award.

- 13.4 The currency or currencies in which payments are made to the Contractor under this Contract shall be specified in the Appendix (Terms and Procedures of Payment) to the Contract Agreement, subject to the general principle that payments will be made in the currency or currencies in which the Contract Price has been stated in the Contractor's bid.

13. Securities

13.1 Issuance of Securities

The Contractor shall provide the securities specified below in favor of the Employer at the times, and in the amount, manner, and form specified below.

13.2 Advance Payment Security

13.2.1 The Contractor shall, within 28 days of the notification of contract award, provide a security in an amount equal to the advance payment calculated in accordance with the Appendix (Terms and Procedures of Payment) to the Contract Agreement, and in the same currency or currencies.

13.2.2 The security shall be in the form provided in the Bidding Documents or in another form acceptable to the Employer. The amount of the security shall be reduced in proportion to the value of the Facilities executed by and paid to the Contractor from time to time, and shall automatically become null and void when the full amount of the advance payment has been recovered by the Employer. The security shall be returned to the Contractor immediately after its expiration.

13.3 Performance Security

13.3.1 The Contractor shall, within 28 days of the notification of contract award, provide a security for the due performance of the Contract in the amount specified in the SCC.

13.3.2 The security shall be denominated in the currency or currencies of the Contract, or in a freely convertible currency acceptable to the Employer, and shall be in one of the forms of bank guarantees provided in the Bidding Documents, as stipulated by the Employer in the SCC, or in another form acceptable to the Employer.

13.3.3 Unless otherwise specified in the SCC, the security shall be reduced by half on the date of the Operational Acceptance. The Security shall become null and void, or shall be reduced pro rata to the Contract Price of a part of the Facilities for which a separate Time for Completion is provided, 540 days after Completion of the Facilities or 365 days after Operational Acceptance of the Facilities, whichever occurs first; provided, however, that if the Defects Liability Period has been extended on any part of the Facilities pursuant to GCC Subclause 27.8 hereof, the Contractor shall issue an additional security in an amount proportionate to the Contract Price of that part. The security shall be returned to the Contractor immediately after its expiration, provided, however, that if the Contractor, pursuant to GCC Subclause 27.10, is liable for an extended defect liability

obligation, the performance security shall be extended for the period and up to the amount specified in the SCC.

14. Taxes and Duties

- 14.1 Except as otherwise specifically provided in the Contract, the Contractor shall bear and pay all taxes, duties, levies, and charges assessed on the Contractor, its Subcontractors, or their employees by all municipal, state, or national government authorities in connection with the Facilities in and outside of the country where the Site is located.
- 14.2 Notwithstanding GCC Subclause 14.1 above, the Employer shall bear and promptly pay all customs and import duties as well as other local taxes like, e.g., a value-added tax (VAT), imposed by the law of the country where the Site is located on the Plant specified in Price Schedule No. 1 and that are to be incorporated into the Facilities.
- 14.3 If any tax exemptions, reductions, allowances, or privileges may be available to the Contractor in the country where the Site is located, the Employer shall use its best endeavors to enable the Contractor to benefit from any such tax savings to the maximum allowable extent.

- 14.4 For the purpose of the Contract, it is agreed that the Contract Price specified in Article 2 (Contract Price and Terms of Payment) of the Contract Agreement is based on the taxes, duties, levies, and charges prevailing at the date 28 days prior to the date of bid submission in the country where the Site is located (hereinafter called "Tax" in this GCC Subclause 14.4). If any rates of Tax are increased or decreased, a new Tax is introduced, an existing Tax is abolished, or any change in interpretation or application of any Tax occurs in the course of the performance of Contract, which was or will be assessed on the Contractor, Subcontractors, or their employees in connection with performance of the Contract, an equitable adjustment of the Contract Price shall be made to fully take into account any such change by addition to the Contract Price or deduction therefrom, as the case may be, in accordance with GCC Clause 36 hereof.

D. Intellectual Property

15. License/Use of Technical Information
- 15.1 For the operation and maintenance of the Plant, the Contractor hereby grants a non-exclusive and nontransferable license (without the right to sublicense) to the Employer under the patents, utility models, or other industrial property rights owned by the Contractor or by a third party from whom the Contractor has received the right to grant licenses thereunder, and shall also grant to the Employer a nonexclusive and nontransferable right (without the right to sublicense) to use the know-how and other technical information disclosed to the Employer under the Contract. Nothing contained herein shall be construed as transferring ownership of any patent, utility model, trademark, design, copyright, know-how, or other intellectual property right from the Contractor or any third party to the Employer.
- 15.2 The copyright in all drawings, documents, and other materials containing data and information furnished to the Employer by the Contractor herein shall remain vested in the Contractor or, if they are furnished to the

Employer directly or through the Contractor by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.

16. Confidential 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 Subclauses 16.1 and 16.2 above, however, shall not apply to that information, which

- (a) now or hereafter enters the public domain through no fault of that party;
- (b) can be proven to have been possessed by that party at the time of disclosure and which was not previously obtained, directly or indirectly, from the other party hereto; and
- (c) otherwise lawfully becomes available to that party from a third party that has no obligation of confidentiality.

16.4 The above provisions of this GCC Clause 16 shall not in any way modify any undertaking of confidentiality given by either of the parties hereto prior to the date of the Contract in respect of the Facilities or any part thereof.

16.5 The provisions of this GCC Clause 16 shall survive termination, for whatever reason, of the Contract.

E. Execution of the Facilities

17. Representatives

17.1 Project Manager

If the Project Manager is not named in the Contract, then within 14 days of the Effective Date, the Employer shall appoint and notify the Contractor in writing of the name of the Project Manager. The Employer may from time to time appoint some other person as the Project Manager in place of the person previously so appointed, and shall give notice of

the name of such other person to the Contractor without delay. No such appointment shall be made at such a time or in such a manner as to impede the progress of work on the Facilities. Such appointment shall only take effect upon receipt of such notice by the Contractor. The Project Manager shall represent and act for the Employer at all times during the performance of the Contract. All notices, instructions, orders, certificates, approvals, and all other communications under the Contract shall be given by the Project Manager, except as herein otherwise provided.

All notices, instructions, information, and other communications given by the Contractor to the Employer under the Contract shall be given to the Project Manager, except as herein otherwise provided.

17.2 Contractor's Representative and Construction Manager

17.2.1 If the Contractor's Representative is not named in the Contract, then within 14 days of the Effective Date, the Contractor shall appoint the Contractor's Representative and shall request the Employer in writing to approve the person so appointed. If the Employer makes no objection to the appointment within 14 days, the Contractor's Representative shall be deemed to have been approved. If the Employer objects to the appointment within 14 days giving the reason therefor, then the Contractor shall appoint a replacement within 14 days of such objection, and the foregoing provisions of this GCC Subclause 17.2.1 shall apply thereto.

17.2.2 The Contractor's Representative shall represent and act for the Contractor at all times during the performance of the Contract and shall give to the Project Manager all the Contractor's notices, instructions, information, and all other communications under the Contract.

All notices, instructions, information, and all other communications given by the Employer or the Project Manager to the Contractor under the Contract shall be given to the Contractor's Representative or, in its absence, its deputy, except as herein otherwise provided.

The Contractor shall not revoke the appointment of the Contractor's Representative without the Employer's prior written consent, which shall not be unreasonably withheld. If the Employer consents thereto, the Contractor shall appoint some other person as the Contractor's Representative, pursuant to the procedure set out in GCC Subclause 17.2.1.

17.2.3 The Contractor's Representative may, subject to the approval of the Employer which shall not be unreasonably withheld, at any time delegate to any person any of the powers, functions and authorities vested in him or her. Any such delegation may be revoked at any time. Any such delegation or revocation shall be subject to a prior notice signed by the Contractor's Representative, and shall specify the powers, functions, and authorities thereby delegated or revoked. No such delegation or revocation shall take effect unless and until a copy thereof has been delivered to the Employer and the Project Manager.

Any act or exercise by any person of powers, functions and authorities so delegated to him or her in accordance with this

GCC Subclause 17.2.3 shall be deemed to be an act or exercise by the Contractor's Representative.

17.2.4 From the commencement of installation of the Facilities at the Site until Completion, the Contractor's Representative shall appoint a suitable person as the Construction Manager. The Construction Manager shall supervise all work done at the Site by the Contractor and shall be present at the Site throughout normal working hours except when on leave, sick, or absent for reasons connected with the proper performance of the Contract. Whenever the Construction Manager is absent from the Site, the Contractor's Representative or the Construction Manager shall appoint a suitable person to act as the Construction Manager's deputy.

17.2.5 The Employer may by notice to the Contractor object to any representative or person employed by the Contractor in the execution of the Contract who, in the reasonable opinion of the Employer, may behave inappropriately, may be incompetent or negligent, or may commit a serious breach of the Site regulations provided under GCC Subclause 22.4. The Employer shall provide evidence of the same, whereupon the Contractor shall remove such person from the Facilities.

17.2.6 If any representative or person employed by the Contractor is removed in accordance with GCC Subclause 17.2.5, the Contractor shall, where required, promptly appoint a replacement.

18. Work Program

18.1

Contractor's Organization

The Contractor shall supply to the Employer and the Project Manager a chart showing the proposed organization to be established by the Contractor for carrying out work on the Facilities within 21 days of the Effective Date. The chart shall include the identities of the key personnel, and the curricula vitae of such key personnel to be employed shall be supplied together with the chart. The Contractor shall promptly inform the Employer and the Project Manager in writing of any revision or alteration of such an organization chart.

18.2

Program of Performance

Within 28 days after the Effective Date, the Contractor shall submit to the Project Manager a detailed program of performance of the Contract, made in a form acceptable to the Project Manager and showing the sequence in which it proposes to design, manufacture, transport, assemble, install, and pre-commission the Facilities, as well as the date by which the Contractor reasonably requires that the Employer shall have fulfilled its obligations under the Contract so as to enable the Contractor to execute the Contract in accordance with the program and to achieve Completion, Commissioning, and Acceptance of the Facilities in accordance with the Contract. The program so submitted by the Contractor shall accord with the Time Schedule included in the Appendix (Time Schedule) to the Contract Agreement and any other dates and periods specified in the Contract. The Contractor shall update and revise the program as and when appropriate or when required by the Project Manager, but without modification in the Times for Completion given in

the SCC and any extension granted in accordance with GCC Clause 40, and shall submit all such revisions to the Project Manager.

18.3 Progress Report

The Contractor shall monitor progress of all the activities specified in the program referred to in GCC Subclause 18.2 above, and supply a progress report to the Project Manager every month.

The progress report shall be in a form acceptable to the Project Manager and shall indicate: (a) percentage completion achieved compared with the planned percentage completion for each activity; and (b) where any activity is behind the program, giving comments and likely consequences and stating the corrective action being taken.

18.4 Progress of Performance

If at any time the Contractor's actual progress falls behind the program referred to in GCC Subclause 18.2, or it becomes apparent that it will so fall behind, the Contractor shall, at the request of the Employer or the Project Manager, prepare and submit to the Project Manager a revised program, taking into account the prevailing circumstances, and shall notify the Project Manager of the steps being taken to expedite progress so as to attain Completion of the Facilities within the Time for Completion under GCC Subclause 8.2, any extension thereof entitled under GCC Subclause 40.1, or any extended period as may otherwise be agreed upon between the Employer and the Contractor.

18.5 Procedures

The Contract shall be executed in accordance with the Contract Documents including the procedures given in the Forms and Procedures of the Employer's Requirements.

The Contractor may execute the Contract in accordance with its own standard project execution plans and procedures to the extent that they do not conflict with the provisions contained in the Contract.

19. Subcontracting

19.1

The Appendix 5 (List of Major Items of Plant and Services and List of Approved Subcontractors) to the Contract Agreement specifies major items of plant and services and a list of approved Subcontractors against each item, including manufacturers. Insofar as no Subcontractors are listed against any such item, the Contractor shall prepare a list of Subcontractors for such item for inclusion in such list. The Contractor may from time to time propose any addition to or deletion from any such list. The Contractor shall submit any such list or any modification thereto to the Employer for its approval in sufficient time so as not to impede the progress of work on the Facilities. Such approval by the Employer for any of the Subcontractors shall not relieve the Contractor from any of its obligations, duties, or responsibilities under the Contract.

19.2

The Contractor shall select and employ its Subcontractors for such major items from those listed in the lists referred to in GCC Subclause 19.1.

19.3

For items or parts of the Facilities not specified in the Appendix (List of Major Items of Plant and Services and List of Approved Subcontractors

for Major Items) to the Contract Agreement, the Contractor may employ such Subcontractors as it may select, at its discretion.

19.4 Each subcontract shall include provisions which would entitle the Employer to require the sub-contract to be assigned to the Employer under GCC 19.5 (if and when applicable), or in event of termination by the Employer under GCC 42.2.

19.5 If a Sub-contractor's obligations extend beyond the expiry date of the relevant Defects Liability Period and the Project Manager, prior to that date, instructs the Contractor to assign the benefits of such obligations to the Employer, then the Contractor shall do so.

20. Design and Engineering

20.1 Specifications and Drawings

20.1.1 The Contractor shall execute the basic and detailed design and the engineering work in compliance with the provisions of the Contract, or where not so specified, in accordance with good engineering practice.

The Contractor shall be responsible for any discrepancies, errors, or omissions in the specifications, drawings, and other technical documents that it has prepared, whether such specifications, drawings, and other documents have been approved by the Project Manager or not, provided that such discrepancies, errors, or omissions are not because of inaccurate information furnished in writing to the Contractor by or on behalf of the Employer.

20.1.2 The Contractor shall be entitled to disclaim responsibility for any design, data, drawing, specification, or other document, or any modification thereof provided or designated by or on behalf of the Employer, by giving a notice of such disclaimer to the Project Manager.

20.2 Codes and Standards

Wherever references are made in the Contract to codes and standards in accordance with which the Contract shall be executed, the edition or the revised version of such codes and standards current at the date 28 days prior to date of bid submission shall apply unless otherwise specified. During Contract execution, any changes in such codes and standards shall be applied subject to approval by the Employer and shall be treated in accordance with GCC Clause 39.

20.3 Approval/Review of Technical Documents by Project Manager

20.3.1 The Contractor shall prepare or cause its Subcontractors to prepare, and furnish to the Project Manager the documents listed in the Appendix (List of Documents for Approval or Review) to the Contract Agreement for its approval or review as specified and in accordance with the requirements of GCC Subclause 18.2 (Program of Performance).

Any part of the Facilities covered by or related to the documents to be approved by the Project Manager shall be executed only after the Project Manager's approval thereof.

GCC Subclauses 20.3.2 through 20.3.7 shall apply to those documents requiring the Project Manager's approval, but not to those furnished to the Project Manager for its review only.

20.3.2 Within 14 days after receipt by the Project Manager of any document requiring the Project Manager's approval in accordance with GCC Subclause 20.3.1, the Project Manager shall either return one copy thereof to the Contractor with its approval endorsed thereon or shall notify the Contractor in writing of its disapproval thereof and the reasons therefor and the modifications that the Project Manager proposes.

If the Project Manager fails to take such action within the said 14 days, then the said document shall be deemed to have been approved by the Project Manager.

20.3.3 The Project Manager shall not disapprove any document, except on the grounds that the document does not comply with the Contract or that it is contrary to good engineering practice. If the Project Manager disapproves a document, he shall specify the reasons for his decision.

20.3.4 If the Project Manager disapproves the document, the Contractor shall modify the document and resubmit it for the Project Manager's approval in accordance with GCC Subclause 20.3.2. If the Project Manager approves the document subject to modification(s), the Contractor shall make the required modification(s), whereupon the document shall be deemed to have been approved.

20.3.5 If any dispute or difference occurs between the Employer and the Contractor in connection with or arising out of the disapproval by the Project Manager of any document and/or any modification(s) thereto that cannot be settled between the parties within a reasonable period, then such dispute or difference may be referred to a Dispute Board for determination in accordance with GCC Subclause 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 Subclause 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 an amended document and obtained the Project Manager's

approval thereof, pursuant to the provisions of this GCC Subclause 20.3.

If the Project Manager requests any change in any already approved document and/or in any document based thereon, the provisions of GCC Clause 39 shall apply to such request.

21. Procurement

21.1 Materials

Subject to GCC Subclause 14.2, the Contractor shall procure and transport all materials in an expeditious and orderly manner to the Site.

21.2 Employer-Supplied Materials

If the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement provides that the Employer shall furnish any specific items to the Contractor, the following provisions shall apply:

21.2.1 The Employer shall, at its own risk and expense, transport each item to the place on or near the Site as agreed upon by the parties and make such item available to the Contractor at the time specified in the program furnished by the Contractor, pursuant to GCC Subclause 18.2, unless otherwise mutually agreed.

21.2.2 Upon receipt of such item, the Contractor shall inspect the same visually and notify the Project Manager of any detected shortage, defect, or default. The Employer shall immediately remedy any shortage, defect, or default, or the Contractor shall, if practicable and possible, at the request of the Employer, remedy such shortage, defect, or default at the Employer's cost and expense. After inspection, such item shall fall under the care, custody, and control of the Contractor. The provision of this GCC Subclause 21.2.2 shall apply to any item supplied to remedy any such shortage or default or to substitute for any defective item, or shall apply to defective items that have been repaired.

21.2.3 The foregoing responsibilities of the Contractor and its obligations of care, custody, and control shall not relieve the Employer of liability for any undetected shortage, defect, or default, nor place the Contractor under any liability for any such shortage, defect or default whether under GCC Clause 27 or under any other provision of Contract.

21.3 Transportation

21.3.1 The Contractor shall at its own risk and expense transport all the materials and the Contractor's Equipment to the Site by the mode of transport that the Contractor judges most suitable under all the circumstances.

21.3.2 Unless otherwise provided in the Contract, the Contractor shall be entitled to select any safe mode of transport operated by any person to carry the materials and the Contractor's Equipment.

21.3.3 Upon dispatch of each shipment of materials and the Contractor's Equipment, the Contractor shall notify the Employer by telex, cable, facsimile, or electronic means, of the description of the materials and of the Contractor's Equipment, the point and means of dispatch, and the estimated time and point of arrival in the country where the Site is located, if applicable, and at the Site.

The Contractor shall furnish the Employer with relevant shipping documents to be agreed upon between the parties.

21.3.4 The Contractor shall be responsible for obtaining, if necessary, approvals from the authorities for transportation of the materials and the Contractor's Equipment to the Site. The Employer shall use its best endeavors in a timely and expeditious manner to assist the Contractor in obtaining such approvals, if requested by the Contractor. The Contractor shall indemnify and hold harmless the Employer from and against any claim for damage to roads, bridges, or any other traffic facilities that may be caused by the transport of the materials and the Contractor's Equipment to the Site.

21.4 Customs Clearance

The Contractor shall, at its own expense, handle all imported materials and Contractor's Equipment at the point(s) of import and shall handle any formalities for customs clearance, subject to the Employer's obligations under GCC Subclause 14.2, provided that if applicable laws or regulations require any application or act to be made by or in the name of the Employer, the Employer shall take all necessary steps to comply with such laws or regulations. In the event of delays in customs clearance that are not the fault of the Contractor, the Contractor shall be entitled to an extension in the Time for Completion, pursuant to GCC Clause 40.

22. Installation

22.1 Setting Out/Supervision

22.1.1 Benchmark

- (a) The Contractor shall be responsible for the true and proper setting-out of the Facilities in relation to bench marks, reference marks, and lines provided to it in writing by or on behalf of the Employer.
- (b) If, at any time during the progress of installation of the Facilities, any error shall appear in the position, level, or alignment of the Facilities, the Contractor shall forthwith notify the Project Manager of such error and, at its own expense, immediately rectify such error to the reasonable satisfaction of the Project Manager. If such error is based on incorrect data provided in writing by or on behalf of the Employer, the expense of rectifying the same shall be borne by the Employer.

22.1.2 Contractor's Supervision

The Contractor shall give or provide all necessary superintendence during the installation of the Facilities, and the Construction Manager or its deputy shall be constantly on the Site to provide full-time superintendence of the installation. The Contractor shall provide and employ only technical personnel who are skilled and experienced in their respective callings and supervisory staff who are competent to adequately supervise the work at hand.

22.2 Labor

22.2.1 Engagement of Staff and Labor

- (a) Except as otherwise stated in the Specification, the Contractor shall make arrangements for the engagement of all staff and labor, local or otherwise, and for their payment, housing, feeding, and transport.
- (b) The Contractor shall provide and employ on the Site in the installation of the Facilities such skilled, semi-skilled, and unskilled labor as is necessary for the proper and timely execution of the Contract. The Contractor is encouraged to use local labor that has the necessary skills.
- (c) The Contractor shall be responsible for obtaining all necessary permit(s) and/or visa(s) from the appropriate authorities for the entry of all labor and personnel to be employed on the Site into the country where the Site is located. The Employer will, if requested by the Contractor, use his best endeavors in a timely and expeditious manner to assist the Contractor in obtaining any local, state, national, or government permission required for bringing in the Contractor's personnel.
- (d) The Contractor shall at its own expense provide the means of repatriation to all of its and its Subcontractor's personnel employed on the Contract at the Site to the place where they were recruited or to their domicile. It shall also provide suitable temporary maintenance of all such persons from the cessation of their employment on the Contract to the date programmed for their departure. In the event that the Contractor defaults in providing such means of transportation and temporary maintenance, the Employer may provide the same to such personnel and recover the cost of doing so from the Contractor.

22.2.2 Persons in the Service of Employer

The Contractor shall not recruit, or attempt to recruit, staff and labor from amongst the Employer's Personnel.

22.2.3 Labor Laws

- (a) The Contractor shall comply with all the relevant labor Laws applicable to the Contractor's Personnel, including Laws relating to their employment, health, safety, welfare, immigration, and emigration, and shall allow them all their legal rights.
- (b) The Contractor shall at all times during the progress of the Contract use its best endeavors to prevent any unlawful, riotous, or disorderly conduct or behavior by or amongst its employees and the labor of its Subcontractors.
- (c) The Contractor shall, in all dealings with its labor and the labor of its Subcontractors currently employed on or connected with the Contract, pay due regard to all recognized festivals, official holidays, religious, or other

customs and all local laws and regulations pertaining to the employment of labor.

22.2.4 Rates of Wages and Conditions of Labor

- (a) The Contractor shall pay rates of wages, and observe conditions of labor, which are not lower than those established for the trade or industry where the work is carried out. If no established rates or conditions are applicable, the Contractor shall pay rates of wages and observe conditions which are not lower than the general level of wages and conditions observed locally by employers whose trade or industry is similar to that of the Contractor.
- (b) The Contractor shall inform the Contractor's Personnel about their liability to pay personal income taxes in the Country in respect of such of their salaries, wages, and allowances as are chargeable under the Laws for the time being in force, and the Contractor shall perform such duties in regard to such deductions thereof as may be imposed on him by such Laws.

22.2.5 Working Hours

- (a) No work shall be carried out on the Site on locally recognized days of rest, or outside the normal working hours stated in the SCC, unless
 - (i) otherwise stated in the Contract;
 - (ii) the Project Manager gives consent; or
 - (iii) the work is unavoidable, or necessary for the protection of life or property or for the safety of the Works, in which case the Contractor shall immediately advise the Project Manager.
- (b) If and when the Contractor considers it necessary to carry out work at night or on public holidays so as to meet the Time for Completion and requests the Project Manager's consent thereto, the Project Manager shall not unreasonably withhold such consent.
- (c) This Subclause shall not apply to any work which is customarily carried out by rotary or double shifts.

22.2.6 Facilities for Staff and Labor

- (a) Except as otherwise stated in the Specification, the Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel. The Contractor shall also provide facilities for the Employer's Personnel as stated in the Specification.
- (b) The Contractor shall not permit any of the Contractor's Personnel to maintain any temporary or permanent living quarters within the structures forming part of the Permanent Works.

22.2.7 Health and Safety

- (a) The Contractor shall at all times take all reasonable precautions to maintain the health and safety of the Contractor's Personnel. In collaboration with local health authorities, the Contractor shall ensure that medical staff, first aid facilities, sick bay, and ambulance service are available at all times at the Site and at any accommodation for Contractor's and Employer's Personnel, and that suitable arrangements are made for all necessary welfare and hygiene requirements and for the prevention of epidemics.
- (b) The Contractor shall appoint an accident prevention officer at the Site, responsible for maintaining safety and protection against accidents. This person shall be qualified for this responsibility, and shall have the authority to issue instructions and take protective measures to prevent accidents. Throughout the performance of the Contract, the Contractor shall provide whatever is required by this person to exercise this responsibility and authority.
- (c) The Contractor shall send to the Project Manager, details of any accident as soon as practicable after its occurrence. The Contractor shall maintain records and make reports concerning health, safety, and welfare of persons, and damage to property, as the Project Manager may reasonably require.

22.2.8

Funeral Arrangements

In the event of the death of any of the Contractor's personnel or accompanying members of their families, the Contractor shall be responsible for making the appropriate arrangements for their return or burial, unless otherwise specified in the SCC.

22.2.9

Records of Contractor's Personnel

The Contractor shall keep accurate records of the Contractor's personnel, including the number of each class of Contractor's Personnel on the Site and the names, ages, gender, hours worked, and wages paid to all workers. These records shall be summarized on a monthly basis in a form approved by the Project Manager and shall be available for inspection by the Project Manager until the Contractor has completed all work.

22.2.10

Supply of Foodstuff

The Contractor shall arrange for the provision of a sufficient supply of suitable food as may be stated in the Specification at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.

22.2.11

Supply of Water

The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.

22.2.12

Measures against Insect and Pest Nuisance

The Contractor shall at all times take the necessary precautions to protect the Contractor's Personnel employed on the Site from

insect and pest nuisance, and to reduce their danger to health. The Contractor shall comply with all the regulations of the local health authorities, including use of appropriate insecticide.

22.2.13 Alcoholic Liquor or Drugs

The Contractor shall not, otherwise than in accordance with the Laws of the Country, import, sell, give barter, or otherwise dispose of any alcoholic liquor or drugs, or permit or allow importation, sale, gift barter, or disposal by Contractor's Personnel.

22.2.14 Arms and Ammunition

The Contractor shall not give, barter, or otherwise dispose of, to any person, any arms or ammunition of any kind, or allow Contractor's Personnel to do so.

22.2.15 Prohibition of All Forms of Forced or Compulsory Labor

The contractor shall not employ "forced or compulsory labor" in any form. "Forced or compulsory labor" consists of all work or service, not voluntarily performed, that is extracted from an individual under threat of force or penalty.

22.2.16 Prohibition of Harmful Child Labor

The Contractor shall not employ any child to perform any work that is economically exploitative, or is likely to be hazardous to, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

22.3 Contractor's Equipment

22.3.1 All Contractor's Equipment brought by the Contractor onto the Site shall be deemed to be intended to be used exclusively for the execution of the Contract. The Contractor shall not remove the same from the Site without the Project Manager's consent that such Contractor's Equipment is no longer required for the execution of the Contract.

22.3.2 Unless otherwise specified in the Contract, upon completion of the Facilities, the Contractor shall remove from the Site all Equipment brought by the Contractor onto the Site and any surplus materials remaining thereon.

22.3.3 The Employer will, if requested, use its best endeavors to assist the Contractor in obtaining any local, state or national government permission required by the Contractor for the export of the Contractor's Equipment imported by the Contractor for use in the execution of the Contract that is no longer required for the execution of the Contract.

22.4 Site Regulations and Safety

The Employer and the Contractor shall establish Site regulations setting out the rules to be observed in the execution of the Contract at the Site and shall comply therewith. The Contractor shall prepare and submit to the Employer, with a copy to the Project Manager, proposed Site

regulations for the Employer's approval, which approval shall not be unreasonably withheld.

Such Site regulations shall include, but shall not be limited to, rules in respect of security, safety of the Facilities, gate control, sanitation, medical care, and fire prevention.

22.5 Opportunities for Other Contractors

22.5.1 The Contractor shall, upon written request from the Employer or the Project Manager, give all reasonable opportunities for carrying out the work to any other contractors employed by the Employer on or near the Site.

22.5.2 If the Contractor, upon written request from the Employer or the Project Manager, makes available to other contractors any roads or ways the maintenance for which the Contractor is responsible, permits the use by such other contractors of the Contractor's Equipment, or provides any other service of whatsoever nature for such other contractors, the Employer shall fully compensate the Contractor for any loss or damage caused or occasioned by such other contractors in respect of any such use or service, and shall pay to the Contractor reasonable remuneration for the use of such equipment or the provision of such services.

22.5.3 The Contractor shall also so arrange to perform its work as to minimize, to the extent possible, interference with the work of other contractors. The Project Manager shall determine the resolution of any difference or conflict that may arise between the Contractor and other contractors and the workers of the Employer in regard to their work.

22.5.4 The Contractor shall notify the Project Manager promptly of any defects in the other Contractors' work that come to its notice, and that could affect the Contractor's work. The Project Manager shall determine the corrective measures, if any, required to rectify the situation after inspection of the Facilities. Decisions made by the Project Manager shall be binding on the Contractor.

22.6 Emergency Work

If, by reason of an emergency arising in connection with and during the execution of the Contract, any protective or remedial work is necessary as a matter of urgency to prevent damage to the Facilities, the Contractor shall immediately carry out such work.

If the Contractor is unable or unwilling to do such work immediately, the Employer may do or cause such work to be done as the Employer may determine is necessary in order to prevent damage to the Facilities. In such event the Employer shall, as soon as practicable after the occurrence of any such emergency, notify the Contractor in writing of such emergency, the work done and the reasons therefor. If the work done or caused to be done by the Employer is work that the Contractor was liable to do at its own expense under the Contract, the reasonable costs incurred by the Employer in connection therewith shall be paid by

the Contractor to the Employer. Otherwise, the cost of such remedial work shall be borne by the Employer.

22.7 Site Clearance

22.7.1 Site Clearance in Course of Performance

In the course of carrying out the Contract, the Contractor shall keep the Site reasonably free from all unnecessary obstruction, store, or remove any surplus materials, clear away any wreckage, rubbish, or temporary works from the Site, and remove any Contractor's Equipment no longer required for execution of the Contract.

22.7.2 Clearance of Site after Completion

After Completion of all parts of the Facilities, the Contractor shall clear away and remove all wreckage, rubbish, and debris of any kind from the Site, and shall leave the Site and Facilities in a clean and safe condition.

22.8 Watching and Lighting

The Contractor shall provide and maintain at its own expense all lighting, fencing, and watching when and where necessary for the proper execution and the protection of the Facilities, or for the safety of the owners and occupiers of adjacent property and for the safety of the public.

23. Test and Inspection

23.1 The Contractor shall at its own expense carry out at the place of manufacture and/or on the Site all such tests and/or inspections of the Plant and any part of the Facilities as are specified in the Contract.

23.2 The Employer and the Project Manager or their designated representatives shall be entitled to attend the aforesaid test and/or inspection, provided that the Employer shall bear all costs and expenses incurred in connection with such attendance including, but not limited to, all travelling and board and lodging expenses.

23.3 Whenever the Contractor is ready to carry out any such test and/or inspection, the Contractor shall give a reasonable advance notice of such test and/or inspection and of the place and time thereof to the Project Manager. The Contractor shall obtain from any relevant third party or manufacturer any necessary permission or consent to enable the Employer and the Project Manager or their designated representatives to attend the test and/or inspection.

23.4 The Contractor shall provide the Project Manager with a certified report of the results of any such test and/or inspection.

If the Employer or Project Manager or their designated representatives fails to attend the test and/or inspection, or if it is agreed between the parties that such persons shall not do so, then the Contractor may proceed with the test and/or inspection in the absence of such persons, and may provide the Project Manager with a certified report of the results thereof.

- 23.5 The Project Manager may require the Contractor to carry out any test and/or inspection not required by the Contract, provided that the Contractor's reasonable costs and expenses incurred in the carrying out of such test and/or inspection shall be added to the Contract Price. Further, if such test and/or inspection impedes the progress of work on the Facilities and/or the Contractor's performance of its other obligations under the Contract, due allowance will be made in respect of the Time for Completion and the other obligations so affected.
- 23.6 If any Plant or any part of the Facilities fails to pass any test and/or inspection, the Contractor shall either rectify or replace such Plant or part of the Facilities and shall repeat the test and/or inspection upon giving a notice under GCC Subclause 23.3.
- 23.7 If any dispute or difference of opinion shall arise between the parties in connection with or arising out of the test and/or inspection of the Plant or part of the Facilities that cannot be settled between the parties within a reasonable period of time, it may be referred to an Dispute Board for determination in accordance with GCC Subclause 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 Subclause 23.4, shall release the Contractor from any other responsibilities under the Contract.
- 23.10 No part of the Facilities or foundations shall be covered up on the Site without the Contractor carrying out any test and/or inspection required under the Contract. The Contractor shall give a reasonable notice to the Project Manager whenever any such parts of the Facilities or foundations are ready or about to be ready for test and/or inspection; such test and/or inspection and notice thereof shall be subject to the requirements of the Contract.
- 23.11 The Contractor shall uncover any part of the Facilities or foundations, or shall make openings in or through the same as the Project Manager may from time to time require at the Site, and shall reinstate and make good such part or parts.
- If any parts of the Facilities or foundations have been covered up at the Site after compliance with the requirement of GCC Subclause 23.10 and are found to be executed in accordance with the Contract, the expenses of uncovering, making openings in or through, reinstating, and making good the same shall be borne by the Employer, and the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been delayed or impeded in the performance of any of its obligations under the Contract.

24. Completion of the Facilities

- 24.1 As soon as the Facilities or any part thereof has, in the opinion of the Contractor, been completed operationally and structurally and put in a tight and clean condition as specified in the Employer's Requirements, excluding minor items not materially affecting the operation or safety of the Facilities, the Contractor shall so notify the Employer in writing.
- 24.2 Within 7 days after receipt of the notice from the Contractor under GCC Subclause 24.1, the Employer shall supply the operating and maintenance personnel specified in the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement for Pre-commissioning of the Facilities or any part thereof.
- Pursuant to the Appendix (Scope of Works and Supply by the Employer) to the Contract Agreement, the Employer shall also provide, within the said 7-day period, the raw materials, utilities, lubricants, chemicals, catalysts, facilities, services, and other matters required for Pre-commissioning of the Facilities or any part thereof.
- 24.3 As soon as reasonably practicable after the operating and maintenance personnel have been supplied by the Employer and the raw materials, utilities, lubricants, chemicals, catalysts, facilities, services, and other matters have been provided by the Employer in accordance with GCC Subclause 24.2, the Contractor shall commence Pre-commissioning of the Facilities or the relevant part thereof in preparation for Commissioning, subject to GCC Subclause 25.5.
- 24.4 As soon as all works in respect of Pre-commissioning are completed and, in the opinion of the Contractor, the Facilities or any part thereof is ready for Commissioning, the Contractor shall so notify the Project Manager in writing.
- 24.5 The Project Manager shall, within 14 days after receipt of the Contractor's notice under GCC Subclause 24.4, either issue a Completion Certificate in the form specified in the Employer's Requirements (Forms and Procedures), stating that the Facilities or that part thereof have reached Completion as of the date of the Contractor's notice under GCC Subclause 24.4, or notify the Contractor in writing of any defects and/or deficiencies.
- If the Project Manager notifies the Contractor of any defects and/or deficiencies, the Contractor shall then correct such defects and/or deficiencies, and shall repeat the procedure described in GCC Subclause 24.4.
- If the Project Manager is satisfied that the Facilities or that part thereof have reached Completion, the Project Manager shall, within 7 days after receipt of the Contractor's repeated notice, issue a Completion Certificate stating that the Facilities or that part thereof have reached Completion as of the date of the Contractor's repeated notice.
- If the Project Manager is not so satisfied, then it shall notify the Contractor in writing of any defects and/or deficiencies within 7 days after receipt of the Contractor's repeated notice, and the above procedure shall be repeated.
- 24.6 If the Project Manager fails to issue the Completion Certificate and fails to inform the Contractor of any defects and/or deficiencies within 14 days after receipt of the Contractor's notice under GCC Subclause 24.4 or

within 7 days after receipt of the Contractor's repeated notice under GCC Subclause 24.5, or if the Employer makes use of the Facilities or part thereof, then the Facilities or that part thereof shall be deemed to have reached Completion as of the date of the Contractor's notice or repeated notice, or as of the Employer's use of the Facilities, as the case may be.

24.7 As soon as possible after Completion, the Contractor shall complete all outstanding minor items so that the Facilities are fully in accordance with the requirements of the Contract, failing which the Employer will undertake such completion and deduct the costs thereof from any monies owing to the Contractor.

24.8 Upon Completion, the Employer shall be responsible for the care and custody of the Facilities or the relevant part thereof, together with the risk of loss or damage thereto, and shall thereafter take over the Facilities or the relevant part thereof.

25. Commissioning and Operational Acceptance

25.1 Commissioning

25.1.1 Commissioning of the Facilities or any part thereof shall be commenced by the Contractor immediately after issue of the Completion Certificate by the Project Manager, pursuant to GCC Subclause 24.5, or immediately after the date of the deemed Completion, under GCC Subclause 24.6.

25.1.2 The Employer shall supply the operating and maintenance personnel and all raw materials, utilities, lubricants, chemicals, catalysts, facilities, services, and other matters required for Commissioning.

25.1.3 In accordance with the requirements of the Contract, the Contractor's and Project Manager's advisory personnel shall attend the Commissioning, including the Guarantee Test, and shall advise and assist the Employer.

25.2 Guarantee Test

25.2.1 Subject to GCC Subclause 25.5, the Guarantee Test and repeats thereof shall be conducted by the Contractor during Commissioning of the Facilities or the relevant part thereof to ascertain whether the Facilities or the relevant part can attain the Functional Guarantees specified in the Appendix (Functional Guarantees) to the Contract Agreement. The Employer shall promptly provide the Contractor with such information as the Contractor may reasonably require in relation to the conduct and results of the Guarantee Test and any repeats thereof.

25.2.2 If for reasons not attributable to the Contractor, the Guarantee Test of the Facilities or the relevant part thereof cannot be successfully completed within the period from the date of Completion specified in the SCC or any other period agreed upon by the Employer and the Contractor, the Contractor shall be deemed to have fulfilled its obligations with respect to the Functional Guarantees, and GCC Subclauses 28.2 and 28.3 shall not apply.

25.3 Operational Acceptance

25.3.1 Subject to GCC Subclause 25.4 below, Operational Acceptance shall occur in respect of the Facilities or any part thereof when

- (a) the Guarantee Test has been successfully completed and the Functional Guarantees are met; or
- (b) the Guarantee Test has not been successfully completed or has not been carried out for reasons not attributable to the Contractor within the period from the date of Completion specified in the SCC, or any other agreed upon period as specified in GCC Subclause 25.2.2 above; or
- (c) the Contractor has paid the liquidated damages specified in GCC Subclause 28.3 hereof; and
- (d) any minor items mentioned in GCC Subclause 24.7 hereof relevant to the Facilities or that part thereof have been completed.

25.3.2 At any time after any of the events set out in GCC Subclause 25.3.1 have occurred, the Contractor may give a notice to the Project Manager requesting the issue of an Operational Acceptance Certificate in the form provided in the Employer's Requirements (Forms and Procedures) in respect of the Facilities or the part thereof specified in such notice as of the date of such notice.

25.3.3 The Project Manager shall, after consultation with the Employer, and within 7 days after receipt of the Contractor's notice, issue an Operational Acceptance Certificate.

25.3.4 If within 7 days after receipt of the Contractor's notice, the Project Manager fails to issue the Operational Acceptance Certificate or fails to inform the Contractor in writing of the justifiable reasons why the Project Manager has not issued the Operational Acceptance Certificate, the Facilities or the relevant part thereof shall be deemed to have been accepted as of the date of the Contractor's said notice.

25.4 Partial Acceptance

25.4.1 If the Contract specifies that Completion and Commissioning shall be carried out in respect of parts of the Facilities, the provisions relating to Completion and Commissioning including the Guarantee Test shall apply to each such part of the Facilities individually, and the Operational Acceptance Certificate shall be issued accordingly for each such part of the Facilities.

25.4.2 If a part of the Facilities comprises facilities such as buildings, for which no Commissioning or Guarantee Test is required, then the Project Manager shall issue the Operational Acceptance Certificate for such facility when it attains Completion, provided that the Contractor shall thereafter complete any outstanding

minor items that are listed in the Operational Acceptance Certificate.

25.5 Delayed Pre-Commissioning and/or Guarantee Test

25.5.1 In the event that the Contractor is unable to proceed with the Pre-commissioning of the Facilities pursuant to Subclause 24.3, or with the Guarantee Test pursuant to Subclause 25.2, for reasons attributable to the Employer either on account of non availability of other facilities under the responsibilities of other contractor(s), or for reasons beyond the Employer's control, the provisions leading to "deemed" completion of activities such as Completion, pursuant to GCC Subclause 24.6, and Operational Acceptance, pursuant to GCC Subclause 25.3.4, and Contractor's obligations regarding Defect Liability Period, pursuant to GCC Subclause 27.2, Functional Guarantee, pursuant to GCC Clause 28, and Care of Facilities, pursuant to GCC Clause 32, and GCC Clause 41.1, Suspension, shall not apply. In this case, the following provisions shall apply.

25.5.2 When the Contractor is notified by the Project Manager that he will be unable to proceed with the activities and obligations pursuant to above Subclause 25.5.1, the Contractor shall be entitled to the following:

- (a) the Time of Completion shall be extended for the period of suspension without imposition of liquidated damages pursuant to GCC Subclause 26.2;
- (b) payments due to the Contractor in accordance with the provision specified in the Appendix (Terms and Procedures of Payment) to the Contract Agreement, which would not have been payable in normal circumstances due to noncompletion of the subject activities, shall be released to the Contractor against submission of a security in the form of a bank guarantee of equivalent amount acceptable to the Employer, and which shall become null and void when the Contractor will have complied with its obligations regarding those payments, subject to the provision of Subclause 25.5.3 below;
- (c) the expenses towards the above security and extension of other securities under the contract, of which validity needs to be extended, shall be reimbursed to the Contractor by the Employer;
- (d) the additional charges towards the care of the Facilities pursuant to GCC Subclause 32.1 shall be reimbursed to the Contractor by the Employer for the period between the notification mentioned above and the notification mentioned in Subclause 25.5.4 below. The provision of GCC Subclause 33.2 shall apply to the Facilities during the same period.

25.5.3 In the event that the period of suspension under above Subclause 25.5.1 actually exceeds 180 days, the Employer and

Contractor shall mutually agree to any additional compensation payable to the Contractor.

25.5.4 When the Contractor is notified by the Project Manager that the plant is ready for Pre-commissioning, the Contractor shall proceed without delay in performing all the specified activities and obligations under the contract.

F. Guarantees and Liabilities

26. Completion Time Guarantee

26.1 The Contractor guarantees that it shall attain Completion of the Facilities (or a part for which a separate time for completion is specified) within the Time for Completion specified in the SCC pursuant to GCC Subclause 8.2, or within such extended time to which the Contractor shall be entitled under GCC Clause 40 hereof.

26.2 If the Contractor fails to attain Completion of the Facilities or any part thereof within the Time for Completion or any extension thereof under GCC Clause 40, the Contractor shall pay to the Employer liquidated damages in the amount specified in the SCC as a percentage rate of the Contract Price or the relevant part thereof. The aggregate amount of such liquidated damages shall in no event exceed the amount specified as "Maximum" in the SCC as a percentage rate of the Contract Price. Once the "Maximum" is reached, the Employer may consider termination of the Contract, pursuant to GCC Subclause 42.2.2.

Such payment shall completely satisfy the Contractor's obligation to attain Completion of the Facilities or the relevant part thereof within the Time for Completion or any extension thereof under GCC Clause 40. The Contractor shall have no further liability whatsoever to the Employer in respect thereof.

However, the payment of liquidated damages shall not in any way relieve the Contractor from any of its obligations to complete the Facilities or from any other obligations and liabilities of the Contractor under the Contract.

Save for liquidated damages payable under this GCC Subclause 26.2, the failure by the Contractor to attain any milestone or other act, matter or thing by any date specified in the Appendix (Time Schedule) to the Contract Agreement and/or other program of work prepared pursuant to GCC Subclause 18.2 shall not render the Contractor liable for any loss or damage thereby suffered by the Employer.

26.3 If the Contractor attains Completion of the Facilities or any part thereof before the Time for Completion or any extension thereof under GCC Clause 40, the Employer shall pay to the Contractor a bonus in the amount specified in the SCC. The aggregate amount of such bonus shall in no event exceed the amount specified as "Maximum" in the SCC.

27. Defect Liability

- 27.1 The Contractor warrants that the Facilities or any part thereof shall be free from defects in the design, engineering, materials, and workmanship of the Plant supplied and of the work executed.
- 27.2 The Defect Liability Period shall be 540 days from the date of Completion of the Facilities (or any part thereof) or 1 year from the date of Operational Acceptance of the Facilities (or any part thereof), whichever first occurs, unless specified otherwise in the SCC pursuant to GCC Subclause 27.10.

If during the Defect Liability Period any defect should be found in the design, engineering, materials, and workmanship of the Plant supplied or of the work executed by the Contractor, the Contractor shall promptly, in consultation and agreement with the Employer regarding appropriate remedying of the defects, and at its cost, repair, replace, or otherwise make good as the Contractor shall determine at its discretion, such defect as well as any damage to the Facilities caused by such defect. The Contractor shall not be responsible for the repair, replacement, or making good of any defect or of any damage to the Facilities arising out of or resulting from any of the following causes:

- (a) improper operation or maintenance of the Facilities by the Employer,
- (b) operation of the Facilities outside specifications provided in the Contract, or
- (c) normal wear and tear.

27.3 The Contractor's obligations under this GCC Clause 27 shall not apply to:

- (a) any materials that are supplied by the Employer under GCC Subclause 21.2, are normally consumed in operation, or have a normal life shorter than the Defect Liability Period stated herein;
- (b) any designs, specifications or other data designed, supplied, or specified by or on behalf of the Employer or any matters for which the Contractor has disclaimed responsibility herein; or
- (c) any other materials supplied or any other work executed by or on behalf of the Employer, except for the work executed by the Employer under GCC Subclause 27.7.

27.4 The Employer shall give the Contractor a notice stating the nature of any such defect together with all available evidence thereof, promptly following the discovery thereof. The Employer shall afford all reasonable opportunity for the Contractor to inspect any such defect.

27.5 The Employer shall afford the Contractor all necessary access to the Facilities and the Site to enable the Contractor to perform its obligations under this GCC Clause 27.

The Contractor may, with the consent of the Employer, remove from the Site any Plant or any part of the Facilities that are defective if the nature of the defect, and/or any damage to the Facilities caused by the defect, is such that repairs cannot be expeditiously carried out at the Site.

- 27.6 If the repair, replacement or making good is of such a character that it may affect the efficiency of the Facilities or any part thereof, the Employer may give to the Contractor a notice requiring that tests of the defective part of the Facilities shall be made by the Contractor immediately upon completion of such remedial work, whereupon the Contractor shall carry out such tests.
- If such part fails the tests, the Contractor shall carry out further repair, replacement or making good, as the case may be, until that part of the Facilities passes such tests. The tests shall be agreed upon by the Employer and the Contractor.
- 27.7 If the Contractor fails to commence the work necessary to remedy such defect or any damage to the Facilities caused by such defect within a reasonable time (which shall in no event be considered to be less than 15 days), the Employer may, following notice to the Contractor, proceed to do such work, and the reasonable costs incurred by the Employer in connection therewith shall be paid to the Employer by the Contractor or may be deducted by the Employer from any monies due the Contractor or claimed under the Performance Security.
- 27.8 If the Facilities or any part thereof cannot be used by reason of such defect and/or making good of such defect, the Defect Liability Period of the Facilities or such part, as the case may be, shall be extended by a period equal to the period during which the Facilities or such part cannot be used by the Employer because of any of the aforesaid reasons.
- 27.9 Except as provided in GCC Clauses 27 and 33, the Contractor shall be under no liability whatsoever and howsoever arising, and whether under the Contract or at law, in respect of defects in the Facilities or any part thereof, the Plant, design, or engineering, or work executed that appear after Completion of the Facilities or any part thereof, except where such defects are the result of the gross negligence, fraud, criminal, or willful action of the Contractor.
- 27.10 In addition, any such component of the Facilities and during the period of time as may be specified in the SCC shall be subject to an extended Defect Liability Period. Such obligation of the Contractor shall be in addition to the Defect Liability Period specified under GCC Subclause 27.2.

28. Functional Guarantees

- 28.1 The Contractor guarantees that during the Guarantee Test, the Facilities and all parts thereof shall attain the Functional Guarantees specified in the Appendix (Functional Guarantees) to the Contract Agreement, subject to, and upon the conditions therein specified.
- 28.2 If, for reasons attributable to the Contractor, the minimum level of the Functional Guarantees specified in the Appendix (Functional Guarantees) to the Contract Agreement are not met either in whole or in part, the Contractor shall at its cost and expense make such changes, modifications, and/or additions to the Plant or any part thereof as may be necessary to meet at least the minimum level of such Guarantees. The Contractor shall notify the Employer upon completion of the necessary changes, modifications, and/or additions, and shall request the Employer to repeat the Guarantee Test until the minimum level of the Guarantees has been met. If the Contractor eventually fails to meet the minimum level of Functional Guarantees, the Employer may

consider termination of the Contract, pursuant to GCC Subclause 42.2.2.

28.3 If, for reasons attributable to the Contractor, the Functional Guarantees specified in the Appendix (Functional Guarantees) to the Contract Agreement are not attained either in whole or in part, but the minimum level of the Functional Guarantees specified in the said Appendix to the Contract Agreement is met, the Contractor shall, at the Contractor's option, either

- (a) make such changes, modifications, and/or additions to the Facilities or any part thereof that are necessary to attain the Functional Guarantees at its cost and expense, and shall request the Employer to repeat the Guarantee Test or
- (b) pay liquidated damages to the Employer in respect of the failure to meet the Functional Guarantees in accordance with the provisions in the Appendix (Functional Guarantees) to the Contract Agreement.

28.4 The payment of liquidated damages under GCC Subclause 28.3, up to the limitation of liability specified in the Appendix (Functional Guarantees) to the Contract Agreement, shall completely satisfy the Contractor's guarantees under GCC Subclause 28.3, and the Contractor shall have no further liability whatsoever to the Employer in respect thereof. Upon the payment of such liquidated damages by the Contractor, the Project Manager shall issue the Operational Acceptance Certificate for the Facilities or any part thereof in respect of which the liquidated damages have been so paid.

29. Patent Indemnity

29.1 The Contractor shall, subject to the Employer's compliance with GCC Subclause 29.2, indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions, or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Employer may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract by reason of (a) the installation of the Facilities by the Contractor or the use of the Facilities in the country where the Site is located, and (b) the sale of the products produced by the Facilities in any country.

Such indemnity shall not cover any use of the Facilities or any part thereof other than for the purpose indicated by or to be reasonably inferred from the Contract, any infringement resulting from the use of the Facilities or any part thereof, or any products produced thereby in association or combination with any other equipment, plant, or materials not supplied by the Contractor, pursuant to the Contract Agreement.

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

If the Contractor fails to notify the Employer within 28 days after receipt of such notice that it intends to conduct any such proceedings or claim,

then the Employer shall be free to conduct the same on its own behalf. Unless the Contractor has so failed to notify the Employer within the 28-day period, the Employer shall make no admission that may be prejudicial to the defense of any such proceedings or claim.

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

29.3 The Employer shall indemnify and hold harmless the Contractor and its employees, officers, and Subcontractors from and against any and all suits, actions or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, which the Contractor may suffer as a result of any infringement or alleged infringement of any patent, utility model, registered design, trademark, copyright, or other intellectual property right registered or otherwise existing at the date of the Contract arising out of or in connection with any design, data, drawing, specification, or other documents or materials provided or designed by or on behalf of the Employer.

30. Limitation of Liability

30.1 Except in cases of criminal negligence or willful misconduct,

- (a) the Contractor shall not be liable to the Employer, whether in contract, tort, or otherwise, for any indirect or consequential loss or damage, loss of use, loss of production, or loss of profits or interest costs, provided that this exclusion shall not apply to any obligation of the Contractor to pay liquidated damages to the Employer, and
- (b) the aggregate liability of the Contractor to the Employer, whether under the Contract, in tort or otherwise, shall not exceed a multiple of the Contract Price specified in the SCC or, if a multiple is not so specified, the total Contract Price, provided that this limitation shall not apply to the cost of repairing or replacing defective equipment, or to any obligation of the Contractor to indemnify the Employer with respect to patent infringement.



G. Risk Distribution

31. Transfer of Ownership

- 31.1 Ownership of the Plant (including spare parts) to be imported into the country where the Site is located shall be transferred to the Employer upon loading on to the mode of transport to be used to convey the Plant from the country of origin to that country.
- 31.2 Ownership of the Plant (including spare parts) procured in the country where the Site is located shall be transferred to the Employer when the Plant are brought on to the Site.
- 31.3 Ownership of the Contractor's Equipment used by the Contractor and its Subcontractors in connection with the Contract shall remain with the Contractor or its Subcontractors.

31.4 Ownership of any Plant in excess of the requirements for the Facilities shall revert to the Contractor upon Completion of the Facilities or at such earlier time when the Employer and the Contractor agree that the Plant in question are no longer required for the Facilities.

31.5 Notwithstanding the transfer of ownership of the Plant, the responsibility for care and custody thereof together with the risk of loss or damage thereto shall remain with the Contractor pursuant to GCC Clause 32 (Care of Facilities) hereof until Completion of the Facilities or the part thereof in which such Plant are incorporated.

32. Care of Facilities 32.1 The Contractor shall be responsible for the care and custody of the Facilities or any part thereof until the date of Completion of the Facilities pursuant to GCC Clause 24 or, where the Contract provides for Completion of the Facilities in parts, until the date of Completion of the relevant part, and shall make good at its own cost any loss or damage that may occur to the Facilities or the relevant part thereof from any cause whatsoever during such period. The Contractor shall also be responsible for any loss or damage to the Facilities caused by the Contractor or its Subcontractors in the course of any work carried out, pursuant to GCC Clause 27. Notwithstanding the foregoing, the Contractor shall not be liable for any loss or damage to the Facilities or that part thereof caused by reason of any of the matters specified or referred to in paragraphs (a), (b) and (c) of GCC Subclauses 32.2 and 38.1.

32.2 If any loss or damage occurs to the Facilities or any part thereof or to the Contractor's temporary facilities by reason of

- (a) insofar as they relate to the country where the Site is located, nuclear reaction, nuclear radiation, radioactive contamination, pressure wave caused by aircraft or other aerial objects, or any other occurrences that an experienced contractor could not reasonably foresee, or if reasonably foreseeable could not reasonably make provision for or insure against, insofar as such risks are not normally insurable on the insurance market and are mentioned in the general exclusions of the policy of insurance, including War Risks and Political Risks, taken out under GCC Clause 34 hereof; or
- (b) any use or occupation by the Employer or any third party other than a Subcontractor, authorized by the Employer of any part of the Facilities; or
- (c) any use of or reliance upon any design, data, or specification provided or designated by or on behalf of the Employer, or any such matter for which the Contractor has disclaimed responsibility herein,

the Employer shall pay to the Contractor all sums payable in respect of the Facilities executed, notwithstanding that the same be lost, destroyed, or damaged, and will pay to the Contractor the replacement value of all temporary facilities and all parts thereof lost, destroyed, or damaged. If the Employer requests the Contractor in writing to make good any loss or damage to the Facilities thereby occasioned, the Contractor shall make good the same at the cost of the Employer in accordance with GCC Clause 39. If the Employer does not request the

Contractor in writing to make good any loss or damage to the Facilities thereby occasioned, the Employer shall either request a change in accordance with GCC Clause 39, excluding the performance of that part of the Facilities thereby lost, destroyed or damaged, or, where the loss or damage affects a substantial part of the Facilities, the Employer shall terminate the Contract pursuant to GCC Subclause 42.1 hereof.

32.3 The Contractor shall be liable for any loss of or damage to any Contractor's Equipment, or any other property of the Contractor used or intended to be used for purposes of the Facilities, except (i) as mentioned in GCC Subclause 32.2 with respect to the Contractor's temporary facilities, and (ii) where such loss or damage arises by reason of any of the matters specified in GCC Subclauses 32.2 (b) and (c) and 38.1.

32.4 With respect to any loss or damage caused to the Facilities or any part thereof or to the Contractor's Equipment by reason of any of the matters specified in GCC Subclause 38.1, the provisions of GCC Subclause 38.3 shall apply.

**33. Loss of or
Damage to
Property;
Accident or Injury
to Workers;
Indemnification**

33.1 Subject to GCC Subclause 33.3, the Contractor shall indemnify and hold harmless the Employer and its employees and officers from and against any and all suits, actions, or administrative proceedings, claims, demands, losses, damages, costs, and expenses of whatsoever nature, including attorney's fees and expenses, in respect of the death or injury of any person or loss of or damage to any property other than the Facilities whether accepted or not, arising in connection with the supply and installation of the Facilities and by reason of the negligence of the Contractor or its Subcontractors, or their employees, officers, or agents, except any injury, death, or property damage caused by the negligence of the Employer, its contractors, employees, officers, or agents.

33.2 If any proceedings are brought or any claim is made against the Employer that might subject the Contractor to liability under GCC Subclause 33.1, the Employer shall promptly give the Contractor a notice thereof and the Contractor may at its own expense and in the Employer's name conduct such proceedings or claim and any negotiations for the settlement of any such proceedings or claim.

If the Contractor fails to notify the Employer within 28 days after receipt of such notice that it intends to conduct any such proceedings or claim, then the Employer shall be free to conduct the same on its own behalf. Unless the Contractor has so failed to notify the Employer within the 28-day period, the Employer shall make no admission that may be prejudicial to the defense of any such proceedings or claim.

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

33.3 The Employer shall indemnify and hold harmless the Contractor and its employees, officers, and Subcontractors from any liability for loss of or damage to property of the Employer, other than the Facilities not yet taken over, that is caused by fire, explosion, or any other perils, in excess of the amount recoverable from insurances procured under GCC

Clause 34, provided that such fire, explosion, or other perils were not caused by any act or failure of the Contractor.

33.4 The party entitled to the benefit of an indemnity under this GCC Clause 33 shall take all reasonable measures to mitigate any loss or damage which has occurred. If the party fails to take such measures, the other party's liabilities shall be correspondingly reduced.

34. Insurance

34.1 To the extent specified in the Appendix (Insurance Requirements) to the Contract Agreement, the Contractor shall at its expense take out and maintain in effect, or cause to be taken out and maintained in effect, during the performance of the Contract, the insurances set forth below in the sums and with the deductibles and other conditions specified in the said Appendix. The identity of the insurers and the form of the policies shall be subject to the approval of the Employer, who should not unreasonably withhold such approval.

(a) Cargo Insurance During Transport

Covering loss or damage occurring while in transit from the Contractor's or Subcontractor's works or stores until arrival at the Site, to the Plant (including spare parts therefor) and to the Contractor's Equipment.

(b) Installation All Risks Insurance

Covering physical loss or damage to the Facilities at the Site, occurring prior to Completion of the Facilities, with an extended maintenance coverage for the Contractor's liability in respect of any loss or damage occurring during the Defect Liability Period while the Contractor is on the Site for the purpose of performing its obligations during the Defect Liability Period.

(c) Third Party Liability Insurance

Covering bodily injury or death suffered by third parties including the Employer's personnel, and loss of or damage to property occurring in connection with the supply and installation of the Facilities.

(d) Automobile Liability Insurance

Covering use of all vehicles used by the Contractor or its Subcontractors, whether or not owned by them, in connection with the execution of the Contract.

(e) Workers' Compensation

In accordance with the statutory requirements applicable in any country where the Contract or any part thereof is executed.

(f) Employer's Liability

In accordance with the statutory requirements applicable in any country where the Contract or any part thereof is executed.

(g) Other Insurances

Such other insurances as may be specifically agreed upon by the parties hereto as listed in the Appendix (Insurance Requirements) to the Contract Agreement.

- 34.2 The Employer shall be named as co-insured under all insurance policies taken out by the Contractor pursuant to GCC Subclause 34.1, except for the Third Party Liability, Workers' Compensation, and Employer's Liability Insurances, and the Contractor's Subcontractors shall be named as co-insureds under all insurance policies taken out by the Contractor pursuant to GCC Subclause 34.1 except for the Cargo Insurance During Transport, Workers' Compensation, and Employer's Liability Insurances. All insurer's rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies.
- 34.3 The Contractor shall, in accordance with the provisions of the Appendix (Insurance Requirements) to the Contract Agreement, deliver to the Employer certificates of insurance or copies of the insurance policies as evidence that the required policies are in full force and effect. The certificates shall provide that no less than 21 days' notice shall be given to the Employer by insurers prior to cancellation or material modification of a policy.
- 34.4 The Contractor shall ensure that, where applicable, its Subcontractor(s) shall take out and maintain in effect adequate insurance policies for their personnel and vehicles and for work executed by them under the Contract, unless such Subcontractors are covered by the policies taken out by the Contractor.
- 34.5 The Employer shall at its expense take out and maintain in effect during the performance of the Contract those insurances specified in the Appendix (Insurance Requirements) to the Contract Agreement, in the sums and with the deductibles and other conditions specified in the said Appendix. The Contractor and the Contractor's Subcontractors shall be named as co-insureds under all such policies. All insurers' rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies. The Employer shall deliver to the Contractor satisfactory evidence that the required insurances are in full force and effect. The policies shall provide that not less than 21 days' notice shall be given to the Contractor by all insurers prior to any cancellation or material modification of the policies. If so requested by the Contractor, the Employer shall provide copies of the policies taken out by the Employer under this GCC Subclause 34.5.
- 34.6 If the Contractor fails to take out and/or maintain in effect the insurances referred to in GCC Subclause 34.1, the Employer may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Contractor under the Contract any premium that the Employer shall have paid to the insurer, or may otherwise recover such amount as a debt due from the Contractor. If the Employer fails to take out and/or maintain in effect the insurances referred to in GCC 34.5, the Contractor may take out and maintain in effect any such insurances and may from time to time deduct from any amount due the Employer under the Contract any premium that the Contractor shall have paid to the insurer, or may otherwise recover such amount as a debt due

from the Employer. If the Contractor fails to or is unable to take out and maintain in effect any such insurances, the Contractor shall nevertheless have no liability or responsibility towards the Employer, and the Contractor shall have full recourse against the Employer for any and all liabilities of the Employer herein.

- 34.7 Unless otherwise provided in the Contract, the Contractor shall prepare and conduct all and any claims made under the policies effected by it pursuant to this GCC Clause 34, and all monies payable by any insurers shall be paid to the Contractor. The Employer shall give to the Contractor all such reasonable assistance as may be required by the Contractor. With respect to insurance claims in which the Employer's interest is involved, the Contractor shall not give any release or make any compromise with the insurer without the prior written consent of the Employer. With respect to insurance claims in which the Contractor's interest is involved, the Employer shall not give any release or make any compromise with the insurer without the prior written consent of the Contractor.

35. Unforeseen Conditions

- 35.1 If, during the execution of the Contract, the Contractor shall encounter on the Site any physical conditions other than climatic conditions, or artificial obstructions that could not have been reasonably foreseen prior to the date of the Contract Agreement by an experienced contractor on the basis of reasonable examination of the data relating to the Facilities including any data as to boring tests, provided by the Employer, and on the basis of information that it could have obtained from a visual inspection of the Site if access thereto was available, or other data readily available to it relating to the Facilities, and if the Contractor determines that it will in consequence of such conditions or obstructions incur additional cost and expense or require additional time to perform its obligations under the Contract that would not have been required if such physical conditions or artificial obstructions had not been encountered, the Contractor shall promptly, and before performing additional work or using additional Plant or Contractor's Equipment, notify the Project Manager in writing of

- (a) the physical conditions or artificial obstructions on the Site that could not have been reasonably foreseen;
- (b) the additional work and/or Plant and/or Contractor's Equipment required, including the steps which the Contractor will or proposes to take to overcome such conditions or obstructions;
- (c) the extent of the anticipated delay; and
- (d) the additional cost and expense that the Contractor is likely to incur.

On receiving any notice from the Contractor under this GCC Subclause 35.1, the Project Manager shall promptly consult with the Employer and Contractor and decide upon the actions to be taken to overcome the physical conditions or artificial obstructions encountered. Following such consultations, the Project Manager shall instruct the Contractor, with a copy to the Employer, of the actions to be taken.

35.2 Any reasonable additional cost and expense incurred by the Contractor in following the instructions from the Project Manager to overcome such physical conditions or artificial obstructions referred to in GCC Subclause 35.1 shall be paid by the Employer to the Contractor as an addition to the Contract Price.

35.3 If the Contractor is delayed or impeded in the performance of the Contract because of any such physical conditions or artificial obstructions referred to in GCC Subclause 35.1, the Time for Completion shall be extended in accordance with GCC Clause 40.

36. Change in Laws and Regulations

36.1 If, after the date 28 days prior to the date of Bid submission, in the country where the Site is located, any law, regulation, ordinance, order or by-law having the force of law is enacted, promulgated, abrogated, or changed, which shall be deemed to include any change in interpretation or application by the competent authorities, that subsequently affects the costs and expenses of the Contractor and/or the Time for Completion, the Contract Price shall be correspondingly increased or decreased, and/or the Time for Completion shall be reasonably adjusted to the extent that the Contractor has thereby been affected in the performance of any of its obligations under the Contract. Notwithstanding the foregoing, such additional or reduced costs shall not be separately paid or credited if the same has already been accounted for in the price adjustment provisions where applicable, in accordance with the SCC, pursuant to GCC Subclause 11.2.

37. Force Majeure

37.1 "Force Majeure" shall mean any event beyond the reasonable control of the Employer or of the Contractor, as the case may be, and which is unavoidable notwithstanding the reasonable care of the party affected, and shall include, without limitation, the following:

- (a) war, hostilities, or warlike operations whether a state of war be declared or not, invasion, act of foreign enemy and civil war;
- (b) rebellion, revolution, insurrection, mutiny, usurpation of civil or military government, conspiracy, riot, civil commotion, and terrorist acts;
- (c) confiscation, nationalization, mobilization, commandeering or requisition by or under the order of any government or de jure or de facto authority or ruler or any other act or failure to act of any local state or national government authority;
- (d) strike, sabotage, lockout, embargo, import restriction, port congestion, lack of usual means of public transportation and communication, industrial dispute, shipwreck, shortage or restriction of power supply, epidemics, quarantine, and plague;
- (e) earthquake, landslide, volcanic activity, fire, flood or inundation, tidal wave, typhoon or cyclone, hurricane, storm, lightning, or other inclement weather condition, nuclear, and pressure waves or other natural or physical disaster; and
- (f) shortage of labor, materials, or utilities where caused by circumstances that are themselves Force Majeure.

- 37.2 If either party is prevented, hindered, or delayed from or in performing any of its obligations under the Contract by an event of Force Majeure, then it shall notify the other in writing of the occurrence of such event and the circumstances thereof within 14 days after the occurrence of such event.
- 37.3 The party who has given such notice shall be excused from the performance or punctual performance of its obligations under the Contract for so long as the relevant event of Force Majeure continues and to the extent that such party's performance is prevented, hindered, or delayed. The Time for Completion shall be extended in accordance with GCC Clause 40.
- 37.4 The party or parties affected by the event of Force Majeure shall use reasonable efforts to mitigate the effect thereof upon its or their performance of the Contract and to fulfill its or their obligations under the Contract, but without prejudice to either party's right to terminate the Contract under GCC Subclauses 37.6 and 38.5.
- 37.5 No delay or nonperformance by either party hereto caused by the occurrence of any event of Force Majeure shall
- (a) constitute a default or breach of the Contract; or
 - (b) give rise to any claim for damages or additional cost or expense occasioned thereby, subject to GCC Subclauses 32.2, 38.3 and 38.4
- if and to the extent that such delay or nonperformance is caused by the occurrence of an event of Force Majeure.
- 37.6 If the performance of the Contract is substantially prevented, hindered, or delayed for a single period of more than 60 days or an aggregate period of more than 120 days on account of one or more events of Force Majeure during the currency of the Contract, the parties will attempt to develop a mutually satisfactory solution, failing which either party may terminate the Contract by giving a notice to the other, but without prejudice to either party's right to terminate the Contract under GCC Subclause 38.5.
- 37.7 In the event of termination pursuant to GCC Subclause 37.6, the rights and obligations of the Employer and the Contractor shall be as specified in GCC Subclauses 42.1.2 and 42.1.3.
- 37.8 Notwithstanding GCC Subclause 37.5, Force Majeure shall not apply to any obligation of the Employer to make payments to the Contractor herein.
- 38. War Risks**
- 38.1 "War Risks" shall mean any event specified in paragraphs (a) and (b) of GCC Subclause 37.1 and any explosion or impact of any mine, bomb, shell, grenade, or other projectile, missile, munitions or explosive of war, occurring or existing in or near the country (or countries) where the Site is located.
- 38.2 Notwithstanding anything contained in the Contract, the Contractor shall have no liability whatsoever for or with respect to

- (a) destruction of or damage to Facilities, Plant, or any part thereof;
- (b) destruction of or damage to property of the Employer or any third party; or
- (c) injury or loss of life

if such destruction, damage, injury or loss of life is caused by any war risks, and the Employer shall indemnify and hold the Contractor harmless from and against any and all claims, liabilities, actions, lawsuits, damages, costs, charges, or expenses arising in consequence of or in connection with the same.

38.3 If the Facilities or any Plant or Contractor's Equipment or any other property of the Contractor used or intended to be used for the purposes of the Facilities shall sustain destruction or damage by reason of any war risks, the Employer shall pay the Contractor for

- (a) any part of the Facilities or the Plant so destroyed or damaged to the extent not already paid for by the Employer and so far as may be required by the Employer, and as may be necessary for completion of the Facilities;
- (b) replacing or making good any Contractor's Equipment or other property of the Contractor so destroyed or damaged; and
- (c) replacing or making good any such destruction or damage to the Facilities or the Plant or any part thereof.

If the Employer does not require the Contractor to replace or make good any such destruction or damage to the Facilities, the Employer shall either request a change in accordance with GCC Clause 39, excluding the performance of that part of the Facilities thereby destroyed or damaged or, where the loss, destruction, or damage affects a substantial part of the Facilities, shall terminate the Contract, pursuant to GCC Subclause 42.1.

If the Employer requires the Contractor to replace or make good on any such destruction or damage to the Facilities, the Time for Completion shall be extended in accordance with GCC 40.

38.4 Notwithstanding anything contained in the Contract, the Employer shall pay the Contractor for any increased costs or incidentals to the execution of the Contract that are in any way attributable to, consequent on, resulting from, or in any way connected with any war risks, provided that the Contractor shall as soon as practicable notify the Employer in writing of any such increased cost.

38.5 If during the performance of the Contract any war risks shall occur that financially or otherwise materially affect the execution of the Contract by the Contractor, the Contractor shall use its reasonable efforts to execute the Contract with due and proper consideration given to the safety of its and its Subcontractors' personnel engaged in the work on the Facilities, provided, however, that if the execution of the work on the Facilities becomes impossible or is substantially prevented for a single period of more than sixty (60) days or an aggregate period of more than one hundred and twenty (120) days on account of any war risks, the parties

will attempt to develop a mutually satisfactory solution, failing which either party may terminate the Contract by giving a notice to the other.

38.6 In the event of termination pursuant to GCC Subclauses 38.3 or 38.5, the rights and obligations of the Employer and the Contractor shall be specified in GCC Subclauses 42.1.2 and 42.1.3.

H. Change in Contract Elements

39. Change in the Facilities

39.1 Introducing a Change

39.1.1 Subject to GCC Subclauses 39.2.5 and 39.2.7, the Employer shall have the right to propose, and subsequently require, that the Project Manager order the Contractor from time to time during the performance of the Contract to make any change, modification, addition, or deletion to, in or from the Facilities hereinafter called "Change," provided that such Change falls within the general scope of the Facilities and does not constitute unrelated work and that it is technically practicable, taking into account both the state of advancement of the Facilities and the technical compatibility of the Change envisaged with the nature of the Facilities as specified in the Contract.

39.1.2 The Contractor may from time to time during its performance of the Contract propose to the Employer with a copy to the Project Manager, any Change that the Contractor considers necessary or desirable to improve the quality, efficiency, or safety of the Facilities. The Employer may at its discretion approve or reject any Change proposed by the Contractor, provided that the Employer shall approve any Change proposed by the Contractor to ensure the safety of the Facilities.

39.1.3 Notwithstanding GCC Subclauses 39.1.1 and 39.1.2, no change made necessary because of any default of the Contractor in the performance of its obligations under the Contract shall be deemed to be a Change, and such change shall not result in any adjustment of the Contract Price or the Time for Completion.

39.1.4 The procedure on how to proceed with and execute Changes is specified in GCC Subclauses 39.2 and 39.3, and further details and forms are provided in the Employer's Requirements (Forms and Procedures).

39.2 Changes Originating from Employer

39.2.1 If the Employer proposes a Change pursuant to GCC Subclause 39.1.1, it shall send to the Contractor a "Request for Change Proposal," requiring the Contractor to prepare and furnish to the Project Manager as soon as reasonably practicable a "Change Proposal," which shall include the following:

- (a) brief description of the Change,
- (b) effect on the Time for Completion,

- (c) estimated cost of the Change,
- (d) effect on Functional Guarantees (if any),
- (e) effect on the Facilities, and
- (f) effect on any other provisions of the Contract.

39.2.2.2 Prior to preparing and submitting the "Change Proposal," the Contractor shall submit to the Project Manager an "Estimate for Change Proposal," which shall be an estimate of the cost of preparing and submitting the Change Proposal.

Upon receipt of the Contractor's Estimate for Change Proposal, the Employer shall do one of the following:

- (a) accept the Contractor's estimate with instructions to the Contractor to proceed with the preparation of the Change Proposal,
- (b) advise the Contractor of any part of its Estimate for Change Proposal that is unacceptable and request the Contractor to review its estimate
- (c) advise the Contractor that the Employer does not intend to proceed with the Change.

39.2.3 Upon receipt of the Employer's instruction to proceed under GCC Subclause 39.2.2 (a), the Contractor shall, with proper expedition, proceed with the preparation of the Change Proposal, in accordance with GCC Subclause 39.2.1.

39.2.4 The pricing of any Change shall, as far as practicable, be calculated in accordance with the rates and prices included in the Contract. If such rates and prices are inequitable, the parties thereto shall agree on specific rates for the valuation of the Change.

39.2.5 If before or during the preparation of the Change Proposal it becomes apparent that the aggregate effect of compliance therewith and with all other Change Orders that have already become binding upon the Contractor under this GCC Clause 39 would be to increase or decrease the Contract Price as originally set forth in Article 2 (Contract Price) of the Contract Agreement by more than 15%, the Contractor may give a written notice of objection thereto prior to furnishing the Change Proposal as aforesaid. If the Employer accepts the Contractor's objection, the Employer shall withdraw the proposed Change and shall notify the Contractor in writing thereof.

The Contractor's failure to so object shall neither affect its right to object to any subsequent requested Changes or Change Orders herein, nor affect its right to take into account, when making such subsequent objection, the percentage increase or decrease in the

Contract Price that any Change not objected to by the Contractor represents.

39.2.6 Upon receipt of the Change Proposal, the Employer and the Contractor shall mutually agree upon all matters therein contained. Within 14 days after such agreement, the Employer shall, if it intends to proceed with the Change, issue the Contractor with a Change Order.

If the Employer is unable to reach a decision within 14 days, it shall notify the Contractor with details of when the Contractor can expect a decision.

If the Employer decides not to proceed with the Change for whatever reason, it shall, within the said period of 14 days, notify the Contractor accordingly. Under such circumstances, the Contractor shall be entitled to reimbursement of all costs reasonably incurred by it in the preparation of the Change Proposal, provided that these do not exceed the amount given by the Contractor in its Estimate for Change Proposal submitted in accordance with GCC Subclause 39.2.2.

39.2.7 If the Employer and the Contractor cannot reach agreement on the price for the Change, an equitable adjustment to the Time for Completion, or any other matters identified in the Change Proposal, the Employer may nevertheless instruct the Contractor to proceed with the Change by issue of a "Pending Agreement Change Order."

Upon receipt of a Pending Agreement Change Order, the Contractor shall immediately proceed with effecting the Changes covered by such Order. The parties shall thereafter attempt to reach agreement on the outstanding issues under the Change Proposal.

If the parties cannot reach agreement within 60 days from the date of issue of the Pending Agreement Change Order, then the matter may be referred to the Dispute Board in accordance with the provisions of GCC Subclause 45.3.

39.3 Changes Originating from Contractor

39.3.1 If the Contractor proposes a Change pursuant to GCC Subclause 39.1.2, the Contractor shall submit to the Project Manager a written "Application for Change Proposal," giving reasons for the proposed Change and including the information specified in GCC Subclause 39.2.1.

Upon receipt of the Application for Change Proposal, the parties shall follow the procedures outlined in GCC Subclauses 39.2.6 and 39.2.7. However, should the Employer choose not to proceed, the Contractor shall not be entitled to recover the costs of preparing the Application for Change Proposal.

40. Extension of Time for Completion

40.1 The Time(s) for Completion specified in the SCC shall be extended if the Contractor is delayed or impeded in the performance of any of its obligations under the Contract by reason of any of the following:

- (a) any Change in the Facilities as provided in GCC Clause 39;
- (b) any occurrence of Force Majeure as provided in GCC Clause 37, unforeseen conditions as provided in GCC Clause 35, or other occurrence of any of the matters specified or referred to in paragraphs (a), (b) and (c) of GCC Subclause 32.2;
- (c) any suspension order given by the Employer under GCC Clause 41 hereof or reduction in the rate of progress pursuant to GCC Subclause 41.2; or
- (d) any changes in laws and regulations as provided in GCC Clause 36; or
- (e) any default or breach of the Contract by the Employer, or any activity, act or omission of the Employer, or the Project Manager, or any other contractors employed by the Employer; or
- (f) any other matter specifically mentioned in the Contract; or
- (g) any delay on the part of a sub-contractor, provided such delay is due to a cause for which the Contractor himself would have been entitled to an extension of time under this Subclause

by such period as shall be fair and reasonable in all the circumstances and as shall fairly reflect the delay or impediment sustained by the Contractor.

40.2 Except where otherwise specifically provided in the Contract, the Contractor shall submit to the Project Manager a notice of a claim for an extension of the Time for Completion, together with particulars of the event or circumstance justifying such extension as soon as reasonably practicable after the commencement of such event or circumstance. As soon as reasonably practicable after receipt of such notice and supporting particulars of the claim, the Employer and the Contractor shall agree upon the period of such extension. In the event that the Contractor does not accept the Employer's estimate of a fair and reasonable time extension, the Contractor shall be entitled to refer the matter to a Dispute Board, pursuant to GCC Subclause 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 90 days, then at any time thereafter and provided that at that time such performance is still suspended, the Contractor may give a notice to the Project Manager requiring that the Employer shall, within 28 days of receipt of the notice, order the resumption of such performance or request and subsequently order a change in accordance with GCC Clause 39, excluding the performance of the suspended obligations from the Contract.

If the Employer fails to do so within such period, the Contractor may, by a further notice to the Project Manager, elect to treat the suspension, where it affects a part only of the Facilities, as a deletion of such part in accordance with GCC Clause 39 or, where it affects the whole of the Facilities, as termination of the Contract under GCC Subclause 42.1.

41.2 If

- (a) the Employer has failed to pay the Contractor any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause pursuant to the Appendix (Terms and Procedures of Payment) to the Contract Agreement, or commits a substantial breach of the Contract, the Contractor may give a notice to the Employer that requires payment of such sum, with interest thereon as stipulated in GCC Subclause 12.3, requires approval of such invoice or supporting documents, or specifies the breach and requires the Employer to remedy the same, as the case may be. If the Employer fails to pay such sum together with such interest, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, or fails to remedy the breach or take steps to remedy the breach within 14 days after receipt of the Contractor's notice; or
- (b) the Contractor is unable to carry out any of its obligations under the Contract for any reason attributable to the Employer, including but not limited to the Employer's failure to provide possession of or access to the Site or other areas in accordance with GCC Subclause 10.2, or failure to obtain any governmental permit necessary for the execution and/or completion of the Facilities;

then the Contractor may by 14 days' notice to the Employer suspend performance of all or any of its obligations under the Contract, or reduce the rate of progress.

41.3 If the Contractor's performance of its obligations is suspended, or the rate of progress is reduced pursuant to this GCC Clause 41, then the Time for Completion shall be extended in accordance with GCC Subclause 40.1, and any and all additional costs or expenses incurred by the Contractor as a result of such suspension or reduction shall be paid by the Employer to the Contractor in addition to the Contract Price, except in the case of suspension order or reduction in the rate of progress by reason of the Contractor's default or breach of the Contract.

41.4 During the period of suspension, the Contractor shall not remove from the Site any Plant, any part of the Facilities or any Contractor's Equipment, without the prior written consent of the Employer.

42. Termination

42.1 Termination for Employer's Convenience

42.1.1 The Employer may at any time terminate the Contract for any reason by giving the Contractor a notice of termination that refers to this GCC Subclause 42.1.

42.1.2 Upon receipt of the notice of termination under GCC Subclause 42.1.1, the Contractor shall, either immediately or upon the date specified in the notice of termination,

- (a) cease all further work, except for such work as the Employer may specify in the notice of termination for the sole purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition;
- (b) terminate all subcontracts, except those to be assigned to the Employer pursuant to paragraph (d) (ii) below;
- (c) remove all Contractor's Equipment from the Site, repatriate the Contractor's and its Subcontractors' personnel from the Site, remove from the Site any wreckage, rubbish and debris of any kind, and leave the whole of the Site in a clean and safe condition; and
- (d) subject to the payment specified in GCC Subclause 42.1.3,
 - (i) deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination;
 - (ii) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Plant as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors; and
 - (iii) deliver to the Employer all non-proprietary drawings, specifications and other documents prepared by the

Contractor or its Subcontractors as at the date of termination in connection with the Facilities.

42.1.3 In the event of termination of the Contract under GCC Subclause 42.1.1, the Employer shall pay to the Contractor the following amounts:

- (a) the Contract Price, properly attributable to the parts of the Facilities executed by the Contractor as of the date of termination;
- (b) the costs reasonably incurred by the Contractor in the removal of the Contractor's Equipment from the Site and in the repatriation of the Contractor's and its Subcontractors' personnel;
- (c) any amounts to be paid by the Contractor to its Subcontractors in connection with the termination of any subcontracts, including any cancellation charges;
- (d) costs incurred by the Contractor in protecting the Facilities and leaving the Site in a clean and safe condition pursuant to paragraph (a) of GCC Subclause 42.1.2; and
- (e) the cost of satisfying all other obligations, commitments and claims that the Contractor may in good faith have undertaken with third parties in connection with the Contract and that are not covered by paragraphs (a) through (d) above.

42.2 Termination for Contractor's Default

42.2.1 The Employer, without prejudice to any other rights or remedies it may possess, may terminate the Contract forthwith in the following circumstances by giving a notice of termination and its reasons therefor to the Contractor, referring to this GCC Subclause 42.2:

- (a) if the Contractor becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, if the Contractor is a corporation, a resolution is passed or order is made for its winding up, other than a voluntary liquidation for the purposes of amalgamation or reconstruction, a receiver is appointed over any part of its undertaking or assets, or if the Contractor takes or suffers any other analogous action in consequence of debt;
- (b) if the Contractor assigns or transfers the Contract or any right or interest therein in violation of the provision of GCC Clause 43; and
- (c) if the Contractor, in the judgment of the Employer has engaged in integrity violations, as defined in GCC Clause 6, in competing for or in executing the Contract.

42.2.2 If the Contractor

- (a) has abandoned or repudiated the Contract;
- (b) has without valid reason failed to commence work on the Facilities promptly or has suspended, other than pursuant to GCC Subclause 41.2, the progress of Contract performance for more than 28 days after receiving a written instruction from the Employer to proceed;
- (c) persistently fails to execute the Contract in accordance with the Contract or persistently neglects to carry out its obligations under the Contract without just cause;
- (d) refuses or is unable to provide sufficient materials, services or labor to execute and complete the Facilities in the manner specified in the program furnished under GCC Subclause 18.2 at rates of progress that give reasonable assurance to the Employer that the Contractor can attain Completion of the Facilities by the Time for Completion as extended;

then the Employer may, without prejudice to any other rights it may possess under the Contract, give a notice to the Contractor, stating the nature of the default and requiring the Contractor to remedy the same. If the Contractor fails to remedy or to take steps to remedy the same within 14 days of its receipt of such notice, then the Employer may terminate the Contract forthwith by giving a notice of termination to the Contractor that refers to this GCC Subclause 42.2.

42.2.3 Upon receipt of the notice of termination under GCC Subclauses 42.2.1 or 42.2.2, the Contractor shall, either immediately or upon such date as is specified in the notice of termination,

- (a) cease all further work, except for such work as the Employer may specify in the notice of termination for the sole purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition;
- (b) terminate all subcontracts, except those to be assigned to the Employer pursuant to paragraph (d) below;
- (c) deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination;
- (d) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Plant as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors; and
- (e) deliver to the Employer all drawings, specifications and other documents prepared by the Contractor or its Subcontractors as of the date of termination in connection with the Facilities.

42.2.4 The Employer may enter upon the Site, expel the Contractor, and complete the Facilities itself or by employing any third party. The Employer may, to the exclusion of any right of the Contractor over the same, take over and use with the payment of a fair rental rate to the Contractor, with all the maintenance costs to the account of the Employer and with an indemnification by the Employer for all liability including damage or injury to persons arising out of the Employer's use of such equipment, any Contractor's Equipment owned by the Contractor and on the Site in connection with the Facilities for such reasonable period as the Employer considers expedient for the supply and installation of the Facilities.

Upon completion of the Facilities or at such earlier date as the Employer thinks appropriate, the Employer shall give notice to the Contractor that such Contractor's Equipment will be returned to the Contractor at or near the Site and shall return such Contractor's Equipment to the Contractor in accordance with such notice. The Contractor shall thereafter without delay and at its cost remove or arrange removal of the same from the Site.

42.2.5 Subject to GCC Subclause 42.2.6, the Contractor shall be entitled to be paid the Contract Price attributable to the Facilities executed as of the date of termination, the value of any unused or partially used Plant on the Site, and the costs, if any, incurred in protecting the Facilities and in leaving the Site in a clean and safe condition pursuant to paragraph (a) of GCC Subclause 42.2.3. Any sums due the Employer from the Contractor accruing prior to the date of termination shall be deducted from the amount to be paid to the Contractor under this Contract.

42.2.6 If the Employer completes the Facilities, the cost of completing the Facilities by the Employer shall be determined.

If the sum that the Contractor is entitled to be paid, pursuant to GCC Subclause 42.2.5, plus the reasonable costs incurred by the Employer in completing the Facilities, exceeds the Contract Price, the Contractor shall be liable for such excess.

If such excess is greater than the sums due the Contractor under GCC Subclause 42.2.5, the Contractor shall pay the balance to the Employer, and if such excess is less than the sums due the Contractor under GCC Subclause 42.2.5, the Employer shall pay the balance to the Contractor.

The Employer and the Contractor shall agree, in writing, on the computation described above and the manner in which any sums shall be paid.

42.3 Termination by Contractor
42.3.1 If

- (a) the Employer has failed to pay the Contractor any sum due under the Contract within the specified period, has failed to approve any invoice or supporting documents without just cause pursuant to the Appendix (Terms and Procedures of Payment) to the Contract Agreement, or commits a substantial breach of the Contract, the Contractor may give a notice to the Employer that requires payment of such sum,

with interest thereon as stipulated in GCC Subclause 12.3, requires approval of such invoice or supporting documents, or specifies the breach and requires the Employer to remedy the same, as the case may be. If the Employer fails to pay such sum together with such interest, fails to approve such invoice or supporting documents or give its reasons for withholding such approval, fails to remedy the breach or take steps to remedy the breach within 14 days after receipt of the Contractor's notice; or

- (b) the Contractor is unable to carry out any of its obligations under the Contract for any reason attributable to the Employer, including but not limited to the Employer's failure to provide possession of or access to the Site or other areas or failure to obtain any governmental permit necessary for the execution and/or completion of the Facilities;

then the Contractor may give a notice to the Employer thereof, and if the Employer has failed to pay the outstanding sum, to approve the invoice or supporting documents, to give its reasons for withholding such approval, or to remedy the breach within 28 days of such notice, or if the Contractor is still unable to carry out any of its obligations under the Contract for any reason attributable to the Employer within 28 days of the said notice, the Contractor may by a further notice to the Employer referring to this GCC Subclause 42.3.1, forthwith terminate the Contract.

42.3.2 The Contractor may terminate the Contract forthwith by giving a notice to the Employer to that effect, referring to this GCC Subclause 42.3.2, if the Employer becomes bankrupt or insolvent, has a receiving order issued against it, compounds with its creditors, or, being a corporation, if a resolution is passed or order is made for its winding up (other than a voluntary liquidation for the purposes of amalgamation or reconstruction), a receiver is appointed over any part of its undertaking or assets, or if the Employer takes or suffers any other analogous action in consequence of debt.

42.3.3 If the Contract is terminated under GCC Subclauses 42.3.1 or 42.3.2, then the Contractor shall immediately

- (a) cease all further work, except for such work as may be necessary for the purpose of protecting that part of the Facilities already executed, or any work required to leave the Site in a clean and safe condition;
- (b) terminate all subcontracts, except those to be assigned to the Employer pursuant to paragraph (d) (ii);
- (c) remove all Contractor's Equipment from the Site and repatriate the Contractor's and its Subcontractors' personnel from the Site; and
- (d) subject to the payment specified in GCC Subclause 42.3.4,
- (i) deliver to the Employer the parts of the Facilities executed by the Contractor up to the date of termination;

- (ii) to the extent legally possible, assign to the Employer all right, title and benefit of the Contractor to the Facilities and to the Plant as of the date of termination, and, as may be required by the Employer, in any subcontracts concluded between the Contractor and its Subcontractors; and
- (iii) deliver to the Employer all drawings, specifications and other documents prepared by the Contractor or its Subcontractors as of the date of termination in connection with the Facilities.

42.3.4 If the Contract is terminated under GCC Subclauses 42.3.1 or 42.3.2, the Employer shall pay to the Contractor all payments specified in GCC Subclause 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 Subclause 42.3 is without prejudice to any other rights or remedies of the Contractor that may be exercised in lieu of or in addition to rights conferred by GCC Subclause 42.3.

42.4 In this GCC Clause 42, the expression "Facilities executed" shall include all work executed, Installation Services provided, and all Plant acquired, or subject to a legally binding obligation to purchase, by the Contractor and used or intended to be used for the purpose of the Facilities, up to and including the date of termination.

42.5 In this GCC Clause 42, in calculating any monies due from the Employer to the Contractor, account shall be taken of any sum previously paid by the Employer to the Contractor under the Contract, including any advance payment paid pursuant to the Appendix (Terms and Procedures of Payment) to the Contract Agreement.

43. Assignment

43.1 Neither the Employer nor the Contractor shall, without the express prior written consent of the other party which consent shall not be unreasonably withheld, assign to any third party the Contract or any part thereof, or any right, benefit, obligation or interest therein or thereunder, except that the Contractor shall be entitled to assign either absolutely or by way of charge any monies due and payable to it or that may become due and payable to it under the Contract.

I. Claims, Disputes, and Arbitration

44. Contractor's Claims

44.1 If the Contractor considers himself to be entitled to any extension of the Time for Completion and/or any additional payment, under any Clause of these Conditions or otherwise in connection with the Contract, the Contractor shall submit a notice to the Project Manager, describing the event or circumstance giving rise to the claim. The notice shall be given as soon as practicable, and not later than 28 days after the Contractor became aware, or should have become aware, of the event or circumstance.

If the Contractor fails to give notice of a claim within such period of 28 days, the Time for Completion shall not be extended, the Contractor shall not be entitled to additional payment, and the Employer shall be discharged from all liability in connection with the claim. Otherwise, the following provisions of this Subclause shall apply.

The Contractor shall also submit any other notices, which are required by the Contract, and supporting particulars for the claim, all as relevant to such event or circumstance.

The Contractor shall keep such contemporary records as may be necessary to substantiate any claim, either on the Site or at another location acceptable to the Project Manager. Without admitting the Employer's liability, the Project Manager may, after receiving any notice under this Subclause, monitor the 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 Subclause are in addition to those of any other Subclause, which may apply to a claim. If the Contractor fails to comply with this or another Subclause in relation to any claim, any extension of time and/or additional payment shall take account of the extent (if any) to which the failure has prevented or prejudiced proper investigation of the claim, unless the claim is excluded under the second paragraph of this Subclause.

In the event that the Contractor and the Employer cannot agree on any matter relating to a claim, either party may refer the matter to the Dispute Board pursuant to GCC 45 hereof.

45. Disputes and Arbitration

45.1 Appointment of the Dispute Board

Disputes shall be referred to a Dispute Board for decision in accordance with GCC Subclause 45.3. The Parties shall appoint a Dispute Board by the date stated in the SCC.

The Dispute Board shall comprise, as stated in the SCC, either one or three suitably qualified persons ("the members"), each of whom shall be fluent in the language for communication defined in the Contract and shall be a professional experienced in the type of activities involved in the performance of the Contract and with the interpretation of contractual documents. If the number is not so stated and the Parties do not agree otherwise, the Dispute Board shall comprise three persons, one of whom shall serve as chairman.

If the Parties have not jointly appointed the Dispute Board 21 days before the date stated in the SCC and the Dispute Board is to comprise three persons, each Party shall nominate one member for the approval of the other Party. The first two members shall recommend and the Parties shall agree upon the third member, who shall act as chairman.

However, if a list of potential members is included in the SCC, the members shall be selected from those on the list, other than anyone who is unable or unwilling to accept appointment to the Dispute Board.

The agreement between the Parties and either the sole member or each of the three members shall incorporate by reference the General Conditions of Dispute Board Agreement contained in the Appendix to these General Conditions, with such amendments as are agreed between them.

The terms of the remuneration of either the sole member or each of the three members, including the remuneration of any expert whom the Dispute Board consults, shall be mutually agreed upon by the Parties when agreeing the terms of appointment of the member or such expert

(as the case may be). Each Party shall be responsible for paying one-half of this remuneration.

If a member declines to act or is unable to act as a result of death, disability, resignation or termination of appointment, a replacement shall be appointed in the same manner as the replaced person was required to have been nominated or agreed upon, as described in this Subclause.

The appointment of any member may be terminated by mutual agreement of both Parties, but not by the Employer or the Contractor acting alone. Unless otherwise agreed by both Parties, the appointment of the Dispute Board (including each member) shall expire when the Operational Acceptance Certificate has been issued in accordance with GCC Clause 25.3.

45.2 Failure to Agree Dispute Board

If any of the following conditions apply, namely:

- (a) the Parties fail to agree upon the appointment of the sole member of the Dispute Board by the date stated in the first paragraph of GCC Subclause 45.1;
- (b) either Party fails to nominate a member (for approval by the other Party) of a Dispute Board of three persons by such date;
- (c) the Parties fail to agree upon the appointment of the third member (to act as chairman) of the Dispute Board by such date; or
- (d) the Parties fail to agree upon the appointment of a replacement person within 42 days after the date on which the sole member or one of the three members declines to act or is unable to act as a result of death, disability, resignation, or termination of appointment;

then the appointing entity or official named in the SCC shall, upon the request of either or both of the Parties and after due consultation with both Parties, appoint this member of the Dispute Board. This appointment shall be final and conclusive. Each Party shall be responsible for paying one-half of the remuneration of the appointing entity or official.

45.3 Obtaining Dispute Board's Decision

If a dispute (of any kind whatsoever) arises between the Parties in connection with the performance of the Contract, including any dispute as to any certificate, determination, instruction, opinion or valuation of the Project Manager, either Party may refer the dispute in writing to the Dispute Board for its decision, with copies to the other Party and the Project Manager. Such reference shall state that it is given under this Subclause.

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

Both Parties shall promptly make available to the Dispute Board all such additional information, further access to the Site, and appropriate facilities, as the Dispute Board may require for the purposes of making a decision on such dispute. The Dispute Board shall be deemed to be not acting as arbitrator(s).

Within 84 days after receiving such reference, or within such other period as may be proposed by the Dispute Board and approved by both Parties, the Dispute Board shall give its decision, which shall be reasoned and shall state that it is given under this Subclause. The decision shall be binding on both Parties, who shall promptly give effect to it unless and until it shall be revised in an amicable settlement or an arbitral award as described below. Unless the Contract has already been abandoned, repudiated or terminated, the Contractor shall continue to proceed with the performance of the Facilities in accordance with the Contract.

If either Party is dissatisfied with the Dispute Board's decision, then either Party may, within 28 days after receiving the decision, give notice to the other Party of its dissatisfaction and intention to commence arbitration. If the Dispute Board fails to give its decision within the period of 84 days (or as otherwise approved) after receiving such reference, then either Party may, within 28 days after this period has expired, give notice to the other Party of its dissatisfaction and intention to commence arbitration.

In either event, this notice of dissatisfaction shall state that it is given under this Subclause, and shall set out the matter in dispute and the reason(s) for dissatisfaction. Except as stated in GCC Subclauses 45.6 and 45.7, neither Party shall be entitled to commence arbitration of a dispute unless a notice of dissatisfaction has been given in accordance with this Subclause.

If the Dispute Board has given its decision as to a matter in dispute to both Parties, and no notice of dissatisfaction has been given by either Party within 28 days after it received the Dispute Board's decision, then the decision shall become final and binding upon both Parties.

45.4 Amicable Settlement

Where notice of dissatisfaction has been given under GCC Subclause 45.3 above, both Parties shall attempt to settle the dispute amicably before the commencement of arbitration. However, unless both Parties agree otherwise, arbitration may be commenced on or after the fifty-sixth day after the day on which notice of dissatisfaction and intention to commence arbitration was given, even if no attempt at amicable settlement has been made.

45.5 Arbitration

Unless settled amicably, any dispute in respect of which the Dispute Board's decision (if any) has not become final and binding shall be finally settled by international arbitration. Unless otherwise agreed by both Parties,

- (a) arbitration proceedings shall be conducted as stated in the Special Conditions;

- (b) if no arbitration proceedings is so stated, the dispute shall be finally settled by institutional arbitration under the Rules of Arbitration of the International Chamber of Commerce;
- (c) the dispute shall be settled by three arbitrators; and
- (d) the arbitration shall be conducted in the language for communications defined in GCC Subclause 5.3.

The arbitrator(s) shall have full power to open up, review and revise any certificate, determination, instruction, opinion or valuation of the Project Manager, and any decision of the Dispute Board, relevant to the dispute. Nothing shall disqualify the Project Manager from being called as a witness and giving evidence before the arbitrator(s) on any matter whatsoever relevant to the dispute.

Neither Party shall be limited in the proceedings before the arbitrator(s) to the evidence or arguments previously put before the Dispute Board to obtain its decision, or to the reasons for dissatisfaction given in its notice of dissatisfaction. Any decision of the Dispute Board shall be admissible in evidence in the arbitration.

Arbitration may be commenced prior to or after completion of the Works. The obligations of the Parties, the Project Manager and the Dispute Board shall not be altered by reason of any arbitration being conducted during the progress of the Works.

45.6 Failure to Comply with Dispute Board's Decision

In the event that a Party fails to comply with a Dispute Board decision which has become final and binding, then the other Party may, without prejudice to any other rights it may have, refer the failure itself to arbitration under GCC Subclause 45.5. GCC Subclauses 45.3 and 45.4 shall not apply to this reference.

45.7 Expiry of Dispute Board's Appointment

If a dispute arises between the Parties in connection with the performance of the Contract, and there is no Dispute Board in place, whether by reason of the expiry of the Dispute Board's appointment or otherwise,

- (a) GCC Subclauses 45.3 and 45.4 shall not apply, and
- (b) the dispute may be referred directly to arbitration under GCC Subclause 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 "Dispute Board" and, where this is the case, all references to the "Other Members" do not apply; or
 - (ii) one of the three persons who are jointly called the "Dispute Board" and, where this is the case, the other two persons are called the "Other Members".

The Employer and the Contractor have entered (or intend to enter) into a contract, which is called the "Contract" and is defined in the Dispute Board Agreement, which incorporates this Appendix. In the Dispute Board Agreement, words and expressions which are not otherwise defined shall have the meanings assigned to them in the Contract.

2 General Provisions

Unless otherwise stated in the Dispute Board Agreement, it shall take effect on the latest of the following dates:

- (a) the Commencement Date defined in the Contract;
- (b) when the Employer, the Contractor and the Member have each signed the Dispute Board Agreement; or
- (c) when the Employer, the Contractor and each of the Other Members (if any) have respectively each signed a dispute board agreement.

This employment of the Member is a personal appointment. At any time, the Member may give not less than 70 days' notice of resignation to the Employer and to the Contractor, and the Dispute Board Agreement shall terminate upon the expiry of this period.

3 Warranties

The Member warrants and agrees that he/she is and shall be impartial and independent of the Employer, the Contractor and the Project Manager. The Member shall promptly disclose, to each of them and to the Other Members (if any), any fact or circumstance which might appear inconsistent with his/her warranty and agreement of impartiality and independence.

When appointing the Member, the Employer and the Contractor relied upon the Member's representations that he/she is

- (a) experienced in the work, which the Contractor is to carry out under the Contract,
- (b) experienced in the interpretation of contract documentation, and
- (c) fluent in the language for communications defined in the Contract.

4 General Obligations of the Member

The Member shall

- (a) have no interest financial or otherwise in the Employer, the Contractor or the Project Manager, nor any financial interest in the Contract except for payment under the Dispute Board Agreement;
- (b) not previously have been employed as a consultant or otherwise by the Employer, the Contractor, or the Project Manager, except in such circumstances as were disclosed in writing to the Employer and the Contractor before they signed the Dispute Board Agreement;
- (c) have disclosed in writing to the Employer, the Contractor, and the Other Members (if any), before entering into the Dispute Board Agreement and to his/her best knowledge and recollection, any professional or personal relationships with any director, officer, or employee of the Employer, the Contractor, or the Project Manager, and any previous involvement in the overall project of which the Contract forms part;
- (d) not, for the duration of the Dispute Board Agreement, be employed as a consultant or otherwise by the Employer, the Contractor, or the Project Manager, except as may be agreed in writing by the Employer, the Contractor, and the Other Members (if any);
- (e) comply with the annexed procedural rules and with GCC Subclause 45.3;
- (f) not give advice to the Employer, the Contractor, the Employer's Personnel, or the Contractor's Personnel concerning the conduct of the Contract, other than in accordance with the annexed procedural rules;
- (g) not while a Member enter into discussions or make any agreement with the Employer, the Contractor, or the Project Manager regarding employment by any of them, whether as a consultant or otherwise, after ceasing to act under the Dispute Board Agreement;
- (h) ensure his/her availability for all site visits and hearings as are necessary;
- (i) become conversant with the Contract and with the progress of the Facilities (and of any other parts of the project of which the Contract forms part) by studying all documents received, which shall be maintained in a current working file;
- (j) treat the details of the Contract and all the Dispute Board's activities and hearings as private and confidential, and not publish or disclose them without the prior written consent of the Employer, the Contractor, and the Other Members (if any); and
- (k) be available to give advice and opinions on any matter relevant to the Contract when requested by both the Employer and the Contractor, subject to the agreement of the Other Members (if any).



5 General Obligations of the Employer and the Contractor

The Employer, the Contractor, the Employer's Personnel and the Contractor's Personnel shall not request advice from or consultation with the Member regarding the Contract, otherwise than in the normal course of the Dispute Board's activities under the Contract and the Dispute Board Agreement. The Employer and the Contractor shall be responsible for compliance with this provision, by the Employer's Personnel and the Contractor's Personnel respectively.

The Employer and the Contractor undertake to each other and to the Member that the Member shall not, except as otherwise agreed in writing by the Employer, the Contractor, the Member and the Other Members (if any)

- (a) be appointed as an arbitrator in any arbitration under the Contract;
- (b) be called as a witness to give evidence concerning any dispute before arbitrator(s) appointed for any arbitration under the Contract; or
- (c) be liable for any claims for anything done or omitted in the discharge or purported discharge of the Member's functions, unless the act or omission is shown to have been in bad faith.

The Employer and the Contractor hereby jointly and severally indemnify and hold the Member harmless against and from claims from which he is relieved from liability under the preceding paragraph.

Whenever the Employer or the Contractor refers a dispute to the Dispute Board under GCC Subclause 45.3, which will require the Member to make a site visit and attend a hearing, the Employer or the Contractor shall provide appropriate security for a sum equivalent to the reasonable expenses to be incurred by the Member. No account shall be taken of any other payments due or paid to the Member.

6 Payment

The Member shall be paid as follows, in the currency named in the Dispute Board Agreement:

- (a) a retainer fee per calendar month, which shall be considered as payment in full for
 - (i) being available on 28 days' notice for all site visits and hearings;
 - (ii) becoming and remaining conversant with all project developments and maintaining relevant files;
 - (iii) all office and overhead expenses including secretarial services, photocopying and office supplies incurred in connection with his duties; and
 - (iv) all services performed hereunder except those referred to in sub-paragraphs (b) and (c) of this Clause.

The retainer fee shall be paid with effect from the last day of the calendar month in which the Dispute Board Agreement becomes effective; until the last day of the calendar month in which the Taking-Over Certificate is issued for the whole of the Works.

With effect from the first day of the calendar month following the month in which Taking-Over Certificate is issued for the whole of the Works, the retainer fee shall be reduced by one-third. This reduced fee shall be paid until the first day of the calendar month in which the Member resigns or the Dispute Board Agreement is otherwise terminated.

- (b) a daily fee, which shall be considered as payment in full for
- (i) each day or part of a day up to a maximum of 2 days' travel time in each direction for the journey between the Member's home and the site, or another location of a meeting with the Other Members (if any);
 - (ii) each working day on site visits, hearings, or preparing decisions; and
 - (iii) each day spent reading submissions in preparation for a hearing.
- (c) all reasonable expenses, including necessary travel expenses (air fare in less than first class, hotel and subsistence and other direct travel expenses) incurred in connection with the Member's duties, as well as the cost of telephone calls, courier charges, facsimiles, and telexes, and use of the internet: a receipt shall be required for each item in excess of 5% of the daily fee referred to in sub-paragraph (b) of this Clause;
- (d) any taxes properly levied in the Country on payments made to the Member (unless a national or permanent resident of the Country) under this Clause 6.

The retainer and daily fees shall be as specified in the Dispute Board Agreement. Unless it specifies otherwise, these fees shall remain fixed for the first 24 calendar months, and shall thereafter be adjusted by agreement between the Employer, the Contractor and the Member, at each anniversary of the date on which the Dispute Board Agreement became effective.

If the parties fail to agree on the retainer fee or the daily fee, the appointing entity or official named in the SCC shall determine the amount of the fees to be used.

The Member shall submit invoices for payment of the monthly retainer and air fares quarterly in advance. Invoices for other expenses and for daily fees shall be submitted following the conclusion of a site visit or hearing. All invoices shall be accompanied by a brief description of activities performed during the relevant period and shall be addressed to the Contractor.

The Contractor shall pay each of the Member's invoices in full within 56 calendar days after receiving each invoice and shall apply to the Employer (in the Statements under the Contract) for reimbursement of one-half of the amounts of these invoices. The Employer shall then pay the Contractor in accordance with the Contract.

If the Contractor fails to pay to the Member the amount to which he/she is entitled under the Dispute Board Agreement, the Employer shall pay the amount due to the Member and any other amount which may be required to maintain the operation of the Dispute Board; and without prejudice to the Employer's rights or remedies. In addition to all other rights arising from this default, the Employer shall be entitled to reimbursement of all sums paid in excess of one-half of these payments, plus all costs of recovering these sums and financing charges calculated at the rate specified in accordance with GCC Subclause 12.3.

If the Member does not receive payment of the amount due within 70 days after submitting a valid invoice, the Member may (i) suspend his/her services (without notice) until the payment is received, and/or (ii) resign his/her appointment by giving notice under Clause 7.

7 Termination

At any time: (i) the Employer and the Contractor may jointly terminate the Dispute Board Agreement by giving 42 days' notice to the Member, or (ii) the Member may resign as provided for in Clause 2.

If the Member fails to comply with the Dispute Board Agreement, the Employer and the Contractor may, without prejudice to their other rights, terminate it by notice to the Member. The notice shall take effect when received by the Member.

If the Employer or the Contractor fails to comply with the Dispute Board Agreement, the Member may, without prejudice to his other rights, terminate it by notice to the Employer and the Contractor. The notice shall take effect when received by them both.

Any such notice, resignation and termination shall be final and binding on the Employer, the Contractor and the Member. However, a notice by the Employer or the Contractor, but not by both, shall be of no effect.

8 Default of the Member

If the Member fails to comply with any of his obligations under Clause 4 concerning his impartiality or independence in relation to the Employer or the Contractor, he/she shall not be entitled to any fees or expenses hereunder and shall, without prejudice to their other rights, reimburse each of the Employer and the Contractor for any fees and expenses received by the Member and the Other Members (if any), for proceedings or decisions (if any) of the Dispute Board which are rendered void or ineffective by the said failure to comply.



9 Disputes

Any dispute or claim arising out of or in connection with this Dispute Board Agreement, or the breach, termination or invalidity thereof, shall be finally settled by institutional arbitration. If no other arbitration institute is agreed, the arbitration shall be conducted under the Rules of Arbitration of the International Chamber of Commerce by one arbitrator appointed in accordance with these Rules of Arbitration.

Annex - DISPUTE BOARD GUIDELINES

1. Unless otherwise agreed by the Employer and the Contractor, the Dispute Board shall visit the site at intervals of not more than 140 days, including times of critical construction events, at the request of either the Employer or the Contractor. Unless otherwise agreed by the Employer, the Contractor, and the Dispute Board, the period between consecutive visits shall not be less than 70 days, except as required to convene a hearing as described below.
2. The timing of and agenda for each site visit shall be as agreed jointly by the Dispute Board, the Employer, and the Contractor, or in the absence of agreement, shall be decided by the Dispute Board. The purpose of site visits is to enable the Dispute Board to become and remain acquainted with the progress of the Works and of any actual or potential problems or claims, and, as far as reasonable, to prevent potential problems or claims from becoming disputes.
3. Site visits shall be attended by the Employer, the Contractor, and the Project Manager and shall be coordinated by the Employer in cooperation with the Contractor. The Employer shall ensure the provision of appropriate conference facilities and secretarial and copying services. At the conclusion of each site visit and before leaving the site, the Dispute Board shall prepare a report on its activities during the visit and shall send copies to the Employer and the Contractor.
4. The Employer and the Contractor shall furnish to the Dispute Board one copy of all documents which the Dispute Board may request, including Contract documents, progress reports, variation instructions, certificates, and other documents pertinent to the performance of the Contract. All communications between the Dispute Board and the Employer or the Contractor shall be copied to the other Party. If the Dispute Board comprises three persons, the Employer and the Contractor shall send copies of these requested documents and these communications to each of these persons.
5. If any dispute is referred to the Dispute Board in accordance with GCC Subclause 45.3, the Dispute Board shall proceed in accordance with GCC Subclause 45.3 and these Guidelines. Subject to the time allowed to give notice of a decision and other relevant factors, the Dispute Board shall
 - (a) act fairly and impartially as between the Employer and the Contractor, giving each of them a reasonable opportunity of putting his case and responding to the other's case; and
 - (b) adopt procedures suitable to the dispute, avoiding unnecessary delay or expense.
6. The Dispute Board may conduct a hearing on the dispute, in which event it will decide on the date and place for the hearing and may request that written documentation and arguments from the Employer and the Contractor be presented to it prior to or at the hearing.
7. Except as otherwise agreed in writing by the Employer and the Contractor, the Dispute Board shall have power to adopt an inquisitorial procedure, to refuse admission to hearings or audience at hearings to any persons other than representatives of the Employer, the Contractor, and the Project Manager, and to proceed in the absence of any party who the Dispute Board is satisfied received notice of the hearing; but shall have discretion to decide whether and to what extent this power may be exercised.
8. The Employer and the Contractor empower the Dispute Board, among other things, to
 - (a) establish the procedure to be applied in deciding a dispute;
 - (b) decide upon the Dispute Board's own jurisdiction, and as to the scope of any dispute referred to it;

- (c) conduct any hearing as it thinks fit, not being bound by any rules or procedures other than those contained in the Contract and these Guidelines;
 - (d) take the initiative in ascertaining the facts and matters required for a decision;
 - (e) make use of its own specialist knowledge, if any;
 - (f) decide upon the payment of financing charges in accordance with the Contract;
 - (g) decide upon any provisional relief such as interim or conservatory measures;
 - (h) open up, review and revise any certificate, decision, determination, instruction, opinion or valuation of the Project Manager, relevant to the dispute; and
 - (i) appoint, should the Dispute Board so consider necessary and the Parties agree, a suitable expert at the cost of the Parties to give advice on a specific matter relevant to the dispute.
9. The Dispute Board shall not express any opinions during any hearing concerning the merits of any arguments advanced by the Parties. Thereafter, the Dispute Board shall make and give its decision in accordance with GCC Subclause 45.3, or as otherwise agreed by the Employer and the Contractor in writing. If the Dispute Board comprises three persons
- (a) it shall convene in private after a hearing, in order to have discussions and prepare its decision;
 - (b) it shall endeavour to reach a unanimous decision: if this proves impossible the applicable decision shall be made by a majority of the Members, who may require the minority Member to prepare a written report for submission to the Employer and the Contractor; and
 - (c) if a Member fails to attend a meeting or hearing, or to fulfil any required function, the other two Members may nevertheless proceed to make a decision, unless
 - (i) either the Employer or the Contractor does not agree that they do so, or
 - (ii) the absent Member is the chairman and he/she instructs the other Members to not make a decision.



Section 8 - Special Conditions of Contract

The following Special Conditions of Contract (SCC) shall supplement the General Conditions of Contract (GCC). Whenever there is a conflict, the provisions herein shall prevail over those in the GCC. The clause number of the SCC is the corresponding clause number of the GCC.

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1. Definitions

The Employer is: Chief Executive Officer (CEO) of Pakhtunkhwa Energy Development Organization (PEDO). Employer's representative means a person appointed by the Employer to act as Employer's representative and is named below:

Project Director Balakot Hydropower Project, PEDO. Peto House Phase V Hayatabad Peshawar.

The Project Manager is: the Project Management Consultant (PMC) Or any other person appointed by the Employer as his replacement.

The Bank is: Asian Development Bank

Country of Origin: As defined in Article 1.1 (d) of the Contract Agreement

5. Law and Language

- 5.1 The Contract shall be interpreted in accordance with the laws of: Islamic Republic of Pakistan
- 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: 10 Years
The Contractor shall carry sufficient inventories to ensure an ex-stock supply of consumable spares for the Plant. Other spare parts and components shall be supplied as promptly as possible, but at the most within 6 months of placing the order and opening the letter of credit. In addition, in the event of termination of the production of spare parts, advance notification will be made to the Employer of the pending termination, with sufficient time to permit the Employer to procure the needed requirement. Following such termination, the Contractor will furnish to the extent possible and at no cost to the Employer the blueprints, drawings and specifications of the spare parts, if requested.

8. Time for Commencement and Completion

- 8.1 The Contractor shall commence work on the Facilities within 30 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 **2281 days** from the Effective Date as described in the Contract Agreement. The completion dates for Milestones are provided in Appendix-4.

9. Contractor's Responsibilities

- 9.8(c) the following sub-clauses are added:
The Contractor will ensure that the preparation, design, construction, and implementation of project comply with
- i. all applicable laws and regulations of Pakistan relating to environment, health, and safety;

- ii. the Environmental Safeguards;
- iii. all measures and requirements set forth in the respective EIA, and any corrective or preventative actions set forth in a Safeguards Monitoring Report.

Environmental & Social Guidelines of Asian Development Bank (ADB), World Bank (WB), Pakistan Environmental Protection Act (PEPA) 1997, Provincial Environmental Protection Acts amended time to time & environmental requirements of other agencies and legislation shall be strictly adhered to.

9.9 Environmental Safeguards:

Contractor(s) shall ensure that:

- a) To appoint the environmental team with relevant educational background and experience as advised in the Environmental Management Plan (EMP) of the EIA. The CVs of the applicants for the position should be shared with Environment and Social Impact Cell of the PMU/PEDO and the appointment should only be confirmed after approval from PEDO.
- b) Implementation of Environmental Management Plan & Monitoring Plan in letter and spirit;
- c) All mitigation and monitoring measures identified in the Environmental Impact Assessment report and consolidated in the EMP are incorporated in detailed design and implemented during pre-construction/construction/operation of the Project facilities;
- d) To follow all guidelines concerning spoil and quarry management as described in the EMP. This will include developing spoil and quarry management plans in line with the framework presented in the EMP and having it approved by the environmental regulator, lenders and implementing agency before start of work.
- e) To follow the requirements of the Biodiversity Action Plan included as part of the EMP of the Project as they apply during the construction phase.
- f) All contracts under the subprojects contain provisions on compliance with these requirements; To make available budget for all such environmental and social measures;
- g) To provide PEDO with a written notice of any unanticipated environmental, resettlement or indigenous peoples risks or impacts that arise during pre-construction, construction, implementation or operation of project that were not considered in the EIA, and the EMP
- h) Trees (*Minimum 05-Feet in height*) plantation is carried out in accordance with the Environmental Approval obtained from respective Environmental Protection Agency (EPA) and under the guidance of the Forest Department, KP as well as in accordance with the aesthetic value of the area.
- i) All invoices/amounts claimed by Contractor (s) in lieu of Environment & Social Safeguards Management would be sent to PEDO for verification in order to make things proper and transparent.
- j) To submit monthly and quarterly monitoring & implementation report to the Environment and Social Impact Cell of the PMU/PEDO;
- k) Comply with all pertinent occupational health and safety regulations as well as occupational health and safety requirements of the EIA;
- l) Personal Protective Equipment (Safety Helmets, Hard Helmets, Safety Gloves, Safety Shoes, Safety Glasses, Safety Vests etc.) are provided to all the workers at site and their usage is mentioned.
- m) Safety signs and awareness material printed in Urdu & English languages (4 x 6 feet Panaflexes) are placed & visible at project site.

- n) To fully restore pathways, other local infrastructure (sewerage line, water transporting system/pipes, rainwater drainage system etc.) damaged due to construction activity at the project site and agricultural land to at least pre project condition upon the completion of construction works.
- o) Provision of proper sanitation facilities and clean drinking water to workers/labour.
- p) Conduct instrumental water and air quality monitoring, noise level monitoring before construction, and on regular basis and provide records the Environment and Social Impact Cell of the PMU/PEDO in monthly environmental monitoring reports.
- q) The Contractor shall comply with all applicable national, provincial and local environmental laws and regulations
- r) The Contractor shall:
- (i) establish an operational Environmental Management System for managing environmental impacts
 - (ii) prepare site-specific Environmental Management Plan (s) and submit them to the Employer for approval at least 10 days before taking possession of any work site. No access to the site will be allowed until the site-specific EMPs are approved by the Employer;
 - (iii) carry out all the monitoring and mitigation measures set forth in the EIA;
 - (iv) comply with any corrective or preventative action plans set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor implementation of the EIA, and
 - (v) allocate the budget required to ensure that such measures are carried out. The Contractor shall submit monthly reports on carrying out such measures to the Employer.
 - (vi) in addition to notice of any unforeseen physical conditions, the Contractor shall provide the Project Manager with a written notice of any unanticipated environmental or resettlement risks or impacts that arise during construction, implementation or operation of the Plant or Permanent Works, which were not considered in the Initial Environmental Examination ("IEE") or Environmental Management Plan ("EMP") or RP attached hereto as Appendix [9].

In case of non-compliance with mitigation measures of the EIA, PEDO has the right to suspend work and withhold payments till the remedial measures will be taken. Any delay caused by the non-compliance of the mitigation measures by the Contractor will be on the account of the Contractor and Contractor will be liable to pay penalty up to 10% of the total contract and no extension of time will be allowed to the Contractor.

The Feasibility Study Report, the EIA and the EMP are provided to the Contractor. The Contractor is required to familiarize with the referred documentation and to make the necessary provisions for the implementation of the correspondent Environmental, Social, Health and Safety requirements.

9.10 Land Acquisition & Resettlement

The Contractor(s) will ensure that all applicable laws and regulations of Pakistan relating to (a) Land acquisition and involuntary resettlement; (b) Involuntary Resettlement Safeguards; and (c) all measures and requirements set forth in the

LARP, livelihood restoration program and community development program, and any corrective or preventative actions set forth in a Safeguards Monitoring Report are strictly adhered to and ensure that:

- a) Implementation of Land Acquisition & Resettlement Plan (LARP) in letter and spirit and in line with the schedule of payments to displaced persons (DPs) prior to start of construction;
- b) No physical or economic displacement takes place in connection with any of the project site or component until compensation has been paid and/or rehabilitation of DPs as per LARP has been completed and validated by PEDO and external resettlement monitor before construction start up;
- c) The Contractor(s) will ensure that locals will be provided priority in the labor and job opportunities as per LARP. Close coordination with the Environment and Social Impact Cell of the PMU/PEDO to finalize the project boundaries and corridor of impact including: design and right-of-way requirement; and immediately notifying PEDO and ADB of any changes in design and location of project components transmission routes and ensuring that no physical works are conducted in realigned/new sites until a corrective action plan has been approved and fully implemented.
- d) All the temporary land required for any access road, dumping (spoil) sites, Contractor camp and other works regarding project component will be responsibility of the Contractor.

11. Contract Price

- 11.2 The Contract Price shall be adjusted in accordance with the provisions of Appendix 2 (Price Adjustment) to the Contract Agreement.

13. Performance Security

- 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%.
- 13.3.2 The performance security at the expense of the Contractor shall be in the form of the unconditional bank guarantee as per form included in Section 9 (Contract Forms). At the Contractor's option, it shall be in the form of an unconditional bank guarantee from either: (a) any schedule Bank in Pakistan, or (b) a reputable bank located outside Pakistan duly counter guaranteed by a schedule bank in Pakistan acceptable to the Employer to make it enforceable.
- 13.3.3 The performance security shall not be reduced on the date of Operational Acceptance.

14. Taxes and Duties

The following sub-clauses are added:

Sub-Clause 14.5 Refund of Duty Drawback

On the re-export of Contractor's Equipment including spare parts a portion of duties and taxes paid on the import of the same are refunded by the Government of Pakistan

which are called Duty Drawback. The Contractor shall receive and pay the same Duty Drawback to the Employer forthwith.

Sub-Clause 14.6 Sale of Contractor's Equipment in Pakistan

- (a) If the Contractor's Equipment including spare parts is not re-exported after removal from Site and is used elsewhere or sold in Pakistan, then the portion of any duties and taxes reimbursed under Sub-Clause 14.2 proportionate to the residual value of the Contractor's Equipment including spare parts shall be paid back by the Contractor to the Employer.
- (b) In case on the import of Contractor's Equipment including spare parts, no or partial duties and taxes are imposed by the Government of Pakistan on all or any portion thereof and the Contractor, at any time during or after the completion of Works, desires to sell in Pakistan any such equipment including spare parts then prior permission of the Government of Pakistan will be required who may impose duties and taxes on such sales. Any such duties and taxes paid by the Contractor to the Government shall not be reimbursed by the Employer to the Contractor.

Sub-Clause 14.7 Non-reimbursable Costs of Contractor

- (a) In case partial or total exemption of any custom duties or sales tax or duty surcharges is permissible on Plant and Contractor's Equipment including spare parts in any case due to Government rules and regulations which the Contractor can get by due and timely application to the appropriate authority and the Contractor fails to get this exemption then the payment made by the Contractor of such duties and sales tax to the extent of exemption permissible, will not be reimbursed.

- (b) Any custom duty and other taxes paid by the Contractor on his imports other than the Plant and Contractor's Equipment including essential spare parts shall not be reimbursed.

- (c) The Contractor shall be responsible for any storage, demurrage, wharfage or penalties imposed due to delay in submission of documents, incorrect or incomplete documents and delay in clearance or non-compliance with the applicable laws and regulations. Any amount paid on that account shall not be reimbursed to the Contractor.

Sub-Clause 14.8 Advance Income Tax

Deduction of advance income tax from the net payable bill amounts shall be made in accordance with prevalent income Tax Laws of the Government of Pakistan. These deductions shall be deposited in the Government Treasury by the Employer to the account of the Contractor.

The Employer shall within 28 days of making any such deduction provide to the Contractor a certificate of tax deducted

18. Work Program

18.2 Program of Performance the following is added at the end of the subclause:

The Programme must be submitted in the form of Bar Chart with critical path/ activities for individual activities and overall Project within twenty eight (28) days from the date of receipt of Letter of Acceptance. The program shall be revised after every 91 days and should include updated principal activities of the works forecast for execution fortnightly, and an updated schedule of payments expected to be made to the Contractor by the Employer.

18.3 Progress Reports

- (c) monitoring of the obligations in Sub-Clauses 22.1.1, 22.2.1, 22.2.3, 22.2.4, 22.2.6, 22.2.7, 22.2.15, 22.2.16, 35.3 and 47.

the following sub-clause is added:

18.6 Daily Site Record

During the period of contract, the Contractor shall keep a daily record of the work progress, which shall be made available to the Project Manager/Engineer as and when requested. The daily record shall include particulars of weather conditions, number of men working in different categories, deliveries of materials, quantity, location and assignment of equipment.

19. Subcontracting

the following subclause is added:

19.6 The Contractor shall not sub-contract the whole of the works except where otherwise provided in the contract, the Contractor for acts, defaults, and neglect of any sub- Contractor his agents or employees as fully as if they were the acts, defaults or neglects of the Contractor, his agents or employees Nothing contained in the Contract Documents shall create any contractual relations between any Sub-Contractor and the Employer.

21. Procurement

21.1 Materials the following is added at the end of the sub-clause:

The Contractor shall adequately record the conditions of the roads, agricultural land, other infrastructure prior to the start of transporting materials, goods and equipment and construction.

22. Installation

22.1 Benchmark

The Contractor shall comply with (i) measures and requirements relevant to the Contractor which are set forth in the Environmental Management Plan (EMP) and Land acquisition and Resettlement Plan (LARP) which can be downloaded from PEDO website to the extent it concerns impact on affected people during the construction; and (ii) any corrective or preventive actions set out in safeguards monitoring reports the Employer will prepare from time to time to monitor the implementation of EMP and LARP.

The Contractor shall allocate adequate budgetary provisions for compliance with these measures, requirements and actions.

22.2 Labour

22.2.1 Engagement of Staff and labour

- (e) The Contractor shall use the best efforts, taking into consideration economy and efficiency, to employ men and women living in the vicinity of the project area for works to be performed under the contract.

22.2.2 Persons in the Service of Contractor

The Contractor shall ensure that its employees and sub-Contractors observe the highest ethical standards and refrain from any form of bullying, discrimination, misconduct and harassment, including sexual harassment and shall, at all times,

Bidding Document for _____

Procurement of Plant

Single-Stage: Two-Envelope

behave in a manner that creates an environment free of unethical behaviour, bullying, misconduct and harassment, including sexual harassment. The Contractor shall take appropriate action against any employees or sub-Contractors, including suspension or termination of employment or sub-contract, if any form of unethical or inappropriate behaviour is identified.

The Contractor shall conduct training programs for its employees and sub-Contractors to raise awareness on and prevent any form of bullying, discrimination, misconduct and harassment including sexual harassment, and to promote a respectful work environment. The Contractor shall keep an up to date record of its employees and sub-Contractors who have attended and completed such training programs and provide such records to the Employer or the Engineer at their first written request.

22.2.3 Labour Laws

The Contractor shall comply with the local labour laws and ILO's fundamental conventions ratified by Pakistan some of the major labour laws and ILO's fundamental conventions are listed below:

Local Laws

Sr. No.	Law	Scope
1	Khyber Pakhtunkhwa Industrial Relations Act, 2010	An act to consolidate and rationalize the law relating to formation of trade unions, and improvement of relations between employers and workmen
2	Khyber Pakhtunkhwa Factories Act 2013	The factories act covers many characteristics including health and safety, restrictions on working hours, compensations provided to workers, as well as penalties and procedures.
3	Khyber Pakhtunkhwa Minimum Wages Act, 2013	Notification of minimum wages for adult unskilled and juvenile workers.
4	Khyber Pakhtunkhwa Payment of Wages Act, 2013	An Act to regulate the payment of wages to certain classes of person employed.
5	Khyber Pakhtunkhwa Workers' Compensation Act, 2013	Act provides details of compensation for injuries caused by accidents on workplace resulting in partial and total disablement.
6	Khyber Pakhtunkhwa Maternity Benefits Act, 2013	An act covers benefits and right of women in case of pregnancy
7	Khyber Pakhtunkhwa Industrial and Commercial Employment (Standing Orders) Act, 2013	This act covers regulations as below; <ul style="list-style-type: none"> ♦ Terms and condition of services to be given in writing and issuance of a permanent card for workers ♦ Protection against discrimination. ♦ Publication of working time, holidays, pay days, wage rates and leaves. ♦ Group incentive scheme, compulsory group insurance and payment of bonus. ♦ Termination of employment and retraining.
8	Khyber Pakhtunkhwa Apprenticeship (Amendment) Act, 2012	This Law lays down the provision for promoting, developing and regulating systematic apprenticeship programs in the

		industries and for securing certain minimum standards of skill.
9	The Khyber Pakhtunkhwa Prohibition of Employment of Children Act, 2015	An act to prohibit the employment of children in certain occupations.

ILO's Fundamental Conventions

Sr. No.	Convention, Year	Scope
1	C 87, 1948	Freedom of Association and Protection of the Right to Organise Convention
2	C 98, 1949	Right to Organise and Collective Bargaining Convention
3	C 29, 1930	Forced Labor Convention
4	C 105, 1957	Abolition of Forced Labor Convention,
5	C 138, 1973	Minimum Age Convention,
6	C 182, 1999	Worst Forms of Child Labor Convention,
7	C 100, 1951	Equal Remuneration Convention,
8	C 111, 1958	Discrimination (Employment and Occupation) Convention,

Employment of Labour

(d) The Contractor shall not make employment decisions based upon personal characteristics unrelated to job requirement. The Contractor shall base the employment relationship upon equal opportunity and fair treatment, and shall not discriminate with respect to aspects of the employment relationship, including recruitment and hiring, compensation (including wages and benefits), working conditions and terms of employment or retirement, and discipline. Priority should be given to the local community in the hiring of laborers.

22.2.4 Rates of Wages and Conditions of Labour

The Contractor shall provide equal wages and benefits to men and women for work of equal value or type.

22.2.5 Working Hours

(a) Normal working hours are: **8:00 hrs - 16:00 hrs**

22.2.7 Health and Safety

(d) The Contractor shall throughout the contract (including the Defect Liability Period):

- (i) conduct Information, Education and Consultation Communication (IEC) campaigns, at least every other month, addressed to all the Site staff and labor (including all the Contractor's employees, all Sub-Contractors and Employer's and Project Manager's employees, and all truck drivers and crew making deliveries to Site for construction activities) and to the immediate local communities, concerning the risks, dangers and impact, and appropriate avoidance behavior with respect to of Sexually Transmitted Diseases (STD)—or Sexually Transmitted Infections (STI) in general and HIV/AIDS in particular;
- (ii) provide male or female condoms for all Site staff and labor as appropriate; and

- (iii) provide for STI and HIV/AIDS screening, diagnosis, counseling and referral to a dedicated national STI and HIV/AIDS program, (unless otherwise agreed) of all Site staff and labor.

The Contractor shall include in the program to be submitted for the execution of the Facilities under Subclause 18.2 an alleviation program for Site staff and labor and their families in respect of STI and STD including HIV/AIDS. The STI, STD and HIV/AIDS alleviation program shall indicate when, how and at what cost the Contractor plans to satisfy the requirements of this Subclause and the related specification. For each component, the program shall detail the resources to be provided or utilized and any related subcontracting proposed. The program shall also include provision of a detailed cost estimate with supporting documentation. Payment to the Contractor for the preparation and implementation this program shall not exceed the amount dedicated for this purpose.

22.2.8 Funeral Arrangements

Funeral arrangements: As per local law, customs and traditions.

22.2.16 Prohibition of Harmful Child Labour

'Child' means a child below the statutory minimum age as specified under applicable national, provincial or law of Pakistan.

The following sub-clause is added;

22.2.17 Respectful Work Environment

The Contractor shall ensure that its employees and Sub-Contractors observe the highest ethical standards and refrain from any form of bullying, discrimination, misconduct, and harassment, including sexual harassment and shall, at all times, behave in a manner that creates an environment free of unethical behavior, bullying, misconduct, and harassment, including sexual harassment. The Contractor shall take appropriate action against any employees or Sub-Contractors, including suspension or termination of employment or subcontract, if any form of unethical or inappropriate behavior is identified.

The Contractor shall conduct training programs for its employees and Sub-Contractors to raise awareness on and prevent any form of bullying, discrimination, misconduct, and harassment including sexual harassment, and to promote a respectful work environment. The Contractor shall keep an up to date record of its employees and sub-Contractors who have attended and completed such training programs and provide such records to the Employer or the Project Manager at their first written request.

the following sub-clause is added:

22.9 The Contractor shall comply with the Laws and security regulations in force from time to time relating to the importation movement storage and use of explosives including provisions of magazines at locations approved by the appropriate authorities. The magazines shall conform to in all respects to all laws in force regarding the erection, maintenance and guarding of magazines.

The Contractor shall obtain all necessary licences as may be required for the importation movement storage and use of explosives and do all things necessary to ensure compliance with the laws in force to dangerous goods.

23. Test and Inspection

All the material / equipment (civil /electrical /mechanical) to be installed / used at the works shall be subject to testing /pre-shipment inspection in line with the requirements of relevant specification(s). The following sub – clauses shall supplement the relevant GCC clause 23, in case of any contradiction the latter shall prevail.

23.2 Six (06) authorized representatives of the Employer shall carry out pre-shipment inspection of the plant/material/equipment at manufacturer's works at Contractor's expense. However, all reasonable facilities (laboratory, tools, instruments, machines, samples etc) as provided in the specifications or followed by Trade & Industry in general shall have to be offered to the Inspecting officers, by Manufacturer/Supplier at his expense for carrying out Testing and Inspection.

23.3 The Contractor shall keep the Employer informed the progress of manufacturing and notify the Project Manager approximately eight (08) weeks in advance, in writing as to when the Plant or any part thereof will be ready for inspection.

23.6 In case the type test reports furnished by the bidder are not from one of reputed independent testing laboratories accredited by STL (Short-Circuit Testing Liaison) or are not relevant to the equipment offered or do not meet or comply with the ratings and other requirements of the Purchaser's Specifications included in this bidding document, the bidder will have to arrange necessary type testing, in case of award at any of the STL labs.

Any inspection and/or witnessing of tests or the waiving of such tests and/or surveillance by the Employer shall not relieve the Contractor of its obligations and responsibilities under the Contract regardless of any approval consent given by the Employer and Project Manager.

All work covered by the Contract shall be subject to surveillance, testing and inspection by two representatives/Inspector(s) of the Employer and Project Manager. The Inspectors may require witnessing any or all the tests to be carried out. For such purpose the Manufacturer/Supplier shall provide free access at all times during manufacture, assembly and testing to the premises in which the work is being carried out.

If the Plant fail to withstand any test performed at manufacturer works, the cost of repeating failed tests and the cost (boarding, lodging, daily allowance of USD \$250/day/inspector, return air ticket, visa expense etc.) of witnessing such test by the approved two Nos. representatives/ Inspector of the Employer [one from Chief Engineer (Design) and one from Project Manager] shall be borne by the Contractor and the equipment released or modified to the satisfaction of the Employer, without any additional cost to the Employer.

24. Completion of the Facilities

24.8 Upon the completion of construction, the Contractor shall fully reinstate pathways, the local infrastructure, and agricultural land to at least their pre-project condition as recorded by the Contractor in consonance with its obligation in clause 21.1.

25. Commissioning and Operational Acceptance

25.1.2 All raw materials, utilities, lubricants, chemicals, catalysts, facilities, services, and other matters required for commissioning shall be provided by the Contractor. The Employer shall provide the required staff only.

25.2.2 The Guarantee Test of the Facilities shall be successfully completed within 60 (sixty) days from the date of Completion.

25.3.3 "The Project Manager shall, after consultation with the Employer, and within 28 days after receipt of the Contractor's notice, issue an Operational Acceptance Certificate"

26. Completion Time Guarantee

26.2 Applicable rate for liquidated damages: **0.05%** of the Contract Price per day

Maximum deduction for liquidated damages: 10% of the Contract Price.

Failure of the Contractor to meet the Time for Completion of individual activities/milestones as provided in Appendix 4 and overall Project entitles the Employer to deduct from the Contract Price, the liquidated damages @ 0.05% of the Contract Price as stated in Price schedules in case of individual activities and Letter of acceptance in case of overall Project, excluding Provisional Sums for each and every day, including holidays, of delay or Section thereof; but to a maximum limit of 10% of the Contract Price as stated in Letter of acceptance, excluding Provisional Sums.

26.3 No bonus will be given for earlier Completion of the Facilities or part thereof.

27. Defect Liability

27.10 The critical components covered under the extended defect liability are:

- For Civil Works and corrosion protections of the steel structures, the period shall be 5 years;
- For all the Equipment, the period shall be 2 years.

28. Functional Guarantees

28.4 The following is added to sub-clause 28.4:

The limitation of Liability of the liquidated damages under GCC Sub Clause 28.4 describes in para 4.4 of Appendix 8 has no relationship with liquidated damages stipulated under sub-clause 26.2 of SCC and shall be imposed separately up to a maximum limit of 10% of the Contract Price when become applicable.

30. Limitation of Liability

30.1 (b) The multiplier of the Contract Price is: 1.5 (one and a half) times.

34. Insurance

34.8 The following is added: c

For deductibles, if any the Contractor shall submit an undertaking that he shall indemnify and keep indemnified the Employer for the amount of deductibles provided in the insurance policies.

35. Unforeseen Conditions

35.3 in addition to notice of any unforeseen physical conditions, the Contractor shall provide the Engineer with a written notice of any unanticipated environmental or resettlement risks or impacts that arise during construction, implementation or operation of the Plant or Permanent Works, which were not considered in the Initial Environmental Examination ("IEE") or Environmental Management Plan ("EMP") or Resettlement Plan attached hereto as Appendix [9]..

40. Extension Time for Completion

Sub-clause 40.2:

The words "as soon as reasonably practicable after" is substituted by "within fourteen (14) days of".



45. Disputes and Arbitration

45.1 The Dispute Board shall be appointed within 28 days after the Effective Date.
The Dispute Board shall be Sole Member

List of potential Dispute Board members is to be mutually decided by the Contractor and the Employer at the time of signing of the contract:

45.2 Appointment (if not agreed) to be made by: Chairman Pakistan Engineering Council.

45.5 Rules of procedure for arbitration proceedings:

- (a) Contracts with foreign Contractors:
International arbitration shall be conducted in accordance with the Rules of the United Nations Commission on International Trade Law (UNCITRAL).
Arbitration shall be administered by UNCITRAL.

The place of arbitration shall be the place of the institution administering the arbitration.

- (b) Contracts with Contractors being nationals of the Employer's country:
Any dispute between the Employer and a Contractor who is a national of the Employer's country arising in connection with the present contract shall be referred to adjudication or arbitration in accordance with the Pakistan Arbitration Act of 1940. The place of Arbitration will be Peshawar, Pakistan.

Add the following as clause 46:

46. Eligibility

Bidding Document for _____

Procurement of Plant

Single-Stage: Two-Envelope

- 46.1 The Contractor shall have the nationality of an ADB member country. The Contractor shall be deemed to have the nationality of a country if the Contractor is a citizen or is constituted, incorporated, or registered, and operates in conformity with the provisions of the laws of that country. This criterion shall also apply to the determination of the nationality of proposed sub-Contractors or suppliers for any part of the Contract including related services.
- 46.2 The materials, equipment and services to be supplied under the Contract shall have their origin in eligible source countries and all expenditures under the Contract will be limited to such materials, equipment, and services. At the Employer's request, the Contractor may be required to provide evidence of the origin of materials, equipment and services.
- 46.3 For purposes of SCC 46.2, "origin" means the place where the materials and equipment are mined, grown, produced or manufactured, and from which the services are provided. Materials and equipment are produced when, through manufacturing, processing, or substantial or major assembling of components, a commercially recognized product results that differs substantially in its basic characteristics or in purpose or utility from its components.

Add the following as clause 47:

47. Environmental, Social, Health and Safety Provisions

The Contractor shall comply with all applicable national, provincial, and local environmental laws and regulations.

The Contractor shall:

- a) Establish an operational system for managing environmental impacts,
- b) Carry out all of the monitoring and mitigation measures set forth in [the Initial Environmental Examination] [the Environmental Impact Assessment] [the Environmental Management Plan] attached hereto as Appendix [9] Allocate the budget required to ensure that such measures are carried out. The Contractor shall submit [quarterly] [semi-annual] reports on the carrying out of such measures to the Employer.

More particularly, the Contractor shall comply with

- a) The measures and requirements set forth in the initial environmental examination and the environmental management plan attached hereto as Appendix [9];
- b) Any corrective or preventative actions set out in safeguards monitoring reports that the Employer will prepare from time to time to monitor implementation of the initial environmental examination and the environmental management plan.

The Contractor shall allocate adequate budgetary resources for compliance with these measures, requirements and actions.

Section 9 - Contract Forms

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Notice of Intention for Award of Contract

---- on letterhead paper of the employer ----

..... date of notification

To: name of the bidder.
 Attention: insert name of the bidder's authorized representative
 Address: insert address of the bidder's authorized representative
 Telephone/Fax numbers: insert telephone/fax numbers of the bidder's authorized representative
 E-mail Address: insert e-mail address of the bidder's authorized representative

This is to notify you of our intention to award the contract [..... insert name of the contract and identification number, as given in the Bid Data Sheet]. You have [..... insert number of days as specified in ITB 42.1 of the BDS ...] days, from the date of this notification to (i) request for a debriefing in relation to the evaluation of your Bid, and/or (ii) submit a bidding-related complaint in relation to the intention for award of contract, in accordance with the procedures specified in ITB 47.1.

The summary of the evaluation are as follows:

1. List of Bidders

Name of Bidder	Bid Price as read out at opening	Evaluated Bid Price

2. Reason/s why your Bid was unsuccessful

.....

3. The successful Bidder

Name of Bidder:	
Address:	
Contract Price:	
Duration of Contract:	
Scope of the Contract Awarded:	
Amount Performance Security Required:	

Authorized Signature:

Name and Title of Signatory:

Name of Agency:



Notification of Award

[Employer's letterhead]

Letter of Acceptance

[date]

To: *[Name and address of the contractor]*

This is to notify you that your Bid dated *[date]* for execution of the *[name of the contract and identification number, as given in the Bid Data Sheet]* for the Contract Price in the aggregate of *[amounts in words and figures]* *[name of currency]*, as corrected and modified in accordance with the Instructions to Bidders is hereby accepted by our Agency.

You are requested to furnish the Performance Security within 28 days in accordance with the Conditions of Contract and any additional security required as a result of the evaluation of your bid, using for that purpose one of the Performance Security Forms included in Section 9 (Contract Forms) of the Bidding Document.



Authorized Signature:

Name and Title of Signatory:

Name of Agency:

Attachment: Contract Agreement

Contract Agreement

THIS AGREEMENT made on the [insert number] day of [insert month], [insert year],
BETWEEN

(1) [name of the employer], a corporation incorporated under the laws of [country of the employer] and having its principal place of business at [address of the employer] (hereinafter called "the Employer"), and
(2) [name of the contractor], a corporation incorporated under the laws of [country of the contractor] and having its principal place of business at [address of the contractor] (hereinafter called "the Contractor").

WHEREAS the Employer desires to engage the Contractor to design, manufacture, test, deliver, install, complete and commission certain Facilities, viz. [list of facilities] ("the Facilities") and the Contractor have agreed to such engagement upon and subject to the terms and conditions hereinafter appearing.

NOW IT IS HEREBY AGREED as follows:

Article 1 Contract Documents

- 1.1 **Contract Documents** (Reference GCC Clause 2)
The following documents shall constitute the Contract between the Employer and the Contractor, and each shall be read and construed as an integral part of the Contract:
- (a) This Contract Agreement and the Appendixes hereto
 - (b) Letter of Bid and Price Schedules submitted by the Contractor
 - (c) Special Conditions of Contract
 - (d) List of Eligible Countries that was specified in Section 5 of the Bidding Document
 - (e) General Conditions of Contract
 - (f) Specifications
 - (g) Drawings
 - (h) Other completed Bidding Forms submitted with the Letter of Bid
 - (i) Any other documents forming part of the Employer's Requirements
 - (j) Any other documents shall be added here¹

- 1.2 **Order of Precedence** (Reference GCC Clause 2)
In the event of any ambiguity or conflict between the Contract Documents listed above, the order of precedence shall be the order in which the Contract Documents are listed in Article 1.1 (Contract Documents) above.

- 1.3 **Definitions** (Reference GCC Clause 1)
Capitalized words and phrases used herein shall have the same meanings as are ascribed to them in the General Conditions.

¹ Tables of Adjustment Data may be added if the contract provides for price adjustment (see GCC 11).

**Article 2
Contract Price and
Terms of Payment**

2.1

Contract Price (Reference GCC Clause 11)

The Employer hereby agrees to pay to the Contractor the Contract Price in consideration of the performance by the Contractor of its obligations hereunder. The Contract Price shall be the aggregate of [. . . amounts of foreign currency in words . . .], [. . . amounts 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 the Appendix (Terms and Procedures of Payment) hereto.

The Employer shall instruct its bank to issue an irrevocable confirmed documentary credit made available to the Contractor in a bank in the country of the Contractor. The credit shall be for an amount of [. . . amount equal to the total named in Schedule 1 less the advance payment to be made for plant and mandatory spare parts supplied from abroad . . .]; and shall be subject to the Uniform Customs and Practice for Documentary Credits 1993 Revision, ICC Publication No. 500.²

In the event that the amount payable under Schedule No. 1 is adjusted in accordance with GCC 11.2 or with any of the other terms of the Contract, the Employer shall arrange for the documentary credit to be amended accordingly

**Article 3
Effective Date**

3.1

Effective Date (Reference GCC Clause 1)

The Effective Date upon which the period until the Time for Completion of the Facilities shall be counted from is the date when all of the following conditions have been fulfilled:

- (a) This Contract Agreement has been duly executed for and on behalf of the Employer and the Contractor.
- (b) The Contractor has submitted to the Employer the performance security and the advance payment guarantee.
- (c) The Employer has paid the Contractor the advance payment.

Each party shall use its best efforts to fulfill the above conditions for which it is responsible as soon as practicable.

3.2

If the conditions listed under 3.1 are not fulfilled within 2 months from the date of this Contract notification because of reasons not attributable to the Contractor, the parties shall discuss and agree on an equitable adjustment to the Contract Price and the Time for Completion and/or other relevant conditions of the Contract.

²Or Uniform Customs and Practice for Documentary Credits 2007 Revision, ICC Publication No. 600 (or the latest version).

**Article 4
Communications** 4.1 The address of the Employer for notice purposes, pursuant to GCC 4.1 is: *[Employer's address]*.

4.2 The address of the Contractor for notice purposes, pursuant to GCC 4.1 is: *[Contractor's address]*.

**Article 5.
Appendixes** 5.1 The Appendixes listed in the attached List of Appendixes shall be deemed to form an integral part of this Contract Agreement.

5.2 Reference in the Contract to any Appendix shall mean the Appendixes attached hereto, and the Contract shall be read and construed accordingly.

IN WITNESS WHEREOF the Employer and the Contractor have caused this Agreement to be duly executed by their duly authorized representatives the day and year first above written.

Signed by, for and on behalf of the Employer

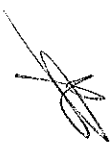
[Signature]

[Title]

in the presence of

[Signature]

[Title]



Signed by, for and on behalf of the Contractor

[Signature]

[Title]

in the presence of

[Signature]

[Title]

APPENDIXES

- Appendix 1 - Terms and Procedures of Payment
- Appendix 2 - Price Adjustment
- Appendix 3 - Insurance Requirements
- Appendix 4 - Time Schedule
- Appendix 5 - List of Major Items of Plant and Services and List of Approved Subcontractors
- 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, based on the Price Breakdown given in the section on Price Schedules. Payments will be made in the currencies quoted by the Bidder unless otherwise agreed between the parties. Applications for payment in respect of part deliveries may be made by the Contractor as work proceeds.

(A) Terms of Payment

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

In respect of plant and mandatory spare parts supplied from abroad, the following payments shall be made:

Fifteen percent (15%) of the total CIP amount as an advance payment against receipt of invoice after certification by the Project Manager and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer. The advance payment security may be reduced in proportion to the value of the plant and mandatory spare parts delivered to the site, as evidenced by delivery documents.

Eighty percent (75%) of the total or pro rata CIP or amount upon Incoterm "CIP," upon delivery to the site within 45 days after receipt of invoice.

Five percent (5%) of the total or pro rata CIP or amount upon issue of the Completion Certificate, within 45 days after receipt of invoice.

Five percent (5%) of the total or pro rata CIP or amount upon issue of the Operational Acceptance Certificate, within 45 days after receipt of invoice.

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

In respect of plant and mandatory spare parts supplied from within the Employer's country, the following payments shall be made:

Fifteen percent (15%) of the total EXW amount as an advance payment against receipt of invoice after certification by the Project Manager, and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer. The advance payment security may be reduced in proportion to the value of the plant and mandatory spare parts delivered to the site, as evidenced by delivery documents.

Eighty percent (75%) of the total or pro rata EXW amount upon Incoterm "Ex-Works," upon delivery to the site within 45 days after receipt of invoice.

Five percent (5%) of the total or pro rata EXW amount upon issue of the Completion Certificate, within 45 days after receipt of invoice.

Five percent (5%) of the total or pro rata EXW amount upon issue of the Operational Acceptance Certificate, within 45 days after receipt of invoice.

Schedule No. 3 - Design Services

In respect of design services for both the foreign currency and the local currency portions, the following payments shall be made:

Fifteen percent (15%) of the total design services amount as an advance payment against receipt of invoice after certification by the Project Manager and an irrevocable advance payment security for the equivalent amount made out in favor of the Employer.

Ninety percent (85%) of the pro rata design services amount upon acceptance of design by the Project Manager within 45 days after receipt of invoice.

Schedule No. 4 - Installation and Other Services

In respect of installation services for both the foreign and local currency portions, the following payments shall be made:

Fifteen percent (15%) of the total installation and other services amount as an advance payment against receipt of invoice after certification by the Project Manager and an irrevocable advance payment security for the equivalent amount made out in favor 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 (75%) of the measured value of work performed by the Contractor, as identified in the said Program of Performance, during the preceding month, as evidenced by the Employer's authorization of the Contractor's application, will be made monthly within 45 days after receipt of invoice.

Five percent (5%) of the total or pro rata value of installation services performed by the Contractor as evidenced by the Employer's authorization of the Contractor's monthly applications, upon issue of the Completion Certificate, within 45 days after receipt of invoice.

Five percent (5%) of the total or pro rata value of installation services performed by the Contractor as evidenced by the Employer's authorization of the Contractor's monthly applications, upon issue of the Operational Acceptance Certificate, within 45 days after receipt of invoice.

In the event that the Employer fails to make any payment on its respective due date, the Employer shall pay to the Contractor interest on the amount of such delayed payment at the rate of LIBOR plus half percent (three month maturity) for foreign currency component and (3) three percent for local currency component per annum for period of delay until payment has been made in full.

(B) Payment Procedures

When applying for certification and making payments, the procedures shall be as follows:
The charges for opening of the irrevocable letter of credit shall be paid by the Contractor

Procedure

Sr.No.	Item	Procedure
1.	Plant, Equipment & Spare Parts	Commitment Procedure (Through irrevocable Letter of credit supported by the ADB Commitment Letter.)
2.	Design	Direct Payment
3.	Civil Works	Direct Payment Procedure (Direct payment by the ADB acting on duly authorized request of the Borrower)
4.	Installation, Testing & Commissioning	Direct Payment
5.	Custom Duties & Taxes at Port	Shall be initially paid by the contractor and the same shall be reimbursed as per actual by the Employer using its own funds within 30 days from submission of invoice(s)
6	Taxes (GST & PST if applicable)	General Sales Tax and Provincial Sales Tax if levied & applicable on finished local goods and services respectively shall be reimbursed as per actual upon production of invoice & proof of payment of sales tax.
7.	Crop compensation, ROW, damage of the Employers Houses, Health & safety measures etc.	Shall be initially paid by the contractor and the same shall be reimbursed as per actual by the Employer using its own funds within 30 days from submission of invoice(s)

Note:

LC shall be established by PEDO, however charges for opening of Letter of Credit and subsequent amendments, if any, shall be borne by the Contractor.

Certificates and Payment**1. Method of Application for Certificate of Payment**

- (a) The Contractor shall submit to the Employer ten (10) copies of Application for Certificate of Payment each signed by the Contractor and in such form as the Employer may from time to time prescribe. Such invoices, receipts, or other documentary evidence shall accompany as the employer may from time to time require
- (b) The application for certificate of payment for progress of Workunder Schedule 4 shall be submitted after end of each month accompanying also a statement signed by the Contractor in the form stated in para (4) below and in such other form as the Engineer may from time to time prescribe showing the amounts to which the Contractor may consider himself to be entitled up to the end of the month in respect of:

- 1) The permanent work executed
- 2) Payment of account of lumpsum item in the Price Schedule not included under head (1) above

(c) The Applications for Certificate of Payment for supply of Goods(Schedule 1 and 2) shall be submitted on the delivery of any Goods and shall be also accompanied by the following documents:

1) Shipping Documents comprising of:

- i. Payment / Commercial Invoice
 - ii. Clean onboard Bill of Lading or airway bill issued by the freight forwarder (for imported Goods only)
 - iii. Delivery Note / Acknowledgement by Employer or its representative, of the material receipt at site or at NTDC designated Warehouse in case of Spare Parts Packing list
 - iv. Certificate or Policy of Freight Insurance from Ex-factory to the Project Site or to NTDC designated Warehouse in case of Spare Parts, of the portion of the Goods for which Certificate of Payment is requested
 - v. Certificate that the Goods complies with the Specification
- 2) Certificate of origin, issued by the Contractor
 - 3) Warranty Certificate
 - 4) Pre-shipmentinspection report / inspection report or letter of waiver, issued by the Employer.
 - 5) Notice to deliver issued by Project Manager.
 - 6) Any other document as considered by the Employer

(d) The Application for Certificate of Payment shall state the amount claimed and shall set forth in detail, in the order of the Price Schedule, particulars of the Work executed up to the date named in the Application and subsequent to the period covered by the last preceding certificate, if any.

2. Issue of Certificate of Payment for Schedules 1, 2 3 4 and 5

The Employer, within the time stated, after receiving an Application for Certificate of Payment from the Contractor, shall either approve or amend it as he consider reasonable and proper in respect thereof subject to the deductions of any sums which may have become due and payable by the Contractor to PEDO and issue a Certificate of Payment accordingly to PEDO showing the amount due to the Contractor, with a copy to the Contractor, or, advise the Contractor in writing as to the reasons for which it is being withheld.

3. Reduction in Payment

If any Work is not being carried out in accordance with the Contract to the satisfaction of the Employer, the Employer shall have authority to omit or reduce the value of such Work in any Certificate of Payment.

4. Withhold Any Payments

If the Work or any parts thereof are not being carried out in accordance with the Contract to the satisfaction of the Employer, the Employer shall have power to withhold any Payments and in order to protect PEDO from loss on account of:

- (a) defective Work not rectified
- (b) claims filed against the Contractor as per the provisions of the contract

- (c) failure of Contractor to make payments due for the Goods and material procured or labour employed by him
- (d) damage to any other Contractor or Contractors employed by PEDO
- (e) Contractor's non-compliance with the Contract
- (f) any Government dues recoverable from the Contractor if notified by the Government
- (g) Any other reason as deemed necessary by the Employer, for substantiation of the invoice.

The Employer shall notify the Contractor regarding this withholding giving reasons/grounds.



5. Certification of Payable Amount

- 1) A Certificate of Payment shall not be withheld on account of any part of the payment applied for being disputed. In such case, a Certificate of Payment for the undisputed amount shall be issued.
- 2) Employer shall make the final payment of 5 % of the contract price including any price variations arising following modification to the scope (GCC 39) within 45 days of submission of invoice along with the Operational Acceptance Certificate (GCC 25)

6. Corrections to Certificate of Payment

The Employer may by any Certificate of Payment make any correction or modifications in any previous Certificate of Payment which shall have been issued by him.

7. Release of Payments Withheld

When the reasons / grounds for withholding the payment are removed by the Contractor, the Employer shall after examination, and upon being satisfied to that effect that there are no reasons to "withhold" any of Payments, shall release all such payments due to the contractor without mark-up and penalty.

8. Time for Approval of Certificate of Payment

The amount due to the Contractor under any Certificate of Payment shall be approved by PEDO for payment within the time stated.

9. Payments Due from Contractor for non-compliance

- (a) PEDO may, without prejudice to any other method of recovery, deduct the amount due from any money is his hand due to or which may become due to the Contractor or recover same through the Performance Security as per the provisions of the contract. Such deduction shall not relieve the Contractor from his obligations to complete the Work in accordance with the Contract to the satisfaction of the Employer.
- (b) The charges for establishment of L/C and any subsequent charges for modification and extension shall be borne by the Contractor. An irrevocable L/C shall be opened by the Employer within sixty (60) days from the Effective Date defined in Article 3 of Contract Agreement provided the Contractor submits requisite information to the Employer for establishing the L/C e.g. name of Advising Bank, name, address and Bank Account Number of Beneficiary etc within a week's time after signing of the Contract Agreement. Unless provided otherwise under State Laws, the L/C opened shall be irrevocable, divisible and transferable for payment to the Contractor or beneficiary assigned by him. Any delay in opening of L/C due to reasons on part of the Contractor shall be to the Contractor's account."
- (c) For any sum paid by the Contractor in respect of custom duties and taxes in consequence of importation of Plant specified in Price Schedule No. 1 incorporated into the Facilities, compensation for unavoidable Crop damage, tree cutting, relocation/damage of houses, during any month, shall be reimbursed by the Employer within forty-five (45) days against presentation of acceptable claim supported by documentary evidence in original to the Employer. The expenses against this item shall be reimbursed from the amount of Provisional Sums provided in Price Schedule No. 5 Grand Summary for this purpose."

Appendix 2- PriceAdjustment

Prices payable to the Contractor, in accordance with the Contract, shall be subject to adjustment during performance of the Contract to reflect changes in the cost of labor and material components, in accordance with the following formula:

$$P_1 = P_0 \times \left(a + b \frac{L_1}{L_0} + c \frac{M_1}{M_0} \right) - P_0$$

in which:

P_1 = adjustment amount payable to the Contractor

P_0 = Contract price (base price)

a = percentage of fixed element in Contract price ($a = \%$) $a = 0.35$

b = percentage of labor component in Contract price ($b = \%$)

c = percentage of material and equipment component in Contract price ($c = \%$)

L_0, L_1 = labor indexes applicable to the appropriate industry in the country of origin on the base date and the date for adjustment, respectively

M_0, M_1 = material and equipment indexes in the country of origin on the base date and the date for adjustment, respectively



Conditions Applicable to Price Adjustment

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

The date of adjustment shall be the mid-point of the period of manufacture or installation of the component or Plant.

The following conditions shall apply:

- (a) No price increase will be allowed beyond the original delivery date unless covered by an extension of time awarded by the Employer under the terms of the Contract. No price increase will be allowed for periods of delay for which the Contractor is responsible. The Employer will, however, be entitled to any price decrease occurring during such periods of delay.
- (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 labor and/or materials indexes, a correction factor will be applied to avoid incorrect adjustments of the Contract price. The correction factor shall correspond to the ratio of exchange rates between the two currencies on the base date and the date for adjustment as defined above.
- (c) No price adjustment shall be payable on the portion of the Contract price paid to the Contractor as an advance payment.

Appendix 3 - Insurance Requirements

(A) Types of Insurance 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 types of insurance set forth below in the sums and with the deductibles and other conditions specified. The identity of the insurers and the form of the policies shall be subject to the approval of the Employer, such approval not to be unreasonably withheld.

(a) Cargo Insurance

Covering loss or damage occurring, while in transit from the supplier's or manufacturer's works or stores until arrival at the Site, to the Facilities (including spare parts therefore) and to the construction equipment to be provided by the Contractor or its Subcontractors.

Amount [in currency(ies)]	Deductible limits [in currency(ies)]	Parties insured [names]	From [place]	To [place]
110% of the Contract Price	Nil	Jointly in the name of PEDO and Contractor	Contractors/Sub contractors works stores/warehouse	Project Site

(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.

Amount [in currency(ies)]	Deductible limits [in currency(ies)]	Parties insured [names]	From [place]	To [place]
110% of the contract price	Nil	Jointly in the name of PEDO and Contractor	Project Site	Project Site

(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 (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]
PKR 4,000,000 per any one incident with	Nil	Jointly in the name of PEDO and Contractor	Karachi Port or any	Project Site

unlimited occurrences		other port

(d)Automobile Liability Insurance

Covering use of all vehicles used by the Contractor or its Subcontractors (whether owned by them or not) in connection with the supply and installation of the Facilities. Comprehensive insurance in accordance with statutory requirements.

(e)Workers' Compensation

In accordance with the statutory requirements applicable in any country where the Facilities or any part thereof is executed.

(f)Employer's Liability

In accordance with the statutory requirements applicable in any country where the Facilities or any part thereof is executed.

(g)Other Insurance

The Contractor is also required to take out and maintain at its own cost the following types of insurance:

Details:

Amount [in currency(ies)]	Deductible limits [in currency(ies)]	Parties insured [names]	From [place]	To [place]
None				

The Employer shall be named as co-insured under all insurance policies taken out by the Contractor pursuant to GCC Subclause 34.1, except for the Third Party Liability, Workers' Compensation, and Employer's Liability Insurance, and the Contractor's Subcontractors shall be named as co-insureds under all insurance policies taken out by the Contractor pursuant to GCC Subclause 34.1, except for the Cargo, Workers' Compensation and Employer's Liability Insurance. All insurer's rights of subrogation against such co-insureds for losses or claims arising out of the performance of the Contract shall be waived under such policies.

(B) Types of Insurance to Be Taken Out by the Employer

The Employer shall at its expense take out and maintain in effect during the performance of the Contract the following insurance policies.

Details:

Amount [in currency(ies)]	Deductible limits [in currency(ies)]	Parties insured [names]	From [place]	To [place]
None				



Appendix 4 - Time Schedule

Project Milestones		
N ^o	Milestone	Timeline (in months)
1	Basic Design completed and approved	12
2	Preparatory Works Completed	18
3	Detailed Design of the Water Diversion/SBT completed and approved	8
4	Water Diversion / SBT Works completed	12
5	Detailed Design of the Intake Structure completed and approved	18
6	Intake Structure Works completed	
7	Detailed Design of the Dam completed and approved	44
8	Dam Works completed	
9	Detailed Design of the Headrace Tunnel completed and approved	45
10	Headrace Tunnel Works completed	
11	Detailed Design of the Surge Tank, Pressure Shaft & Penstocks completed and approved	28
12	Upstream Surge Tank Works completed	
13	Pressure Shaft & Penstocks Works completed	
14	Detailed Design of the Transformer Cavern completed and approved	26
15	Transformer Cavern Works completed	
16	Detailed Design of the Power House Cavern & Tailrace Tunnel completed and approved	31
17	Power House Cavern Works completed	
18	Tailrace Tunnel and Downstream Surge Tank Works completed	31
19	Transmission Line Works completed	30
20	Completion of the Facilities	56
21	Commissioning of the Facilities	9
22	Operational Acceptance of the Facilities	3
23	Duration of Contract	75

Appendix 5 - List of Major Items of Plant and Services and List of Approved Subcontractors

A list of major items of plant and services is provided below.

The following Subcontractors and Manufacturers are approved for carrying out the item of the facilities indicated. Where more than one Subcontractor is listed, the Contractor is free to choose between them, but it must notify the Employer of its choice in good time prior to appointing any selected Subcontractor. In accordance with GCC Subclause 19.1, the Contractor is free to submit proposals for Subcontractors for additional items from time to time. No Subcontracts shall be placed with any such Subcontractors for additional items until the Subcontractors have been approved in writing by the Employer and their names have been added to this list of Approved Subcontractors.

Major Items of Plant and Services	Approved Subcontractors and Manufacturers	Nationality
Roads		
Bridges		
Permanent Staff Colony		
Transmission Lines		
Hydro Power Design		



Appendix 6 - Scope of Works and Supply by the Employer

The following personnel, facilities, works, and supplies will be provided or supplied by the Employer, and the provisions of GCC Clauses 10, 21, and 24 shall apply as appropriate.

All personnel, facilities, works, and supplies will be provided by the Employer in good time so as not to delay the performance of the Contractor, in accordance with the approved Time Schedule and Program of Performance pursuant to GCC Subclause 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)
None	

Facilities	Charge to Contractor (if any)
None	

Works	Charge to Contractor (if any)
None	



Supplies	Charge to Contractor (if any)
None	

Appendix 7 - List of Documents for Approval or Review

Pursuant to GCC Subclause 20.3.1, the Contractor shall prepare, or cause its Subcontractor to prepare, and present to the Project Manager in accordance with the requirements of GCC Subclause 18.2 (Program of Performance), the following documents for

(A) Approval

1. Contract Program
2. Proposed lay-down area for construction purpose
3. Inspection and Test Program
4. Topographic and bathymetrical survey program
5. Physical model testing program
6. Dam stability testing program
7. Detailed geological investigation program
8. River diversion program
9. Basic Design of the hydropower scheme (including site layout drawings and arrangement drawings)
10. Detailed Design of the hydropower scheme (by elements, as per the Work Program)
11. Dam Emergency Action Plan
12. Performance and Test Procedures
13. Process Schematics, P&ID's, and Systems Descriptions
14. Plant Performance Test Procedures and Records
15. All drawings and designs (architectural, foundation and superstructure)
16. Assumptions, design data, codes and standards
17. Design calculations
18. Piling method and casting/ driving program
19. Test results of various construction materials



(B) Review

The Contractor shall supply the following for review and comment:

1. Contract Program
2. Proposed lay-down area for construction purpose
3. Inspection and Test Program

4. Topographic and bathymetrical survey program
5. Physical model testing program
6. Dam stability testing program
7. Detailed geological investigation program
8. River diversion program
9. Basic Design of the hydropower scheme (including site layout drawings and arrangement drawings)
10. Detailed Design of the hydropower scheme (by elements, as per the Work Program)
11. Dam Emergency Action Plan
12. Performance and Test Procedures
13. Process Schematics, P&ID's, and Systems Descriptions
14. All drawings and designs (architectural, foundation and superstructure)
15. Assumptions, design data, codes and standards
16. Design calculations



Appendix 8 - Functional Guarantees

1. General

This Appendix sets out

- (a) the functional guarantees referred to in GCC Clause 28 (Functional Guarantees)
- (b) the preconditions to the validity of the functional guarantees, either in production and/or consumption, set forth below
- (c) the minimum level of the functional guarantees
- (d) the formula for calculating liquidated damages for failure to attain the functional guarantees.

2. Preconditions

The Contractor gives the functional guarantees (specified herein) for the facilities, subject to the following preconditions being fully satisfied:

3. Functional Guarantees

Subject to compliance with the foregoing preconditions, the Contractor guarantees as follows:

3.1 Production Capacity

3.2 Raw Materials and Utilities Consumption

4. Failure in Guarantees and Liquidated Damages

4.1 Failure to Attain Guaranteed Production Capacity

If the production capacity of the facilities attained in the guarantee test, pursuant to GCC Subclause 25.2, is less than the guaranteed figure specified in para. 3.1 above, but the actual production capacity attained in the guarantee test is not less than the minimum level specified in para. 4.3 below, and the Contractor elects to pay liquidated damages to the Employer in lieu of making changes, modifications and/or additions to the Facilities, pursuant to GCC Subclause 28.3, then the Contractor shall pay liquidated damages at the rate of \$ 120,000 for every 0.01% for every complete 1% of the deficiency in the production capacity of the Facilities, or at a proportionately reduced rate for any deficiency, or part thereof, of less than a complete 1%.

4.2 Raw Materials and Utilities Consumption in Excess of Guaranteed Level

If the actual measured figure of specified raw materials and utilities consumed per unit (or their average total cost of consumption) exceeds the guaranteed figure specified in para. 3.2 above (or their specified average total cost of consumption), but the actual consumption attained in the guarantee test, pursuant to GCC Subclause 25.2, is not more than the maximum level specified in para. 4.3 below, and the Contractor elects to pay liquidated damages to the Employer in lieu of making changes, modifications and/or additions to the Facilities pursuant to GCC Subclause 28.3, then the Contractor shall pay liquidated damages at the rate of \$ 120,000 for each 0.01 % for every complete 1% of the excess consumption of the Facilities, or part thereof, of less than a complete 1%.

4.3 Minimum Levels

Notwithstanding the provisions of this paragraph, if as a result of the guarantee test(s), the following minimum levels of performance guarantees (and consumption guarantees) are not attained by the Contractor, the Contractor shall at its own cost make good any deficiencies until the Facilities reach any of such minimum performance levels, pursuant to GCC Subclause 28.2:

- (a) production capacity of the Facilities attained in the guarantee test: 95% of the guaranteed production capacity
- and/or
- (b) average total cost of consumption of all the raw materials and utilities of the Facilities: 105% of the guaranteed figures.



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 Environmental Management Plan

9.1 Introduction

The Pakhtunkhwa Energy Development Organization (PEDO) intends to construct a 300 megawatt (MW) run-of-river hydropower plant (the “Project”) with related infrastructure at Balakot, Mansehra district of Khyber Pakhtunkhwa (KP), Pakistan. The Project called Balakot Hydropower Development Project (BHDP) is located on the Kunhar River about 18.6 km upstream of the town of Balakot.

A feasibility study (FS) of the Project² was prepared in 2013. The Asian Development Bank (ADB) is evaluating the Project for financing under its Hydropower Investment Development Program. As part of the evaluation of the Project, ADB has acquired the services of two consultants—Aqualogus - Engenharia e Ambiente, Lda (“Aqualogus”) to review and update the FS, and Hagler Bailly Pakistan (Pvt.) Ltd. (“HBP”) as Safeguard Consultants to prepare the documents required for ensuring that the project meets the environmental and social safeguards of the ADB, and also conforms to environmental legislation of KP.

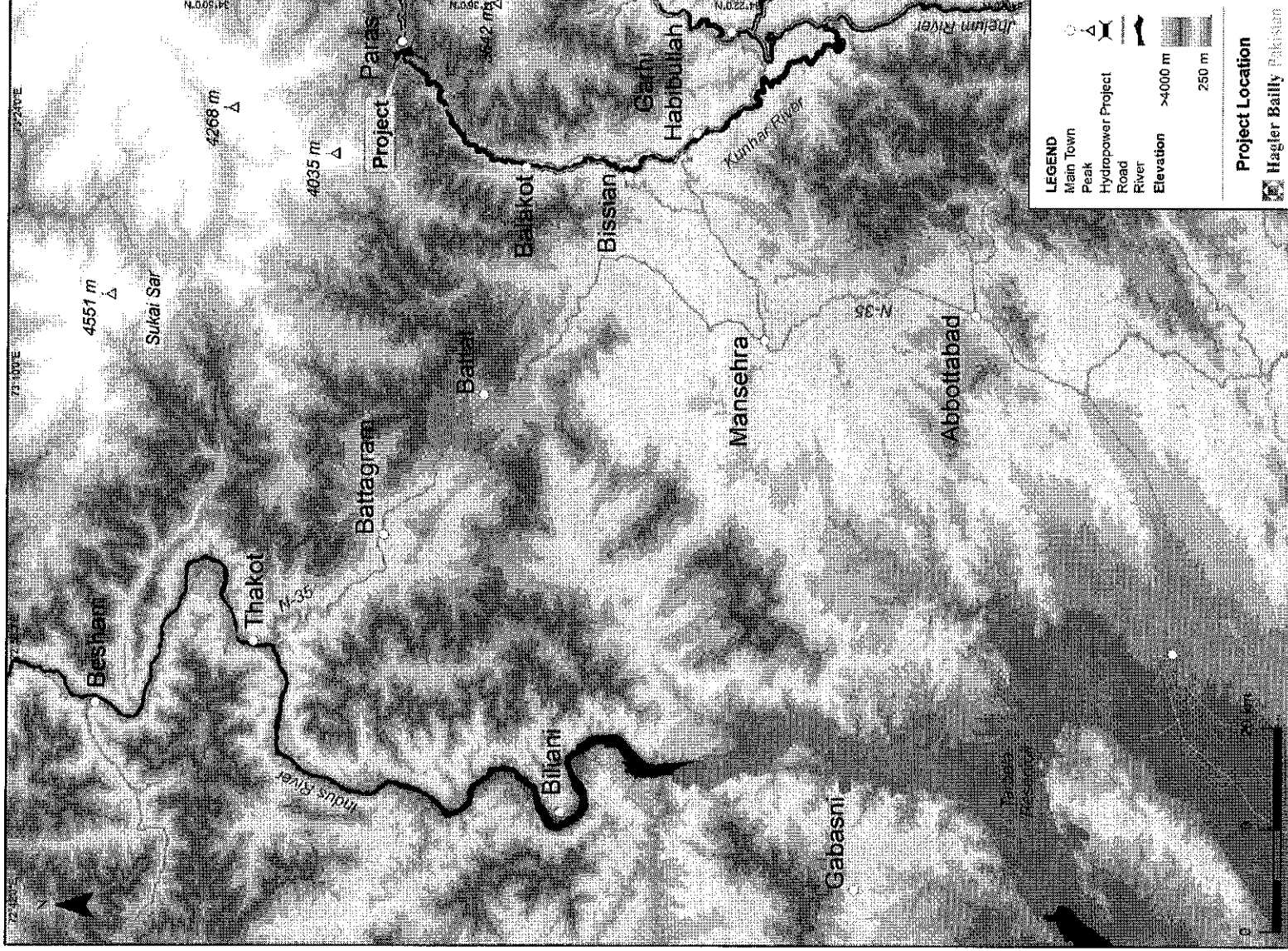


9.1.1 Project Location

Exhibit 0.1 shows the location of the Project. The Project is located on the Kunhar River in the Khyber Pakhtunkhwa (KP) province of Pakistan, in the 12 km stretch from Paras to Sangar Village. The dam site (34° 39' 36.510" N, 73° 27' 1.340" E) will be located near the village of Paras in the Mansehra District of KP, about 18.6 km upstream of the town of Balakot. The Powerhouse site (34° 36' 15.143" N, 73° 22' 49.943" E) will be located 8 km upstream of Balakot, near Kappi Gali Village. The headrace tunnel extending approximately 9 km will divert water from the reservoir created by the dam to the powerhouse.

² Mirza Associates Engineering Services (Pvt.) Ltd. (Lead Consultant), December 2013, Feasibility Study of Balakot Hydropower Project, Volume I Main Report for Pakhtunkhwa Hydrel Development Organization

Exhibit 0.1: Project Location



9.1.2 Introduction to the Environmental Management Plan

The Environmental Management Plan (EMP) summarizes the organizational requirements, management and monitoring plans to ensure that the necessary measures are taken by PEDO to avoid potentially adverse effects and maximize potential benefits of the Project and to operate in conformance with applicable laws and regulations of KP, as well as the policies of international financial organizations such as ADB.

Due to the nature and applicability of the EMP it will also be used for contractual purposes through its inclusion as a part of the bid documents for the EPC contractor who has to adhere to it along with other regulatory requirements. The strict implementation of the EMP and project management's strict enforcement of the adequate construction practices and standards will greatly reduce the negative impacts of the Project.

The EMP presented in this section is a component of the overall Environmental and Social Management System (ESMS), for which a framework is provided in **Section 9.2**.

The EMP is based on the baseline conditions (see **Section 4, Description of the Environment**), the impact assessment (see **Section 7, Anticipated Environmental Impacts and Mitigation Measures**), and the results of discussions with the stakeholders (see **Section 6, Information Disclosure, Consultation, and Participation**). The EMP is prepared for all the identified environmental impacts during design, construction, and operation of various Project activities. The methodology followed for preparing the EMP includes the following:

- Deriving mitigation/protection measures for identified impacts using impact evaluation methodology.

- Rationalizing and combining series of mitigation, compensation and enhancement measures from each identified impacts and risks to prepare overall measures.

- Developing a mechanism for monitoring the proposed mitigation measures.

- Estimating budget requirements for implementation, mitigation and monitoring measures.

- Identifying responsibilities of various agencies involved in the Project for implementation and monitoring of mitigation measures.

Additionally, a Biodiversity Action Plan (BAP) has been prepared for enhancement and conservation of biodiversity of the Kunhar River (see **Volume 2C** of the **EIA**), the implementation of which will involve support from KP Wildlife and Fisheries Departments, and NGOs.

9.2 Environmental and Social Management System

This section describes the framework for the Environmental and Social Management System (ESMS) for the Project.

9.2.1 Planning Elements

10. Leadership and Accountability

Policy

The Project is being undertaken in accordance with PEDO's policies. PEDO will periodically review the scope and effectiveness of these policies. The policies will be documented, maintained, implemented and communicated to PEDO employees, contractors, suppliers and the public.

Legal Requirements and Other Obligations

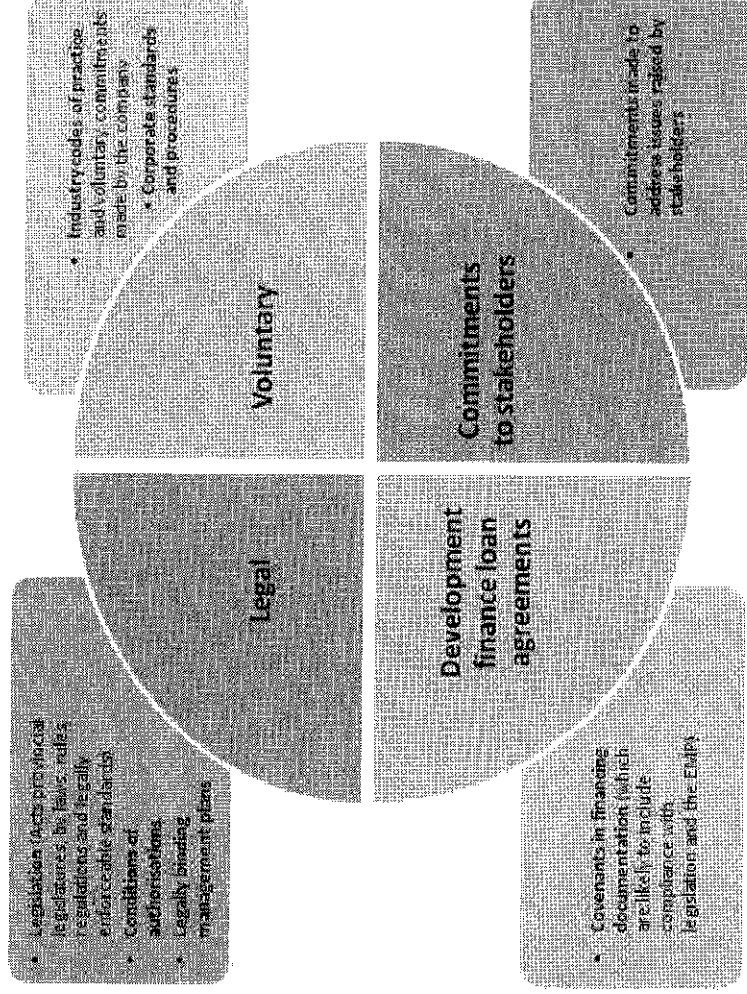
The Project's ESMS takes into account of both legal and other obligations imposed on the Project. The various types of obligations that need to be considered are shown conceptually in **Exhibit 0.3**.



Exhibit 0.2: Elements of the Project ESMS

Elements of the ESMS for the Project		Elements applying to all steps of the cycle	
Steps of the "plan-do-check-act" cycle	Elements	Primary function	
Plan (Chapter 2, Planning Elements)	Leadership and accountability	Produce and communicate a statement of PEDO commitment to environmental and social management Establish, document, implement, maintain and improve the Project ESMS	<p>An ongoing process, throughout the life of the project.</p> <p>Serves to build and maintain a constructive relationship with communities affected by the Project</p> <p>Emergency planning, response and recovery</p> <p>Maintain emergency response preparedness through the identification of potential environmental emergencies, development of response plans and allocation of response and recovery resources.</p>
	Legal and other requirements	Identify and provide access to legal requirements and other obligations	
	Aspect identification and impact assessment	Identify aspects "mechanisms" by which project activities impact on the environment) and assess associated impacts throughout the Project life (the EIA falls under this element of the ESMS)	
	Objectives, targets and plans	Define objectives, targets, criteria and actions for the management of potential impacts (the EMP falls under this element of the ESMS)	
	Roles and responsibility	Provide sufficient management sponsorship of human and financial resources Establish roles and responsibilities for implementation	
	Contractors, suppliers and vendors	Consider environmental and social impact management and performance in the selection and management of third party services	
	Competence, training and awareness	Make personnel aware of their responsibilities and enable them to be capable and competent in meeting their responsibilities	
	Communication	Maintain internal and external communications to enable effective environmental management	
	Operational controls and maintenance	Implement operational controls and maintain equipment to uphold environmental performance and compliance and to manage impacts and risks	
	Documentation and record keeping	Control and maintain documents and records associated with environmental and social management	
Check (Chapter 4, Check Elements)	Assessing, correcting and improving performance	Monitor environmental and social management and performance and take measures to continually improve performance	
	Non-conformance and incident reporting	Promptly report non-conformances and incidents are promptly reported and take corrective and preventative actions to reduce the likelihood of recurrence	
	EMP and ESMS reporting	Report on compliance with the EMP and ESMS performance to senior management, regulatory authorities and affected communities	
Act (Chapter 5, Act Elements)	Governance/management review	Require site, regional and senior management to review the suitability, adequacy and effectiveness of the ESMS and identify improvement actions to facilitate continuous improvement	
	Management of change	Modify the ESMS in response to changes in the Project and to changes in the organization, personnel, operations and processes	
	<p>The arrows show where there is integral relationship between stakeholder engagement and other elements of the ESMS.</p>		

Exhibit 0.3: Types of Obligations Relevant to the ESMS



PEDO will identify, document and maintain a register of legal requirements and other obligations applicable to the Project. It will also:

- manage recurring legal and other obligations (such as inspections, sampling, analysis and reporting);
- track developing legislation and regulations that may apply to operations and activities to anticipate and prepare for compliance;
- inform employees and others working on behalf of the company of existing and emerging obligations that apply to their job responsibilities; and
- consider the register in the setting and review of objectives, targets and plans for management of impacts.

11. Aspect Identification and Impact Assessment throughout the Project Life

A key element of ESMS is identification of aspects and assessment impacts. The EIA is a part of this element of the ESMS. The impacts identified in the EIA in **Section 7 (Anticipated Environmental Impacts and Mitigation Measures)** are addressed in this EMP

Procedures will be set up, implemented and maintained for identification of significant environmental aspects and undertaking of impact and risk assessments on an ongoing basis through the Project life. These will address:

- aspects not covered by this EIA;

any impact arising that was not predicted by the EIA or did not develop as predicted by the EIA; and

any changes in the Project or new developments arising subsequent to the completion of this EIA.

12. Objectives, Targets and Plans for Management throughout the Life of the Project

This element of the ESMS pertains to the setting of objectives and targets for environmental and social management, and plans for the achievement of these objectives and targets at corporate and Project levels. The EMP embodies this element of the ESMS at the Project level.

The primary purpose of the EMP is to guide environmental and social management throughout the life of the Project. The core of the EMP is a statement of environmental and social management objectives and associated management measures. The EMP will be supported by other documentation, such as the original Project design and specific management plans and operating procedures.

The preliminary EMP commitments are derived from the following sources:

inherent design or management measures described in the EIA and Project Feasibility Study;³

mitigation and enhancement measures identified in the EIA, which are required to manage identified impacts; and

good practice management measures, which may not significantly alter the impact rating but are considered standard industry practice for the management of such impacts.

12.1.1 Implementation (do) Elements

Effective implementation and functioning of the EMP depends on adequate human and financial resources, clearly defined responsibilities for environmental and social management, appropriate training and good communication. An outline of how these features will be managed for the Project is presented below.

13. Roles and Responsibility

PEDO will define, document and communicate the environmental and social management roles and responsibilities of Project personnel, including contractors, Owners Engineers, and others working on behalf of the company, in all phases of Project implementation from detailed design through to closure, before the start of each phase. Personnel with specific roles and responsibilities will have the authority, and be held accountable for, carrying out these.

The basic roles required to implement the EMP, and establish and maintain the ESMS, are shown in **Exhibit 0.4**. These roles need to be reviewed and incorporated into the organizational structures for the various phases of the Project from detailed design

³ China Water Resources Beifang Investigation, Design and Research Co. Ltd. (BIDR), Revised Technical Report To Updated Feasibility Study, April 2016

through to closure. A key requirement is for the senior environmental management professional to report directly to the on-site senior manager (the Operations/General Manager).

Exhibit 0.4: Key Roles for Environmental and Social Management

Roles	Relevant Responsibilities
Project Director for the Project Management Unit (PMU) of the Project	<p>Endorse the environmental and social management policy and require it to be communicated to the public</p> <p>Allocate adequate human and financial resources to enable effective functioning and continual improvement of the ESMS</p> <p>Establish and maintain a governance system</p>
Project site management and PMU's senior management	<p>Compliance</p> <p>Confirm necessary authorizations (licenses/ permits) have been obtained for the Project</p> <p>Confirm compliance with legal requirements and other obligations pertaining to environmental and social management</p> <p>Commit contractors and suppliers to meeting relevant environmental and social obligations by means of specific conditions in the contracts of appointment</p> <p>Roles and responsibility</p> <p>Define, document and communicate environmental and social management roles, responsibilities and authorities</p> <p>Provide sufficient appropriately trained human resources and adequate financial resources to enable effective functioning and continual improvement of the ESMS</p> <p>Hold personnel responsible for meeting their assigned responsibilities</p> <p>Communication and reporting</p> <p>Confirm there is adequate ongoing stakeholder engagement</p> <p>Confirm obligations for reporting to regulatory authorities, development financiers and affected communities are met</p> <p>Management review</p> <p>Provide leadership in the pursuit of environmental and social management</p> <p>Examine and review the ESMS periodically to determine its suitability, adequacy and effectiveness</p> <p>Support action to enhance the ESMS and make improvements in environmental and social management performance</p>
Environmental management	<p>ESMS</p> <p>Establish the ESMS, with assistance from the senior management, division managers and community relations managers</p> <p>Liaise with division managers regarding environmental management roles, responsibilities and authorities throughout operational divisions</p> <p>Coordinate monitoring and evaluation activities and confirm corrective actions (an action taken to address a non-conformance) are taken to address incidents and non-conformances (a failure to comply</p>



Roles	Relevant Responsibilities
	<p>with the Project's ESMS)</p> <p>Report progress in implementation and functioning of the ESMS to senior management, development financiers, regulatory authorities and stakeholders</p> <p>EMP</p> <p>Keep the EMP up to date and confirm it addresses all relevant environmental and social obligations</p> <p>Present the EMP in an appropriate format for communication with regulatory authorities and other stakeholders</p> <p>Present the EMP in an appropriate format for communication with parties responsible for Project execution</p> <p>Compile EMP compliance reports</p> <p>"Sign-off" actions in the EMP and non-conformances once they have been completed</p>
<p>Community relations management</p>	<p>Assist the Environmental Management team with ongoing reporting to stakeholders on EMP and supporting management plans, and progress with implementation of management measures</p> <p>Assist Environmental Manager and division managers with stakeholder communication where awareness and/ or co-operation of stakeholders are required to implement management measures</p> <p>Manage the community grievance mechanism</p>
<p>Division management (manages certain specified sections in an organization)</p>	<p>Confirm the ESMS and EMP are established, communicated, implemented and maintained in their respective areas</p> <p>Provide leadership in the pursuit of environmental and social management</p> <p>Identify ways to improve environmental and social performance through daily monitoring of their activities and evaluating implementation</p> <p>Review monitoring results, incidents and corrective actions taken</p> <p>Evaluate adequacy and effectiveness of awareness and skills training programs pertinent to environmental and social management</p> <p>Maintain internal communication of environmental and social matters between the Environmental Manager, Community Relations Manager and other personnel, and promote environmental and social awareness.</p> <p>Examples of key responsibilities of specific Division Managers include:</p> <p>Human resources—Organize in association with the Environmental Manager and Community Relations Manager environmental and social related training, maintain linkages between the ESMS and human resources management systems, as necessary, and manage worker grievance mechanism.</p> <p>Finance—Track budget/spend data used in implementing and maintaining ESMS in association with the Environment Manager and Community Relations Manager</p> <p>Purchasing—With the support of environment and community relations teams, assess contractors' and suppliers' environmental and social compliance and control purchase and disposal of hazardous materials</p>



Roles	Relevant Responsibilities
	Maintenance—Implement preventive maintenance program for equipment Health, safety and security—With the support of community relations teams, confirm safeguarding of personnel and property is carried out without adverse impacts on local communities
All personnel and contractors	Work in accordance with the EMP and supporting documents Report problems or deviations from the ESMS or EMP to division managers and/or environmental managers, as instructed.

PEDO Management can assign part of its responsibilities to Owner's Engineer for construction phase of the Project. All such assignments shall be explicitly included in the contract agreement between PEDO and the Owner's Engineer. Moreover, all associated reporting, documenting, and cost shall also be agreed and written in the contract agreement.



14. **Contractors, Suppliers and Vendors**

Environmental and social performance, programs and risk management will be considered in the selection and management of contractors, suppliers and vendors. Contracts will address potential environmental and social liabilities and responsibilities including:

- use of competent, trained staff, including subcontractors;
- consequences for failing to meet obligations;
- monitoring of performance;
- required job-specific, site-specific training;
- compliance with PEDO policies and site standards and applicable legal requirements;
- responsibility for chemicals brought on-site and wastes generated on-site, including closure activities where appropriate; and
- identification of a lead responsible person for both PEDO and the contractor.

Contractors, including their employees and associated subcontractors, will be made aware of the environmental risks, associated controls, procedures and standards relevant to their work on-site. The activities and performance of contractors will be monitored through Owner Engineer's Environmental & Social Development Cell (ESDC) against the terms of the contracts.

15. **Training**

Personnel, including contractors' personnel, working for or on behalf of the Project will receive training to maintain awareness of relevant environmental and social aspects, impacts and risks associated with the Project and corresponding controls. The training will also maintain awareness of the environmental benefits of improved personal performance and the potential consequences of departure from specified procedures.

Visitors to Project sites will receive relevant environmental and social awareness training as part of site induction training.

Personnel, including contractors' personnel, will be made aware of the particular environmental and social management responsibilities that apply specifically to their jobs. Training needs analyses will be undertaken and personnel will be given adequate training to meet these responsibilities.

The training program comprises the following elements:

- identification of training needs for all employees specific to their varying responsibilities;
- development of a training plan and schedule to address defined needs;
- verification of training programs to confirm consistency with organizational requirements;
- training of employees and documentation of training received;
- evaluation of training effectiveness; and
- review and modification of training programs, as required.

Personnel with direct responsibility for implementation of the EMP and functioning of the ESMS will have additional training to:

- provide them with the knowledge and skills necessary to perform their work;
- maintain their knowledge of relevant environmental and social obligations; and
- enable them to implement specific measures required under the EMP in a competent and efficient manner.

Training requirements and completed training will be documented. Procedures to evaluate the effectiveness of such training will be implemented.

16. Communication

To effectively implement environmental and social management, the relevant managers will maintain lines of internal communication and provide information regarding the EMP, ESMS and environmental and social management performance, incidents, best practices, lessons learned and concerns to personnel electronically, on notice boards and/or in newsletters. Such communication will be used to inform the personnel of their individual responsibilities with respect to the ESMS and to raise awareness on specific matters. External stakeholder engagement is discussed in **Section 6(Stakeholder Engagement)**.

A grievance redress mechanism will be established (**Section 8, Grievance Redress Mechanism**) and will provide a means for Project personnel, including contractors' personnel, to anonymously raise environmental and social concerns (this grievance mechanism will be separate from the system dealing with employee grievances that need to be handled by the human resources department).

17. Operational Controls

Operational controls will be implemented to maintain performance and compliance, and to manage impacts and risks. Operational controls may include:

- administrative controls such as performance standards;
- standard operating procedures and work instructions; and
- engineered controls such as pollution control equipment.

Written operational controls are required where their absence could lead to deviation from environmental obligations or objectives and targets. Written operational controls will be part of the EMP supporting documentation.

The adequacy, suitability, and effectiveness of operational controls will be reviewed regularly.

Documentation on the design basis and operating criteria/limits for equipment having the potential to impact environmental performance will be maintained.

Operating equipment, as well as environmental monitoring and measurement devices, will be maintained consistent with manufacturers' specifications and best management practice to reduce the potential for environmental incidents and adverse environmental impacts.

18. Documentation and Record Keeping

Elements of the ESMS will be documented and controlled in accordance with a document control system. Records demonstrating compliance with legal requirements and conformance with the ESMS will also be maintained. PEDO will establish, implement and maintain procedures for:

- ESMS document control detailing how the creation, review and updating of various types of documents will be managed and who will be responsible; and
- record identification, storage, protection, retrieval, retention and disposal.

Documentation and record keeping controls will include:

- measures to enable relevant documents (including those of external origin deemed necessary for planning and operation of the ESMS) and records to be readily available and identifiable (labelled, dated and properly filed), legible and protected from damage;

- review, revision and approval of documents for adequacy by authorized personnel at least once a year;

- making current versions of relevant documents available at locations where operations essential to the effective functioning of the ESMS are performed;
- suitably identifying obsolete documents retained for legal and knowledge preservation purposes; and
- identification and segregation of confidential and privileged information.

18.1.1 Check Elements

Checks are required to confirm the existence of an effective ESMS and compliance with the EMP. Checks include monitoring, site inspections and formal audits. Linked to this, measures need to be taken to remedy non-conformances and to continually improve environmental performance. These are also classified as “check” elements of the ESMS.

19. *Assessing, Correcting and Improving Performance*

Monitoring Programs

The aim of monitoring programs are to:

- provide measurements of environmental and social impacts of the Project;
- ascertain and demonstrate compliance with conditions of approval and other legislation;
- provide sufficient evidence to address any claims made against the Project in respect of environmental and social matters;
- track performance of the ESMS and progress in the implementation of the EMP;
- track and measure key indicators and other performance measures over time to improve the Project’s performance and reduce the likelihood of environmental incidents; and
- inform decision processes for determining management actions.

The monitoring programs cover the physical, biological and social components of the operation and are integrally linked with the assessment criteria stated in the EMP. Where appropriate and possible, the sampling parameters and locations used in the EIA baseline studies have been retained to provide data continuity.

The monitoring program identifies monitoring parameters, sampling locations, sampling frequency and duration and detection limits (where appropriate). It includes control sites, where relevant. The focus and extent of monitoring is commensurate with the risk of impacts occurring, the sensitivity of the surrounding areas and the affected communities’ perceptions of risks to their health and environment. For some types of monitoring, thresholds or targets are available, for example the emission and ambient limits. In other cases, the monitoring results will be compared to the baseline data set gathered as part of this EIA. Lastly, where neither thresholds nor baseline data are available, the initial data collection may form the baseline for future data collection.

Data will be documented and interpreted. Temporal and spatial trends in the data will be discerned and compliance with relevant thresholds will be evaluated. Monitoring reports will be produced to meet internal and external reporting requirements. If monitoring results indicate non-conformance with stipulated thresholds or if a significant deteriorating trend is observed, it will be recorded as a non-conformance and handled by the non-conformance and incident procedure.

Preliminary monitoring programs have been prepared and are presented in the EMP. These provide a framework of monitoring to evaluate performance and assist in predicting and managing impacts. In conjunction with the development of supporting

documentation for the EMP, detailed monitoring plans, with appropriate sampling protocols where relevant, may need to be developed. These more detailed supporting documents would include the criteria against which the monitoring results will be compared and the actions required if the criteria or thresholds are exceeded. The supporting documents may also cover:

- sample or data collection methods;
- sample handling, storage and preservation;
- sample or data documentation;
- quality control;
- data reliability (calibration of instruments, test equipment, and software and hardware sampling);
- data storage and backup, and data protection;
- interpretation and reporting of results; and

verification of monitoring information by qualified and experienced external experts. The frequencies and locations of monitoring may need to be adjusted depending on final Project design and ongoing review of results obtained by the monitoring programs. Therefore, the programs will be reviewed on a regular basis (at least annually) and adjusted, where necessary. Changes to the EMP or obligations register may also result in changes to the monitoring program.

Site Inspections

Site inspections will be undertaken regularly in relevant areas of the Project. The inspections will focus on compliance with the EMP and conformance with the ESMS. The inspections will play an important role in increasing awareness of EMP and ESMS requirements.

Continuous observation and monitoring by site and HSE managers and other responsible parties for compliance with the EMP and conformance with the ESMS will be part of their core responsibilities.

Minor non-conformances will be discussed during the inspection and recorded as a finding in the inspection report. Major non-conformances will be reported as incidents. Inspection results will be disclosed at management meetings.

Formal Audits

Formal audits will be undertaken at planned intervals in accordance with the requirements of PEDO, PEDO's owners and regulatory authorities. Procedures for audits will be established, implemented and maintained. These will cover the audit criteria, scope, frequency and methods, and will address the responsibilities and requirements for planning and conducting audits, reporting results and retaining associated records.

Negative findings arising from an audit will be dealt with in accordance with the non-conformance and incident procedure. Results from audits and evaluations of compliance

with legal requirements will be reported to site and senior management and subject to management reviews.

20. Non-conformances and Incident Reporting

Non-conformances include the following:

- exceedances of relevant thresholds as identified during routine monitoring;
- non-conformances with the requirements of the EMP or supporting documentation identified during an internal inspection;
- non-conformances identified during an audit or by regulatory authorities, including legal non-conformances;
- events, such as spills, resulting in potential or actual environmental harm;
- events that did or could result in injury to staff, visitors to site or surrounding communities; and
- significant complaints or grievances received from any source.

Corrective and preventive actions will be identified and implemented in response to these non-conformances. These actions will address the root cause of the non-conformance and will reduce or prevent repeated non-conformances.

A process will be established for the identification, investigation and tracking of non-conformances, including:

- prioritizing and classifying non-conformances based on the type and severity of the non-conformance;
- recording of non-conformances and the results of corrective and/or preventive actions, including the actions necessary to mitigate or remedy any associated impacts;
- defining results expected from the corrective and/or preventative actions;
- confirming the corrective and/or preventive actions taken to eliminate the causes of the non-conformance are appropriate to the magnitude of problem and commensurate with the impacts encountered;
- reviewing the effectiveness of the corrective and/or preventive actions taken; and
- implementing and recording required changes in the EMP or monitoring program resulting from corrective and preventive action.

Serious non-conformances will be classified as incidents. Incidents will be promptly reported to appropriate management. PEDO will prepare a guideline on:

- the types of incidents reportable to internal management at the site, Project and corporate levels, as well as to regulatory authorities and other external stakeholders; and
- standards to be observed when reporting incidents.

The investigation of incidents and evaluation of effectiveness of existing controls and response actions will be undertaken at a level commensurate with the severity of the incident.

21. EMP and ESMS Reporting

Progress on compliance with the EMP and functioning of the ESMS (environmental and social performance) will be reported to:

- Project site and PEDO senior management;
- development financiers, if required in terms of the loan agreement;
- regulatory authorities, as required; and
- affected communities and other stakeholders who have an interest in the Project.

21.1.1 Act Elements

22. Governance/ Management Review

PEDO's senior management will review the EMP and ESMS on a periodic basis to determine its suitability, adequacy and effectiveness. Each management review will initiate a new plan-do-check-act cycle with enhancement of the ESMS and continuous improvements in environmental and social management performance. The management review will cover:

- progress and closure of actions from previous management reviews;
- monitoring programs findings/ the extent to which objectives and targets have been met;
- findings of audits;
- incidents and the status of corrective and/or preventative actions;
- impact and risks assessments;
- changing circumstances, including changes to operations, Pakistan legislation or guidelines, ownership, socio-political circumstances;
- legal compliance and compliance with other obligations;
- stakeholder concerns, requests or complaints;
- adequacy of policies, EMP, monitoring plans, support documents and overall functioning of the ESMS to meet operational and corporate requirements; and
- recommendations for improvement.


23. Management of Change

Changes to the Project can be expected throughout the life of the Project. These can range from changes to operations and infrastructure, new developments (such as an expansion), changes to personnel and the Company, changes in legislation and changes to the environment of the Project (such as a new settlement established near Project infrastructure). These changes could result in changes to the significance of environmental and social impacts and risks. This may necessitate updates to existing

authorizations/ permits, changes to the EMP, which may have to be approved by regulatory authorities, and general changes to the ESMS framework.

A procedure for the management of change will be established and maintained by PEDO. This will:

- observe the corporate owners' requirements for the management of change;
- identify proposed changes that could alter environmental or social impacts and risks and/ or require new authorizations/ permits or changes to existing authorizations/ permits; and
- define the impact and risk assessments appropriate to different types of changes, which need to be undertaken by competent personnel.

Changes will not be made without the required authorizations/permits in place. The measures identified as necessary to mitigate impacts and risks will be implemented. The various elements of the ESMS will be modified as required in response to the change, 

A procedure specifically for changes to the policy/s, EMP, monitoring plans and supporting documentation will be established. This will detail:

- how the changes are to be recorded;
- who has responsibility for overseeing changes and checking they do not conflict with any planning conditions or other obligations;
- the process of review and sign off in response to changes; and
- how changes to the EMP should be communicated internally and externally.

Stakeholder Engagement

Stakeholder engagement provides stakeholders with opportunities to express their views on project risks, impacts and impact mitigation measures and involves appropriate consideration of the views and responses by project management. **Exhibit 0.5** shows that stakeholder engagement applies to each of the steps of the ESMS “plan-do-check-act” cycle and is an integral part of several ESMS elements. The relationship between stakeholder engagement and these elements is explained further in **Exhibit 0.5**.

Exhibit 0.5: General Overview of the Relationship between Stakeholder Engagement and the ESMS elements

<i>Steps of the "plan-do-check-act" cycle</i>	
<i>ESMS Elements that Stakeholder Engagement is Integral to</i>	
<i>ESMS Elements</i>	<i>Role of Stakeholder Engagement</i>
Plan	<p>EIA</p> <p>During the EIA, the focus of stakeholder engagement has been the involvement of stakeholders in project-planning and project-approval decision-making processes. It facilitated identification of stakeholder's concerns so they could be addressed in the Project design and/or EMP. It forms the basis for stakeholder engagement throughout the life of the Project.</p> <p>EMP</p> <p>Stakeholders will be involved in the review and approval of the preliminary EMP. Throughout the life of the Project, there should be ongoing reporting to stakeholders on progress in the implementation of the EMP and supporting management plans that are of interest to them. The EMP and supporting management plans may need to be revised in response to stakeholders' concerns.</p> <p>SEP</p> <p>A stakeholder engagement plan is to be developed. It will detail national regulation and good practices on stakeholder engagement, a summary of previous stakeholder engagement undertaken for this Project, required additional consultations, and the structure for future stakeholder engagement.</p>
Do	<p>Communication</p> <p>Communication with stakeholders will be required to implement some management actions. The communication will be required to raise awareness and/or co-operation of potentially affected communities and other stakeholders. PEDO will determine effective communication methods for making affected communities aware of actions they may need to take to avoid exposure to operation-related hazards and how they can maximize on opportunities resulting from the operation.</p>
Check	<p>Assessing, correcting and improving performance</p> <p>Participatory monitoring is desirable. This entails involvement of stakeholders, particularly affected communities, in monitoring and verifying information to check that impact mitigation measures are appropriate.</p> <p>Grievances will be handled as incidents and managed through the incident procedure to enable the grievance to be received, documented, addressed and results fed back to the complainants. This procedure will protect the confidentiality of the persons raising the complaint, where necessary. The feedback will be easily accessible and understandable to members of the affected community and/or staff.</p>
	<p>Reporting</p> <p>Stakeholders affected by the Project will be informed of progress in the implementation of the management plans and of the effectiveness of management measures.</p>

PEDO has established an initial program of stakeholder engagement for the Project and this will continue throughout the life of the Project. Currently, this program includes disclosure of information and consultation with stakeholders as part of the EIA process.

When the Project enters the construction phase, and throughout the remaining life of the Project, stakeholder engagement will include:

- a grievance mechanism, for receiving concerns about the Project's environmental and social performance and for facilitating the resolution of the concerns (the grievance mechanism applies to Project stakeholders, including potentially affected communities and Project personnel.

- reporting on the implementation of the EMP and relevant supporting management plans;

- opportunities for stakeholders to respond to the information received; and
- constructive dialogue on environmental and social issues and performance.

The stakeholder engagement process will be documented, including:

- maintenance of a stakeholder database with stakeholder details;

- records of information disclosed to stakeholders;

- records of stakeholder engagements; and

- records of inputs from stakeholders and responses to these.

23.1.1 Emergency Preparedness and Response

The Project will implement and maintain an Emergency Preparedness and Response Plan (EPRP).

Purpose and Applicability

This framework is intended to guide the means by which PEDO and its contractors will ensure that they are prepared for emergency situations and can respond effectively should they arise. For each stage of a project's project life cycle, PEDO and/or contractor will develop and implement an ERPR that meets the requirements of this framework. PEDO will identify the party responsible for preparing the EPRP. It is expected that most emergencies during construction would take place on the site, so the Plan prepared for the construction period would primarily (but not exclusively) address on-site emergencies. During operation, on the other hand, dam failure or other emergencies could cause significant downstream impacts, so the Plan for the operations period would address a combination of on-site and off-site emergencies and actions.

Approach and Activities

EPRPs for new projects will initially be developed based on the Environmental and Social Impact Assessment or other assessment document that identifies on-site and off-site risks during the project life cycle that could result from an accident or other emergency situation, and on a detailed assessment of site activities. The EIA and/or other documents would typically identify specific risk-reduction measures as well, which would become part of the EPRP. EPRPs for existing projects will initially be based on

due diligence assessments that evaluate risks of ongoing construction and/or operations, and again will include a detailed assessment of site activities. EPRPs will also be informed by and based upon the best judgment of qualified professionals and the experience gained from ongoing activities. EPRPs will become part of the Project's Environmental Management Plan.

The EPRP will identify various emergency situations that could realistically occur, which could include:

- Fire or explosion
- Road or site traffic accident
- Spills of hazardous materials such as fuels, chemicals, oil, paint, etc.
- Landslides, mudslides, or rockfalls
- Equipment failure
- Earthquakes (primarily during operation)
- Cofferdam failure

Partial or complete dam failure (impacts of dam break provided as **Appendix T**)

Floods

Turbine or blade failure.

Site lockdown due to breach of security, external attack, or other event.

The EPRP will call for close coordination with local authorities regarding preparing and responding to emergencies that could affect local people or communities. Particularly if there could be serious off-site impacts, EPRPs will describe the coordination process, including PEDO support for community emergency preparedness and response training. EPRPs will include details for the following elements, which could be different for various types of accidents:

Organizational and individual responsibilities for both emergency preparedness and for emergency response, which could be very different. This would include roles and responsibilities of responders and decision-makers.

Measures that need to be taken to prepare for potential emergencies, including equipment, supplies, warning signals, dedicated communication lines, etc.

Details on how relevant authorities, the public, and third-party emergency response agencies will be informed of potential risks due to emergency situations resulting from project activities, and on agreements that have been reached for cooperative responses to emergencies.

Contact details of all dedicated and non-dedicated emergency response personnel on the site and personnel who are available off-site.

Contact details of relevant authorities and third parties who will need to be notified for various types of emergencies (nearby residents, landowners, fire brigades, local law enforcement, military, etc.).

Detailed information on internal and external equipment, personnel, facilities, funding, expert knowledge, and materials that will be required to respond to specific types of emergencies. The EPRP will also need to identify the specialized expertise that may be needed to respond to specific emergencies.

Procedures for using, inspecting, testing, and maintaining emergency response equipment, which may include equipment under the control of third parties (for example, the local fire brigade or emergency medical teams).

Clear procedures and protocols for notifications and communications to and within the contractor (if any), local and other authorities, potentially affected people, and other parties.

Emergency response procedures to be followed, and by whom, for various emergency situations.

Locations of holding/areas for workers and off-site collection points for others, and conditions under which they would be used.

Pro forma incident report forms.

The EPRP should call for a root-cause analysis following any emergency or near-emergency situation in order to identify improvements in future preparedness or response. The EPRP, or a separate planning process, should also include measures to ensure business continuity and contingency, including:

Identifying and making contingency arrangements to exploit replacement supplies or facilities – which could include buildings, electricity, water supplies, equipment and vehicles, fuel, etc. -- to allow business continuity.

Maintaining backups of critical information, including relevant EPRPs that form the EMP, in a secure but accessible location to ensure continuity or restoration of site activities, including implementation of mitigation measures.

Monitoring, Recordkeeping, and Reporting

The EPRP will describe records that must be kept to document various activities required to maintain emergency preparedness, and the person(s) responsible for maintaining the records. The EPRP will also describe how notice and details of any imminent or actual emergency will be communicated within the contractor (if any), local authorities, potentially affected people, and other parties.

The EPRP will require periodic inspection/monitoring of the Project site(s) and records, with a focus on areas where accidents or other occurrences could lead to emergency situations. The EPRP will need to specify:

The locations, activities, and records that must be inspected.

The frequency of inspection.

The required qualifications of persons who will conduct the monitoring.

Records that must be kept and the person responsible for keeping the records.

Special hazards of inspection, including appropriate cross-references to the Occupational Health and Safety Plan for required and recommended risk reduction measures.

Reports that will be prepared, to whom the reports are to be submitted for review, and the length of time records will be kept. This could include summary reports or detailed technical reports, and could be submitted to company or PEDO management, government agencies, or lenders.

The EPRP will describe how remedial actions will be identified and implemented in the event that monitoring reveals shortcomings in emergency preparedness or in recordkeeping, and how follow-up monitoring will be implemented until the requirements of the EPRP are fully met.

Implementation

The EPRP will identify and describe the responsibilities of all parties, including PEDO, contractors, and competent authorities. The EPRP must also identify the roles and responsibilities of individual positions within PEDO and the contractor. This will include the chain of command for directing response activities in case of various types of emergencies. This should be shown in an organogram that includes as much detail as possible, down to the individual person/position.

Training

The EPRP will identify training requirements for staff and managers of PEDO and/or contractors, including who will be responsible for conducting the training and who must be trained in what skills. Training will also extend to third parties who may be called upon to respond to emergencies. Training will focus on the assigned responsibilities of the trainees in preparing for emergencies and for responding to emergencies if they occur, and will cover technical and administrative skills needed to perform assigned responsibilities. The EPRP will need to provide for emergency preparedness and response training should be closely coordinated with occupational health and safety training. The EPRP should call for at least the following topics to be part of emergency preparedness and response training.

Providing information necessary for trainees to understand the possible effects of various types of emergencies and an opportunity to contribute effectively, as appropriate, to decisions concerning preparedness and response.

Providing specific information on appropriate behavior and safety measures to be adopted in case of various types of emergencies.

The specific responsibilities of the person being trained in case of various types of emergencies.

Scheduled and unscheduled drills and practice in responding to various types of emergencies, including site evacuation, and procedures to monitor drills closely to verify that staff and managers are aware of their responsibilities and are able to complete them.

Relationship to other Plans

The emergency preparedness and response plan is related to the following plans:

- Spill Prevention and Response Plan.
- Waste Management Plan.
- Blasting and Explosives Control Plan.
- Stakeholder Engagement Plan.
- Dam Safety Review Procedure.
- Site Security Plan.
- Occupational Health and Safety Plan.

Revision

The EPRP will be reviewed by PEDO or the contractor as appropriate, at least annually and whenever there is a significant change in Project or site conditions, or when it is determined that any measure intended to prevent or reduce the probability of emergency situations is or may be insufficient to achieve its purpose. The EPRP will also be reviewed following the root-cause analysis that is completed after any emergency or near-emergency. It will be revised when necessary to update or improve emergency preparedness and response, and when it is determined necessary to ensure compliance with applicable standards and good international industry practice.



23.2 Mitigation and Management Plan

This section summarizes, as the mitigation and management plan, the mitigation measures for the Project as prescribed in the EIA. It divides the responsibilities for implementation of these measures and describes additional management plans that must be developed to facilitate implementation.

23.2.1 Environmental and Social Mitigation

The mitigation plan includes the following:

Impact Reference – this specifies the impact/s for which the mitigation measure is proposed. The impact reference can be used to look up, if required, details on the assessment of the specific impact in **Section 7 (Anticipated Environmental Impacts and Mitigation Measures)**. A summary is provided in **Exhibit 0.6**.

Mitigation Measure – this summarizes the required mitigation measures as given in the above referenced chapter to keep environmental impacts at an acceptable level.

Implementation Measure – these are additional measures that are required for the correct execution of the mitigation measures.

Monitoring Indicators – these are indicators that should be tracked to ensure compliance.

The mitigation plans are given in **Exhibit 0.7 to Error! Reference source not found.**

Mitigation measures are further divided by responsibility and are presented in the exhibits indicated in the list below. Each table indicates the management unit which the mitigation measure is expected to fall under. This is to facilitate implementation so that managers can locate their responsibilities completely and efficiently.

Design Phase

- ▶ Project Design and Construction Planning (**Exhibit 0.9**)

Construction Sites

- ▶ Dam Site Construction Manager (**Exhibit 0.10 and Exhibit 0.11**)
- ▶ Powerhouse Site Construction Manager (**Exhibit 0.10 and Exhibit 0.12**)
- ▶ Headrace Tunnel Construction Manager (**Exhibit 0.10 and Exhibit 0.13**)
- ▶ Waste Dump Area Manager (**Exhibit 0.10**)
- ▶ Quarry Area Manager (**Exhibit 0.10**)
- ▶ Workshop Manager (**Exhibit 0.14**)
- ▶ Batching Plant Manager (**Exhibit 0.15**)
- ▶ Construction Camp Manager (**Exhibit 0.16**)
- ▶ Spoil Disposal Site Manager (**Exhibit 0.17**)

Construction Support

- ▶ Transport Fleet Manager (**Exhibit 0.17**)
- ▶ Labor Manager (**Exhibit 0.19**)

Other

- ▶ Community Liaison Officer (**Exhibit 0.20**)
- ▶ Project Environmental Manager (**Exhibit 0.21**)
- ▶ PEDO (**Error! Reference source not found.**)
- ▶ Owner's Engineer (OE) (**Exhibit 0.22**)

A transmission line connecting the Project to the national transmission system is categorized as an Associated Facility (see **Section 3**). NTDC, the owner of the transmission line, will carry out a separate EIA for this transmission line. Mitigation measures described in the EIA of transmission line will be reviewed as part of implementation of EMP.

Exhibit 0.6: Impacts Assessed during the EIA

<i>Impact Reference</i>	<i>Impact</i>
1	Improvement of the river ecosystem through implementation of the BAP
2	Loss of riverine ecosystem due to inundation by Project Reservoir.
3	Degradation of the river ecosystem downstream of the dam.
4	Alteration of the river ecosystem downstream of the Tailrace.
5	Terrestrial habitat loss caused by construction related activities.
6	Decline in abundance and diversity of terrestrial flora and fauna caused by construction related activities.
7	Project operation leading to animal disturbance, displacement and decline.
8	Increase in ambient and ground level concentration of air pollutants from construction activities and vehicular movement may cause health impacts to the community.
9	Vibration from blasting during the construction phase may disturb local communities.
10	Blasting may pose a health hazard due to flying debris.
11	Construction activities may be cause alterations to groundwater flow patterns.
12	Use of local water resources for construction activities may reduce the water availability for the local communities.
13	Discharge from construction activities can potentially result in the contamination of soil, groundwater and surface water
14	Increase in ambient noise levels due to operation of construction equipment, movement of construction traffic and blasting may create nuisance for nearby communities and visiting tourists.
15	Contamination of soil as a result of accidental release of solvents, oils and lubricants can degrades soil fertility and agricultural productivity.
16	Land clearing, excavation, tunnel boring and other construction activities may loosen the top soil in the Project area resulting in loss of soil and possible acceleration of soil erosion and land sliding, especially in the wet season.
17	Failure of spoil dumping sites resulting in increased erosion and sediment load entering river.
18	Deterioration of aesthetics and visual amenity due to construction activities.
19	Degradation of aesthetic value of the area due to low flow section.
20	Permanent impact in aesthetics due to proposed developments.
21	Improved accessibility due to construction of Project internal roads.
22	Increase in congestion, due to increased traffic volume will cause delays.
23	Increase in traffic volume will deteriorate the air quality.
24	Increased risk to community safety due to increased traffic volume during the construction phase near communities.
25	Degradation of the pavement due to use by heavy construction traffic.

<i>Impact Reference</i>	<i>Impact</i>
26	Direct, indirect and induced employment at the local levels, resulting in increased prosperity and wellbeing due to higher and stable incomes of people.
27	Increase in the stock of skilled human capital due to transfer of knowledge and skill under the Project resulting in enhanced productivity of the local labor.
28	Increase in recreational and subsistence fishing due to increase in catch of fish following creation of favorable habitats for the fish in the Kunhar River.
29	Loss of income from sand and gravel mining due to change in pattern of sediment deposition following construction of the dam.
30	Loss of assets and livelihood as a result of land acquired for the Project.
31	Increase in population due to in-migration of job seekers (in-migrants) leading to pressure on existing social infrastructure and services in the Study Area.
32	Disputes over distribution of Project employment within and between Study Area inhabitants and the in-migrants resulting in social unrest.
33	Potential social unrest in the Study Area due to conflicting socio-cultural norms amongst the inhabitants and in-migrants.
34	Submergence of community graveyards.



Exhibit 0.7: Design Phase Mitigation Plan

IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
5	Terrestrial habitat loss caused by construction related activities	Minimize disturbance to, or movement of, soil and vegetation Minimize project footprint. Retain as much natural vegetation as possible. Locate construction facilities based on a knowledge of the soil, slope and vegetation cover of the area to avoid disturbance to the natural environment.	During detailed design	EPC Contractor	Measures included in design documents
6	Decline in abundance and diversity of terrestrial flora and fauna caused by construction related activities.	Locate vehicle yards away from open soils and top soil stockyard Maximize use of locally-sourced aggregate and borrow material Minimize contact of non-local aggregate and borrow material with native soil. Minimize disturbance to, or movement of, soil and vegetation.	During detailed design	EPC Contractor	Measures included in design documents
10	Blasting may pose a health hazard due to flying debris.	A minimum buffer of 500 m should be provided between the settlements and point of blasting.	During detailed design	EPC Contractor	Measures included in design documents
11	Construction activities may be cause alterations to groundwater flow patterns.	Record location of the springs especially those in areas proximal to where the underground headrace tunnel will be closer to the ground level	During detailed design	Supervision Consultant	Record of springs
12	Use of local water resources for construction activities may reduce the water availability for the local communities.	Prepare a Water Sourcing and Abstraction Plan specifying the source, owner, total yield, current usage, allowable quantity and the duration for which water can be obtained. To the extent possible avoid, and where unavoidable, minimize the use of water from local sources (springs) for the Project where local abstraction is unavoidable: Undertake an assessment of the local source identifying its total yield and current usage. If the abstraction from a single source	During detailed design	EPC Contractor	Agreements between government and contractor Water Sourcing and Abstraction Plan



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
		extends three months, the assessment shall be repeated Fix the allowable quantity to not more than 50% of the available yield (total yield minus current usage) Enter into a formal agreement with the owner for the water source (or government if it is a public source).			
14	Increase in ambient noise levels due to operation of construction equipment, movement of construction traffic and blasting may create nuisance for nearby communities and visiting tourists.	Use visual alarms in preference to audible alarms. Locate noisy equipment behind parking lots, parks or behind sound barriers or sound absorbers – for example, gravel stockpiles or constructed barriers, and away from potential sources of conflict Using vibratory piling instead of impact piling. Erect earth mounds around the site boundary can provide acoustic as well as visual screening.	During detailed design	EPC Contractor	Measures included in design documents
17	Failure of spoil dumping sites resulting in increased erosion and sediment load entering river.	Dumping sites should have a flood prevention design for a 20-year flood. A spoil management plan should be developed as described in Section 9.4.3 which will implement measures to prevent this.	During detailed design	EPC Contractor	Measures included in design documents
20	Permanent impact in aesthetics due to proposed developments.	Develop and implement a Site Rehabilitation and Landscaping Plan. Use colors that better integrate with the landscape. Disguise elements with vegetation where possible. Retain as much natural vegetation as possible.	During detailed design	EPC Contractor	Measures included in design documents
21	Improved accessibility due to construction of Project internal roads.	Consult communities during final design and location of site access roads.	During detailed design	EPC Contractor	
22	Increase in congestion, due to increased traffic volume will cause	Make roundabouts for the congestion points. Retain as much natural vegetation as possible to reduce the	During detailed design	EPC Contractor	Measures included in design



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
	delays.	impact of smoke due to vehicles. Consult National Highway Authority for implementation of the above measures			documents
30	Loss of assets and livelihood as a result of land acquired for the Project.	See LARP (Volume 8)	Before construction	PEDO/Land Acquisition Collector	See LARP (Volume 8)
34	Submergence of the graveyard.	Plaster the graves with mud or cement. If relocation of the graveyard cannot be avoided, it shall be managed through the local religious authorities	During detailed design	PEDO	Measures included in LARP
34	Impact of climate change in flood impacts such as possible enhancing of overtopping of spillway	Ensure minimal damage to dam structure from small amount of overtopping of spillway through design.	During detailed design	PEDO	Measures included in Climate Risk Report

Exhibit 0.8: ConstructionPhaseMitigation Plan

IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
	Construction Impacts	The site specific environmental management plan (SSEMP) (see Section 9.5.3) for each site will outline areas to be cleared, vegetated areas to be protected or fenced, slopes to be stabilized and solid waste disposal locations. Submit all SSEMP to Owner's Engineer for approval.	At start of construction	Site Managers of EPC	SSEMPs prepared before initiation of construction
1	Improvement of the river ecosystem through implementation of the BAP	Implement the BAP (seeVolume 2C of the EIA)	As given in BAP	As given in BAP	As given in BAP
2	Loss of riverine ecosystem due to inundation by Project Reservoir	Implement the BAP (seeVolume 2C of the EIA)	As given in BAP	As given in BAP	As given in BAP
3	Degradation of the river ecosystem in the low flow segment downstream of the Project dam	Offsets to loss of biodiversity by implementation of the BAP (seeVolume 2C of the EIA).	As given in BAP	As given in BAP	As given in BAP
4	Degradation of the River Ecosystem Downstream of the Tailrace	Implement the BAP (seeVolume 2C of the EIA).	As given in BAP	As given in BAP	As given in BAP
5	Terrestrial habitat loss caused by construction related activities.	Provide awareness training to staff and contractors on: prevention of injury of animals; identification of likely species found on site; identifications of animal hazards (such as venomous snakes); and what to do if dangerous animals are encountered. Solid waste should only be disposed of at designated sites	During construction	EPC Contractor	SSEMPs prepared before initiation of construction Visual confirmation of replantation



Monitoring Indicators	Responsibility	When	Mitigation Measure	Impact	IR
Waste Management Plan Environmental Training Plan			<p>and a Waste Management Plan developed and implemented.</p> <p>Prepare an Environmental Training Plan that contains awareness training to staff and contractors on: prevention of injury of animals; identification of likely species found on site; identifications of animal hazards (such as venomous snakes); and what to do if dangerous animals are encountered. Also see guidelines for the Environmental Training Plan in IR 5. Encourage personnel to report sightings of wildlife of conservation importance or incidents of poaching to PEDO.</p> <p>Minimize disturbance to, or movement of, soil and vegetation.</p> <p>Prevent soil damage and erosion.</p> <p>Prevent Alien Invasive Species (AIS) establishment on exposed stored soil (do not store bare soil near known sources of AIS). The habitat most at risk is the Riparian Habitat. The species that are highest risk include Parthenium Weed, Common Weed and Castor Oil Plant.</p> <p>Train and raise awareness regarding AIS among Project staff and contractors.</p> <p>Retain as much natural vegetation as possible.</p> <p>Solid waste should only be disposed of at designated sites. Minimize the project footprint, clearly delineate and restrict access beyond work sites and other areas to be disturbed.</p> <p>Within the quarry and borrow areas, activities will be restricted to areas at a distance from perennial water channels so as to avoid disturbances to them including the risk of siltation.</p>		



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
6	Decline in abundance and diversity of terrestrial flora and fauna caused by construction related activities.	<p>Large flood lights should not be installed outside 50 m of the Project fence.</p> <p>Lights should be directed towards Project facilities and not towards the natural habitats.</p> <p>Regulations for Project staff and contractors to avoid illegal poaching to be incorporated in contract documents.</p> <p>Provide awareness training to staff and contractors on: prevention of injury of animals; identification of likely species found on site; identifications of animal hazards (such as venomous snakes); and what to do if dangerous animals are encountered.</p> <p>Incorporate regulations for Project staff and contractors to avoid illegal poaching in contract documents.</p> <p>Provide adequate knowledge to the workers on relevant government regulations and punishments for illegal poaching.</p> <p>Encourage personnel to report sightings of wildlife of conservation importance or incidents of poaching to PEDO.</p> <p>Project staff and contractors to report kills of large mammals particularly designated species of conservation concern.</p> <p>Train and raise awareness regarding AIS among Project staff and contractors.</p> <p>The Contractor shall prepare an Environmental Training Plan for all construction workers; the Plan shall address the following items:</p> <p>All Contractor's employees shall be required to comply with environmental protection procedures and they shall be able to provide evidence that they attended the training sessions detailed in the Plan;</p> <p>The Plan shall educate all construction workers on the</p>	Before and during construction	EPC Contractor	<p>Environmental Training Plan</p> <p>Training Schedule</p> <p>Evidence of trainings and attendance lists</p> <p>Provision of required regulations in contract documents.</p> <p>Evidence of tree planting to required levels and yearly survival records.</p>

IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
8	Increase in ambient and ground level concentration of air	<p>following issues but not limited to them: fire arm possession, traffic regulations, illegal logging and collection of non-timber forestry products, non-disturbance of resettlement communities, hunting and fishing restrictions, waste management, erosion control, health and safety issues, all prohibited activities, the Code of Conduct requirements and disciplinary procedures, and general information on the environment in which they will be working and living; Establishment of penalties for those who violate the rules; Proposed methods for conducting the training program, which shall include formal training sessions, posters, data in newsletters, signs in construction and camp areas and 'tool box' meetings.</p> <p>Equipment emitting excessive noise in comparison with other similar equipment will not be allowed to operate. Equipment under use will be regularly maintained, tuned, and provided with mufflers to minimize noise levels. Equipment in poor state of maintenance, particularly without effective noise control will be checked to determine if it can be improved, and replaced with less noisy equipment as soon as practicable. Blowing of horn will be prohibited on all sensitive areas except under emergency conditions. Compensatory trees will be planted. The EPC Contractor will plant a minimum of ten trees for each tree removed in acquired land. PEDO will monitor and maintain the vegetation until it is established.</p> <p>Implementation of the BAP.</p>	Before and during	EPC Contractor	SSEMP documents prepared before initiation



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
	<p>pollutants from construction activities and vehicular movement may cause health impacts to the community.</p>	<p>(see Section 9.5.3) for each construction site and must outline areas to be cleared, vegetated areas to be protected or fenced, solid waste disposal locations, and sprinkling locations.</p> <p>Fugitive and exhaust emissions from transport vehicles Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer). Install and maintain all vehicles and machinery with appropriate emission control equipment.</p> <p>Regularly maintain vehicles and equipment to keep emissions in check.</p> <p>Smoke from internal combustion engines should not be visible for more than ten seconds.</p> <p>To the extent possible, use new and low emission equipment and vehicles.</p> <p>Purchase best quality fuel and lubes and where possible use lead free oil and lubes.</p> <p>Sprinkle water on all unsealed roads used by Project vehicles that are within 200 m of any settlement. Cover loads and long-term piles of friable material to reduce fugitive dust emission.</p> <p>Reduce traffic speeds on all unpaved surfaces to 15 miles per hour or less.</p> <p>Paved roads shall be swept frequently if soil material has been carried onto adjacent paved, public thoroughfares from the Project site.</p> <p>Install wheel washers where vehicle exit onto paved road from unpaved.</p> <p>Wheel washing of vehicles leaving the site.</p>	<p>construction</p>		<p>of construction</p> <p>Air Pollution and Control Plan</p> <p>Continuous observation for non-compliance</p> <p>Vehicle and equipment maintenance logs</p>



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
		<p>Wash vehicles/equipment prior to each trip.</p> <p>Use catalytic converters on vehicles, an emission control device, used to convert harmful pollutants to less harmful pollutants e.g. it converts the nitrogen oxides back into nitrogen and oxygen.</p> <p>Appropriate maintenance of vehicles and machinery.</p> <p>Fugitive dust emissions from blasting</p> <p>Indicate the limits of a clearing land with highly visible markers.</p> <p>Leave a layer of about 5 m of undisturbed soils above the top of the overburden blasts. This will act as a blanket to contain air blast, dust and fly rock.</p> <p>Sprinkle water on the area where blasting is done to settle down the particulate matter emissions.</p> <p>Fugitive dust emissions from quarry areas</p> <p>Indicate the limits of a clearing land with highly visible markers.</p> <p>Avoid earth stripping or moving in periods of dry and windy weather.</p> <p>Carry out dust generating activities where maximum protection can be obtained through topography or in areas where prevailing winds will blow dust away from sensitive areas/uses.</p> <p>Water spraying of conveyors/conveyor transfer points, stockpiles and roads.</p> <p>Covering of fine dry loads or spraying of loads prior to exiting the site, and if necessary regular cleaning of public roads in the vicinity of the entrance.</p> <p>Fugitive dust emissions from concrete batching plants</p> <p>Suspend earthwork operation when wind speed exceeds 20 km/hr. in areas within 500 m of any settlement.</p>			



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
		<p>The whole process of weighing and mixing would be performed in a fully enclosed environment.</p> <p>The mixers would all equipped with dust collectors, no dust emission would be expected.</p> <p>Siting the concrete batching plant out of prevailing high winds minimizing dust emissions.</p> <p>The prevailing wind direction should be considered to ensure that bunkers and conveyors are sited in the leeward direction to minimize the effects of the wind.</p> <p>The provision of natural or artificial wind barriers – such as trees, fences and landforms – to help control the emission of dust from the plant should be considered.</p> <p>Batching plants should be sited on land that is not flood prone.</p> <p>Batching plant should be kept as near to natural sinks to minimize emissions to ambient environment</p> <p>All stacks to be vertical and at least 3 m above ground</p> <p>Fugitive dust emissions from aggregate production and handling system</p> <p>Suspend operation when wind speed exceeds 20 km/hr. in areas within 500 m of any settlement.</p> <p>The prevailing wind direction should be considered to ensure that aggregate handling systems located in the leeward direction to minimize the effects of the wind.</p> <p>Sprinkle water on all exposed surfaces, particularly those close and up-wind of settlements.</p> <p>Wind-blown dust from exposed surfaces such as bare land and waste dumping sites</p> <p>Cover all exposed surfaces, particularly those close and up-wind of settlements.</p> <p>All grading operations on a project should be suspended</p>			



Monitoring Indicators	Responsibility	When	Mitigation Measure	Impact	IR
			<p>when winds exceed 20 miles per hour.</p> <p>Minimize disturbance to, or movement of, soil and vegetation.</p> <p>Sprinkle water on all exposed surfaces, particularly those close and up-wind of settlements.</p> <p>Retain as much natural vegetation as possible.</p> <p>Wind-blown dust from stockpiles of dusty materials such as sand and other minerals</p> <p>On-site dirt piles or other stockpiled PM should be covered, wind breaks installed and water and/or soil stabilizers employed to reduce wind-blown dust emissions.</p> <p>Adequately wet, cover with plastic, or provide with wind shield all stockpiles to reduce dust emission.</p> <p>Sprinkle water on all exposed surfaces, particularly those close and up-wind of settlements.</p> <p>Minimize disturbance to, or movement of, soil and vegetation.</p> <p>Prevent soil damage and erosion.</p> <p>Retain as much natural vegetation as possible.</p>		9
<p>Blasting and Explosives Control Plan document available in nearby villages</p> <p>Blasting timetable</p> <p>Results of preconstruction survey</p> <p>Availability of GRM</p>	EPC Contractor	During Construction	<p>Develop a Blasting and Explosives Management Plan and Vibration Monitoring Plan.</p> <p>Conduct a pre-construction survey of structures at risk of vibration impacts households.</p> <p>In the initial stages, the blasting induced vibration shall be measured as a function of maximum instantaneous charge and distance from the blasting site. This data shall be then used to refine the Blasting Induced Vibration Risk Zones on the basis of the adopted criteria.</p> <p>Using, the refined Blasting Induced Vibration Risk Zones maps and the tunnel boring schedule, the</p>	<p>Vibration from blasting during the construction phase may disturb local communities.</p>	



IR	Impact	<p>Supervision Consultant in consultation with the PEDO and the Construction Contractor, shall identify the houses that will be affected and the impact duration and schedule.</p> <p>For the houses that will fall in the Structural Damage Risk Zone, a temporary relocation plan will be developed. An amendment to the Land Acquisition and Resettlement Plan (LARP) (see Volume 8) will be commissioned for this purpose. Before start of blasting, all residents of houses in the Structural Damage Risk Zone will be relocated as per the LARP.</p> <p>A survey will be undertaken in both zones, to determine the pre-blasting conditions of the buildings. The survey will be commissioned by the Supervision Consultant and will identify and record any existing damage to the structures. The survey will cover the following aspects:</p> <ul style="list-style-type: none"> ○ Overall condition of the structures, both exterior and interior. ○ Documentation of defects observed in the structure using digital imagery along with notes, measurements and sketches. ○ Documentation of pre-existing cracks using digital imagery along with notes, measurements and sketches. <p>Following completion of the blasting, the survey will be repeated in the Structural Damage Risk Zone to determine the condition of the buildings and verify that they are safe for re-occupation. If the buildings are safe, the residents will be allowed to return to their houses following any necessary damage repairs. If the buildings are damaged beyond repair, compensation will be paid to the owners as per the LARP</p>	When	Responsibility	Monitoring Indicators
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Monitoring Indicators	Responsibility	When	Mitigation Measure	Impact	IR
			<p>(Volume 8). If there are any claims or reports of damage in the Cosmetic Damage Risk Zone, the affected house will be surveyed against the pre-Project survey and repairs will be undertaken as appropriate. Following are key mitigation measures for the management of blasting:</p> <p>Blasting will be scheduled during the day only. Local communities will be informed of blasting timetable in advance and will be provided adequate notice of when blasts are required outside of the planned schedule.</p> <p>A Blasting Management Plan will be developed by the Construction Contractor. The Plan will be reviewed and approved by the Supervisor Contractor before the initiation of the blasting work.</p> <p>Throughout the blasting activity, vibration sensors will be installed at strategic location to monitor the impact of blasting and to ensure that the vibration levels are within the adopted criteria. The monitoring plan will be part of the Blasting Management Plan.</p> <p>Unscheduled blasting will be strictly prohibited in any case.</p> <p>Meaningful contact with the community shall be maintained and their grievance shall be attended to in a timely manner. In this regard:</p> <p>A meaningful community engagement plan will be developed. The plan will cover identify the affected community; the key contact persons; frequency of engagement; the information to be shared; the responsibilities to manage the plan; and the notice period to be giving to the community for various blasting related generating activities.</p>		



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
		<p>The Grievance Redress Mechanism will be used to record, investigate, and respond to any complaints. Investigation of the complaints will be undertaken by the Supervision Consultant.</p> <p>Develop a Vibration Monitoring Plan that will include monitoring of vibration levels and frequency around the blasting sites. The objectives of the monitoring will be to:</p> <p>Ensure that vibration levels in the communities are within the adopted criteria levels;</p> <p>Maintain record of vibration to settle any potential conflicts; and</p> <p>Monitor changes in the vibration levels due to possible changes in the rock formation and take appropriate corrective actions.</p>			
10	Blasting may pose a health hazard due to flying debris.	<p>A minimum buffer of 500 m should be provided between the settlements and point of blasting.</p> <p>Leave a layer of about 5 m of undisturbed softs above the top of the overburden blasts. This will act as a blanket to contain air blast, dust and fly rock.</p> <p>Ensure that the holes are correctly collared with respect to the back-break/inclination of the face and also that digging alongside the initiation face well controlled. Inadequate forward displacement of the front row burden arising out of the under charging of these holes will result in fly rock from vertical catering of the rear holes. Where fly rock possesses a serious problem, the stemming length should not be less than the hole burden. Also, an effective stemming material like crushed angular rock should be used to prevent premature venting of explosion gases through the stemming column.</p> <p>The forward fly rock could be fairly controlled to the</p>	During Construction	EPC Contractor	<p>Blasting and Explosives Control Plan document available in nearby villages</p> <p>Results of preconstruction survey</p> <p>Blasting timetable available in nearby villages</p> <p>Availability of GRM</p>



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
11	Alterations of natural passage of springs due to blasting for tunnels may disrupt the water supply for mountain spring users.	<p>commonly used 'inline open loop' pattern. The maximum inter-row delay interval consistent with the absence of cut off helped in minimizing the fly rock formation. As a thumb rule an inter-row delay of 4-8ms/m of burden could be used for this purpose.</p> <p>Adequate care should be taken while connecting the delay devices in the holes/rows and the initiation sequence properly checked before firing to avoid initiation of blast holes out of sequence.</p> <p>Blasts designed on a face length to width ratio in the range of 3 to 4 produces minimum fly rock.</p>			
11	Alterations of natural passage of springs due to blasting for tunnels may disrupt the water supply for mountain spring users.	<p>Record location of the springs especially those in areas proximal to where the underground headrace tunnel will be closer to the ground level i.e high risk areas (see Exhibit 7.20 and Exhibit 7.21).</p> <p>Monitor flow for located springs and maintain records.</p> <p>Support the community in development of alternate water supply schemes through local NGOs</p> <p>Ensure the availability of water to the communities and the access of the communities to the water resources being used by them is not adversely affected.</p>	During construction	EPC Contractor	Flow records of identified springs
12	Use of local water resources for construction activities may reduce the water availability for the local communities.	<p>Develop a Water Sourcing and Abstraction Plan</p> <p>Source water for construction from authorized abstraction sources agreed between the local communities, local government and EPC contractor.</p> <p>Water conservation techniques will be developed and implemented by the EPC contractor.</p> <p>Access of community to water sources shall be kept clear so that the community's ability to meet its water requirements are not compromised.</p> <p>Exercise care while moving heavy machinery to avoid damage or blockage of natural waterways and</p>	Before and during construction	EPC Contractor	<p>Agreements documents for water use.</p> <p>Water Sourcing and Abstraction Plan</p> <p>Water use record documents</p>



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
13	Discharge from construction activities can potentially result in the contamination of soil, groundwater and surface water.	<p>Maintain records of water usage in all Project activities.</p> <p>Incorporate the above measures in the Construction Site Environmental Management Plan (see Volume VI).</p> <p>Develop and implement a Water Quality Management Plan</p> <p>Prepare and implement a Spill Prevention and Response Plan and inducted to the staff for any incident of spill.</p> <p>Provide and use spill prevention trays at refuelling locations</p> <p>The run off from maintenance workshops will be collected by impervious channels and be passed through oil water separators (OWS) before final disposal. The sludge and oil collected at the OWS will be disposed off properly.</p> <p>Build separate impervious pits (with concrete walls and proper shed) at the construction sites for temporary handling and storage of contaminated soil and water if encountered during construction such as sludge from OWS.</p> <p>Keep all fuel storage tanks and lubricating oil drums in secondary containment impervious pits with impervious shed walls.</p> <p>Avoid on-site maintenance of construction vehicles and equipment, as far as possible.</p> <p>Regularly inspect construction vehicles and equipment to detect leakages.</p> <p>Store fuels and lubricants in covered and dyked areas, underlain with impervious lining.</p> <p>Spill control kits (shovels, plastic bags and absorbent materials) will be available near fuel and oil storage areas, vehicle parking, and vehicle maintenance areas as well as at construction sites.</p> <p>Remove contaminated soil from the site and dispose in a</p>	During Construction	EPC Contractor	<p>Water Quality Management Plan documents</p> <p>Spill Prevention and Response Plan document</p> <p>Visual implementation of mitigation measures such as use of spill prevention trays and proper storage of fuel storage.</p> <p>Record of spills and remedial actions taken</p>

Monitoring Indicators	Responsibility	When	Mitigation Measure	Impact	IR
			<p>manner to ensure protection of water sources.</p> <p>Construct the bottom of any soak pit or septic tank at least 100 meters away from springs and water bores.</p> <p>Maintain records of spills and volume of removed contaminated soil.</p> <p>Maintain record of remedial measures taken.</p> <p>Use silt traps to prevent contamination of river and streams.</p> <p>Incorporate the above measures in the Construction Site Environmental Management Plan (see Volume VI).</p>		14
<p>Noise and Vibration Control Plan document</p> <p>Maintenance record of equipment</p> <p>Records of community meetings regarding noise.</p> <p>Noise level monitoring in nearby communities</p>	EPC Contractor	During Construction	<p>Develop a Noise and Vibration Control Plan</p> <p>Noise generated from construction sites from construction activities</p> <p>Select the quietest available plant and equipment that can economically undertake the work required.</p> <p>Undertake maintenance of the equipment as simple maintenance can reduce noise levels by as much as 50%. Parts may become loose, creating more noise because of improper operation or scraping against other parts. Grinding noises may also occur as the result of inadequate lubrication.</p> <p>Equipment under use will be regularly maintained, tuned, and provided with mufflers to minimize noise levels. Use visual alarms in preference to audible alarms.</p> <p>Enclose noisy equipment.</p> <p>Provide noise attenuation screens, where appropriate.</p> <p>Build an enclosure around the noise source so that noise is contained. The enclosure should be free from gaps and made of dense material and be lined with noise-absorbing material like glass or polyester batts.</p> <p>Locate noisy equipment behind parking lots or parks.</p>	<p>Increase in ambient noise levels due to operation of construction equipment, movement of construction traffic and blasting may create nuisance for nearby communities and visiting tourists.</p>	

Monitoring Indicators	Responsibility	When	Mitigation Measure	Impact	IR
			<p>Close liaison with the community and regular monitoring of the noise levels in the community are key to successfully implementation of the above mitigation measures. Specifically, inform communities of all major construction activities three days in advance.</p> <p>Construction noise from traffic</p> <p>Fit and maintain appropriate mufflers on earth-moving and other vehicles on the site.</p> <p>Mobile plants such as excavators, front-end loaders and other diesel-engine equipment should be fitted with residential class mufflers and other silencing equipment, as applicable.</p> <p>Haul roads within the site should have as low a gradient as possible, and paving should be considered if practicable where noise-sensitive receptors are likely to be affected;</p> <p>Owners and operators of existing facilities should implement special noise reduction measures, such as erecting purpose-built acoustic barriers, restricting opening hours and maintaining transport vehicle equipment</p> <p>All fixed plant at the work sites will be appropriately selected, and where necessary, fitted with silencers, acoustic enclosures and other noise attenuation measures.</p> <p>Modify the equipment or the work area to make it quieter by substituting existing equipment with quieter equipment; retro-fitting existing equipment with damping materials, mufflers, or enclosures; erecting barriers; and maintenance.</p> <p>Shift to a quieter construction process for example pile driving is very loud as compared to boring which is a</p>		



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
		<p>much quieter way to do the same work.</p> <p>Combine noisy operations to occur in the same time period. The total noise level produced will not be significantly greater than the level produced if the operations were performed separately.</p> <p>All plant and equipment should be regularly maintained.</p> <p>Move static plant and equipment as far as possible from sensitive boundaries, as work allows. A distance of four times further away lowers the noise by 12 dBA. A reduction of 10 dBA will sound half as loud.</p> <p>Sound attenuation measures should be used for plant and equipment such as baffles and specialized mufflers, acoustic enclosures or partial enclosure housings.</p> <p>Acoustic barriers need to be designed and purpose built if needed. Vegetated buffer zones can also be planted to mitigate noise from operations using suitably selected native plantings local to the area.</p> <p>Reduce workers' exposure to high noise levels by keeping moving workers away from the noise source; restricting access to areas; rotating workers performing noisy tasks; and shutting down noisy equipment when not needed.</p> <p>Use earplugs to reduce workers' exposure to high noise levels.</p> <p>Noise generated from the blasting in quarry areas</p> <p>Using vibratory piling instead of impact piling.</p> <p>Conveyor belts and crushing/screening equipment can be housed to provide acoustic screening.</p> <p>It is important that sound-reduction equipment fitted to machinery is used and maintained properly.</p> <p>Erect earth mounds around the site boundary can provide acoustic as well as visual screening.</p>			



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
		<p>Soft ground (e.g. grassland and cultivated fields) reducing noise than barrier attenuation, especially if the ground supports sound absorbing vegetation.</p> <p>Noise emissions from concrete batching</p> <p>Locate noisy equipment away from potential sources of conflict.</p> <p>Locate noisy equipment behind sound barriers or sound absorbers – for example, gravel stockpiles or constructed barriers.</p> <p>Install silencing devices to all pressure operated equipment.</p>			
15	<p>Contamination of soil as a result of accidental release of solvents, oils and lubricants can degrade soil fertility and agricultural productivity.</p>	<p>Prepare a Spill Prevention and Response Plan and Induct to the staff for any incident of spill.</p> <p>Appropriately mark fuel tanks by content and store in dyked areas with an extra 10% of the storage capacity of the fuel tank. The area will be lined with an impervious base.</p> <p>Install grease traps on the site, wherever needed, to prevent flow of oily water.</p> <p>Spill cleaning kit (shovels, plastic bags and absorbent materials) will be available near fuel and oil storage areas.</p> <p>Carry cleanup kits in all fuel trucks.</p> <p>Fueling should only take place over impermeable surfaces, other hazmats should be stored and used over impermeable surfaces.</p> <p>The bottom of any soak pit or septic tank shall be at least 10 m above the groundwater table. The distance can be reduced, based on the soil properties, if it is established that distance will not result in contamination of groundwater.</p>	<p>During Construction</p>	<p>EPC Contractor</p>	<p>Spill Prevention and Response Plan document</p> <p>Visual verification of conformance</p>

IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
16	Land clearing, excavation, tunnel boring and other construction activities may loosen the top soil in the Project area resulting in loss of soil and possible acceleration of soil erosion and land sliding, especially in the wet season.	Develop an Erosion Control Plan. Limit vegetation loss to demarcated construction area. Cover areas such as muck disposal area, batching plant, labor camp and quarry sites after the closure shall with grass and shrubs. Adopt slope stabilization measures such as adequate vertical and horizontal drains, drainage along roadsides, cross drainage and retaining walls. Monitor slope movements around excavation work areas. Salvage, store, and reuse all topsoil at all construction sites. The height of the stockpile will be minimized to the extent possible by increasing the size of the land for the stockpile. Topsoil will be carefully stripped to ensure that it is not mixed with subsoil. The stockpiles will be revegetated to minimize loss of soil quality, minimizing weed infestation, maintaining soil organic matter levels, maintaining soil structure and microbial activity. Topsoil stockpiles will be clearly signposted for easy identification and to avoid any inadvertent losses. The establishment of declared plants on the stockpiles will also be monitored and control programs implemented as required. The topsoil will be treated with temporary soil stabilization and erosion control measures.	During Construction	EPC Contractor	Erosion Control Plan document



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
17	Failure of spoil dumping sites resulting in increased erosion and sediment load entering river	<p>throughout the topsoil material at the time of final placement. The use of micro-organism inoculates may be necessary to re-establish micro-organisms in topsoil material.</p> <p>Select local species for plantation to restore the biodiversity of the area in consultation with Forest Department after completion of respective activities.</p>			
17	Failure of spoil dumping sites resulting in increased erosion and sediment load entering river	<p>Dumping sites should have a flood prevention design for a 20-year flood.</p> <p>The water drainage works consist of the masonry structures, and shall be designed to drain a 5-year rainfall every 10 minutes.</p> <p>Where constructed tailing hold structure will be of galvanized woven wire mesh gabions</p> <p>All the five dumping sites will undergo vegetation restoration works comprising of surface leveling, covering and forest/grass planting or agricultural land rehabilitation</p> <p>Develop a Spoil Disposal Plan that includes the following measures:</p> <p>Slope movements will be monitored around excavation work areas.</p> <p>Restore to the maximum extent possible the hydrological regime and reinstate natural drainage of the land (including provisions to maintain the water balance of the site and protect from flooding where appropriate)</p> <p>Reinstate topsoil (in case it was stripped before construction activities)</p> <p>Revegetate sites with suitable native plant species</p> <p>Drain spoil piles to prevent the concentration of flow and to prevent rill and gully erosion</p>	During construction	EPC Contractor	Spoil Disposal Plan Document

Monitoring Indicators	Responsibility	When	Mitigation Measure	Impact	IR
			<p>Separate organic material (e.g., roots, stumps) from the dirt fill and store separately. Place this material in long-term, upland storage sites, as it cannot be used for fill.</p> <p>Store "clean" material in a short-term disposal site (stockpile) if it will likely be re-used for fill or shoulder widening projects.</p> <p>Where feasible, recycle asphalt material in embankments and shoulder backing. Place these materials where they will not enter the stream system. Asphalt that is 5 years old is considered "inert" (that is, all oils washed off).</p> <p>Do not add excess unusable material to permanently closed sites.</p> <p>Spread material not to be re-used in compacted layers, generally conforming to the local topography. Design the final disposal site reclamation topography to minimize the discharge of concentrated surface water and sediment off the site and into nearby watercourses.</p> <p>Cover the compacted surfaces with a 6-inch layer of organic or fine-grained soil, if feasible.</p> <p>After placement of the soil layer, track walk the slopes perpendicular to the contour to stabilize the soil until vegetation is established. Track walking creates indentations that trap seed and decrease erosion of the reclaimed surfaces. (See figure on next page.)</p> <p>Revegetate the disposal site with a mix of native plant species. Cover the seeded and planted areas with straw compost, mulched with straw at a rate of 1 to 1 ½ tons per acre. Apply jute netting or similar erosion control fabric on slopes greater than 1:2 if</p>		

IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
		<p>site is erosive.</p> <p>Locate stockpiles away from drainage lines, at least 10 metres away from natural waterways and where they will be least susceptible to wind erosion</p> <p>Ensure that stockpiles and batters are designed with slopes no greater than 1:2 (vertical\ horizontal).</p> <p>Besides these measures, erosion can also be minimized by regular rehabilitation of areas not in use for Project activities during construction. These will include: Re-grading and immediate re-vegetation (using fast-growing species and different functional groups of plants for keeping soil in place) of slopes to minimize erosion.</p> <p>Install erosion and sediment control measures, if possible before construction commences. - Identify drainage lines and install control measures to handle predicted storm-water and sediment loads generated in the mini-catchment.</p> <p>Design and install appropriate erosion and sediment run-off control measures appropriate to site conditions to handle a one-in-two-year storm event (two-year ARI with intensity of six hours), for temporary structures, and a one-in-fifty year storm event, for permanent structures.</p> <p>Establish an adequate inspection, maintenance and cleaning program for sediment run-off control structures. Ensure that contingency plans are in place for unusual storm events.</p> <p>Continually assess the effectiveness of sediment control measures and make necessary improvements.</p> <p>Keep temporary disposal sites out of wetlands, adjacent riparian corridors, and ordinary high-water</p>			



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
18	Deterioration of aesthetics and visual amenity of nearby receptors due to construction activities, including vehicular movement on roads, may cause disturbance in aesthetics for tourists, businesses and nearby communities.	<p>Minimize disturbance to, or movement of, soil and vegetation.</p> <p>Back fill to original levels.</p> <p>Reshaping to match in with surrounding topography.</p> <p>Reinstate vegetation around construction sites.</p>	During detailed design	EPC Contractor	Covers used to disguise equipment, where appropriate.
20	Permanent impact in aesthetics due to proposed developments.	<p>Develop and implement a Site Rehabilitation and Landscaping Plan.</p> <p>Use colors that better integrate with the landscape.</p> <p>Disguise elements with vegetation where possible.</p> <p>Retain as much natural vegetation as possible.</p>	During detailed design	EPC Contractor	Site Rehabilitation and Landscaping Plan
22	Increase in congestion, due to increased traffic volume will cause delays.	<p>Develop and implement a Traffic Management Plan.</p> <p>Make roundabouts for the congestion points.</p> <p>Retain as much natural vegetation as possible to reduce the impact of smoke due to vehicles.</p> <p>The vehicles going on the spoil routes and passing through</p>	During construction	EPC Contractor	Traffic Management Plan

IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
		<p>the communities must be completely covered to avoid dust emissions.</p> <p>Strictly implement speed limits and defensive driving policies.</p>			
23	<p>Increase in traffic volume will deteriorate the air quality.</p>	<p>Keep speeds slow (30 km/hr) on unsealed roads. Sprinkle water on unsealed roads that are used for construction traffic.</p> <p>Retain as much natural vegetation as possible to reduce the impact of smoke due to vehicles.</p> <p>The vehicles going on the spoil routes and passing through the communities must be completely covered to avoid dust emissions.</p> <p>Strictly implement speed limits and defensive driving policies.</p> <p>Promptly and properly repair and maintain roads that are subject to damage by Project activities.</p>	During construction	EPC Contractor	Traffic Management Plan
24	<p>Increased risk to community safety due to increased traffic volume during the construction phase near communities.</p>	<p>Develop and implement a Traffic Management Plan. Identify suitable times to transport equipment.</p> <p>Road safety awareness education will also be included during community visits or information sessions, so that communities can be familiarized with common road signs and the types of vehicles and equipment that will be moving through the area.</p> <p>Keep speeds slow (30 km/hr) where there is traffic exchange between roads.</p> <p>Make roundabouts for the congestion points.</p> <p>Designate traffic wardens at roads on the transport route to manage traffic during school hours.</p> <p>Construction traffic will not travel during school starting and ending hours on designated road segments in front of schools on the transport route.</p>	During construction	EPC Contractor	Traffic Management Plan

IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
		Strictly implement speed limits and defensive driving policies. Maintain vehicles especially brakes.			
25	Degradation of the pavement due to use by heavy construction traffic	Promptly and properly repair and maintain roads that are subject to damage by Project activities.	During construction	EPC Contractor	Number of observations of pavement damage in areas with heavy Project-related traffic.
26	Direct, indirect and induced employment at the local levels, resulting in increased prosperity and wellbeing due to higher and stable incomes of people.	Enhancement measures: Ensure preferential recruitment of local candidates provided they have the required skills and qualifications. Include an assessment of the contractor's demonstrated commitment to domestic and local procurement and local hiring in the tender evaluation process. Coordinate recruitment efforts related to non-skilled labor, including for non-skilled labor positions required by contractors. Good practice measures: Determine what is considered to be 'fair and transparent' in recruitment and in distribution of jobs between different community groups, in consultation with local communities and their leaders.	During construction	EPC Contractor	Contractual documents Number and ratio of local employees to non-local employees
27	Increase in the stock of skilled human capital due to transfer of knowledge and skill under the Project resulting in enhanced productivity of the local labor.	Support a 'Vocational Training Program' to assist local people to qualify for semi-skilled positions focusing on issues such as procurement, involvement of vulnerable groups in Project opportunities and continual professional development of staff. Assist local people having practical skills but lacking qualifications to obtain their certificates and thus increase their employment opportunities. Support initiatives promoting a culture of learning in local communities.	During construction	EPC Contractor	Vocational Training Program document including annual schedule. Budget allocation for trainings. Documentary evidence including photographs and attendance lists of



IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
		Plan and implement training program for vulnerable groups to encourage their participation in economic opportunities created by the Project. Assist employees and local communities to improve basic personal financial life skills through training and awareness campaigns, respectively. Consider further training programs to prepare retrenched workers to seek employment in sectors not related to dam construction.			trainings.
28	Increase in recreational and subsistence fishing due to increase in catch of fish following creation of favorable habitats for the fish in the Kunhar River.	Implementation of the BAP (see Volume 2C of the EIA)	As given in BAP	As given in BAP	As given in BAP
29	Loss of income from sand and gravel mining due to change in pattern of sediment deposition following construction of the dam. Loss of assets and livelihood as a result of land acquired for the Project.	Sediment Mining and Management Guidelines are prepared and will be implemented as a part of the BAP, which will identify possible sand and gravel mining spots along the Kunhar River to meet community needs without harming the river ecology.	During construction	EPC Contractor	Sediment Mining and Management Plan document Locations visually earmarked for mining promotion and protection as identified in the Sediment Mining and Management Plan.
30	Loss of assets and livelihood as a result of land acquired for the Project.	See LARP (Volume 8)	Before construction	PEDO/Land Acquisition Collector	See LARP (Volume 8)
31	Increase in population due to in-migration of job seekers (in-	Development of a Grievance Redressal Mechanism Encourage local communities to use the grievance procedure for concerns related to deterioration of local	During construction	EPC Contractor	Grievance register and records

IR	Impact	Mitigation Measure	When	Responsibility	Monitoring Indicators
	migrants) leading to pressure on existing social infrastructure and services in the Study Area.	Support local government in the implementation of infrastructure projects. Support NGOs specializing in development of infrastructure to assist local government.			Influx Management Plan
32	Disputes over distribution of Project employment within and between Study Area inhabitants and the in-migrants resulting in social unrest.	Implement PEDO Stakeholder Engagement Plan including: maintaining regular communication with local communities and other stakeholders to minimize tensions arising from Project activities; maintaining a grievance procedure, and encourage and facilitate stakeholders to use the mechanism to express concerns; and providing sufficient resources to the community relations officers to enable them to monitor negative perceptions and associated tensions, and to address them in a timely fashion.	During construction	EPC Contractor	Stakeholder Engagement Plan Minutes of community and stakeholder consultations Provision in budget for activities.
33	Potential social unrest in the Study Area due to conflicting socio-cultural norms amongst the inhabitants and in-migrants.	Refer to measures under IR 25 (above).		EPC Contractor	
34	Submergence of graveyards.	Plaster the graves with mud or cement. If relocation of the graveyard cannot be avoided, it shall be managed through the local religious authorities.	Before construction	PEDO	Photographic evidence

Exhibit 0.9: Design and Construction Planning EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measures</i>
5	Minimize project footprint
5	Locate construction facilities based on a knowledge of the soil, slope and vegetation cover of the area to avoid disturbance to the natural environment.
5,6	Minimize disturbance to, or movement of, soil and vegetation.
5,6	Prevent establishment of alien invasive species (AIS) on exposed stored soil (do not store bare soil near known sources of AIS).
5,6	Retain as much natural vegetation as possible.
6	Source goods/materials locally where possible.
12	Source water for construction from authorized abstraction sources agreed between the local communities, local government and EPC contractor.
34	Plaster the graves with mud or cement. If relocation of the graveyard cannot be avoided, it shall be managed through the local religious authorities.
20	Develop and implement a Site Rehabilitation and Landscaping Plan.
22	Make roundabouts for the congestion points.

Exhibit 0.10: General Construction Site Manager EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measures</i>
	Site Construction
5, 6, 13, 15, 16, 17	Minimize disturbance to, or movement of, soil and vegetation.
5, 6	Prevent soil damage and erosion.
5,6	Prevent establishment of AIS on exposed stored soil (do not store bare soil near known sources of AIS).
5, 6, 13, 15, 16, 17	Retain as much natural vegetation as possible.
5, 6, 13, 15, 17	Solid waste should only be disposed of at designated sites.
6,7	Large flood lights should not be installed outside 50 m of the Project fence.
6,7	Lights should be directed towards Project facilities and not towards the natural habitats.
8	Water will be sprinkled on all exposed surfaces, particularly those close and up-wind of the settlements.
17	Slope movements will be monitored around excavation work areas.

<i>Impact Reference</i>	<i>Mitigation Measures</i>
17	Slope stabilization measures will be adopted such as adequate vertical and horizontal drains, drainage along roadsides, cross drainage and retaining walls.
5, 17	Vegetation loss will be limited to demarcated construction area.
	Resource Use
12	Access of community to water sources shall be kept clear so that the community's ability to meet its water requirements are not compromised.
11, 13	Care will be taken while moving heavy machinery to avoid damage or blockage of natural waterways and channels.
12	Records of water usage will be maintained.
12	Water conservation techniques will be developed and implemented by the EPC contractor.
12	Water for construction will be sourced from authorized abstraction sources agreed between the local communities, local government and EPC contractor.
	Spill Control
13, 15	Spill prevention trays will be provided and used at refueling locations
13, 15	Regular inspections will be carried out to detect leakages in construction vehicles and equipment.
13, 15	Fuels and lubricants will be stored in covered and dyked areas, underlain with impervious lining.
13, 15	Spill control kit (shovels, plastic bags and absorbent materials) will be available near fuel and oil storage areas.
13, 15	Contaminated soil will be removed from the site and disposed in a manner to ensure protection of water sources
13, 15	Emergency plan for spill management will be prepared and inducted to the staff for any incident of spill.
13, 15	The bottom of any soak pit or septic tank will be constructed at least 100 meters away from springs and water bores
13, 15	Record of spills and volume of removed contaminated soil will be maintained.
13, 15	Record of remedial measures taken will be maintained.
	Maintenance
14	Equipment under use will be regularly maintained, tuned, and provided with mufflers to minimize noise levels.
13, 15	On-site maintenance of construction vehicles and equipment will be avoided, as far as possible.
	Noise Control
14	Equipment in poor state of maintenance, particularly without effective noise control will be checked to determine if it can be improved, and replaced with less noisy equipment as soon as practicable.

<i>Impact Reference</i>	<i>Mitigation Measures</i>
14	Equipment emitting excessive noise in comparison with other similar equipment will not be allowed to operate.
10	Schedule blasting outside of hours when people are most disturbed by noise (such as at night).
10	Unscheduled blasting will be strictly prohibited in any case.
	Closure and Completion
18, 19	Areas such as muck disposal area, batching plant, labor camp and quarry sites after the closure shall be covered with grass and shrubs.
16	Back fill to original levels.
18, 19, 20	Reshape to match in with surrounding topography.
16	Vegetation reinstatement around the dam site. Trees will be planted to replace those submerged by the reservoir.

Exhibit 0.11: Dam Site Construction Site Manager Additional EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measure</i>
	Aesthetics
18, 19	Disguise elements with vegetation where possible.
18, 19	Use colors that integrate with the landscape.
18, 19	Trees will be planted to replace those submerged by the reservoir.
	Blasting and Excavation
16	Indicate the limits of a clearing land with highly visible markers.
8	Leave a layer of about 5 m of undisturbed softs above the top of the overburden blasts. This will act as a blanket to contain air blast, dust and fly rock.
8	Sprinkle water on the area where blasting is done to settle down the particulate matter emissions.

Exhibit 0.12: Powerhouse Site Construction Site Manager Additional EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measure</i>
	Blasting
8	Leave a layer of about 5 m of undisturbed softs above the top of the overburden blasts. This will act as a blanket to contain air blast, dust and fly rock.
8	Sprinkle water on the area where blasting is done to settle down the particulate matter emissions.

**Exhibit 0.13: Headrace Tunnel Construction Site Manager Additional
EMP Responsibilities**

<i>Impact Reference</i>	<i>Mitigation Measure</i>
	Blasting and Excavation
16	Indicate the limits of a clearing land with highly visible markers.
8	Leave a layer of about 5 m of undisturbed soils above the top of the overburden blasts. This will act as a blanket to contain air blast, dust and fly rock.
8	Sprinkle water on the area where blasting is done to settle down the particulate matter emissions.
9	Blasting will be scheduled during the day only.
9	Local communities will be informed of blasting timetable in advance and will be provided adequate notice of when blasts are required outside of the planned schedule.
9	A Blasting Management Plan will be developed by the Construction Contractor. The Plan will be reviewed and approved by the Supervision Contractor before the initiation of the blasting work.
9	Throughout the blasting activity, vibration sensors will be installed at strategic location to monitor the impact of blasting and to ensure that the vibration levels are within the adopted criteria. The monitoring plan will be part of the Blasting Management Plan.
9	Unscheduled blasting will be strictly prohibited in any case.
10	A minimum buffer of 500 m should be provided between the settlements and point of blasting.
11, 12	Record location of the springs especially those in areas proximal to where the underground headrace tunnel will be closer to the ground level.
11, 12	Monitor flow for located springs and maintain records.

Exhibit 0.14: Workshop Manager EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measure</i>
	Pollution Control
5, 7, 13, 15	Solid waste should only be disposed of at designated sites.
6,7	Large flood lights should not be installed outside 50 m of the Project fence.
6,7	Lights should be directed towards Project facilities and not towards the natural habitats.
8	Water will be sprinkled on all exposed surfaces, particularly those close and up-wind of the settlements.
	Resource Use
6	Source goods/materials locally where possible.

<i>Impact Reference</i>	<i>Mitigation Measure</i>
13	Care will be taken while moving heavy machinery to avoid damage or blockage of natural waterways and channels.
12	Water conservation techniques will be developed and implemented
	Spill Control
13, 15	Spill prevention trays will be provided and used at refueling locations
13, 15	Regular inspections will be carried out to detect leakages in construction vehicles and equipment.
13, 15	Fuels and lubricants will be stored in covered and dyked areas, underlain with impervious lining.
13, 15	Spill control kit (shovels, plastic bags and absorbent materials) will be available near fuel and oil storage areas.
13, 15	Contaminated soil will be removed from the site and disposed in a manner to ensure protection of water sources
13, 15	Emergency plan for spill management will be prepared and inducted to the staff for any incident of spill.
13, 15	The bottom of any soak pit or septic tank will be constructed at least 100 meters away from springs and water bores
13, 15	Record of spills and volume of removed contaminated soil will be maintained.
13, 15	Record of remedial measures taken will be maintained.
	Maintenance
14	Equipment under use will be regularly maintained, tuned, and provided with mufflers to minimize noise levels.
13, 15	On-site maintenance of construction vehicles and equipment will be avoided, as far as possible.
	Noise Control
14	Equipment in poor state of maintenance, particularly without effective noise control will be checked to determine if it can be improved, and replaced with less noisy equipment as soon as practicable.
14	Equipment emitting excessive noise in comparison with other similar equipment will not be allowed to operate.
14	Schedule blasting outside of hours when people are most disturbed by noise (such as at night).
14	Unscheduled blasting will be strictly prohibited in any case.
	Closure and Completion
17	After closure, areas under use shall be covered with grass and shrubs.
17	Back fill to original levels.

Exhibit 0.15: Batching Plant Manager EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measure</i>
	Air Pollution
8	Suspend earthwork operation when wind speed exceeds 20 km/hr. in areas within 500 m of any settlement.
8	The whole process of weighing and mixing would be performed in a fully enclosed environment.
8	The mixers would all equipped with dust collectors, no dust emission would be expected.
8	Siting the concrete batching plant out of prevailing high winds minimizing dust emissions.
8	The prevailing wind direction should be considered to ensure that bunkers and conveyors are sited in the leeward direction to minimize the effects of the wind.
8	The provision of natural or artificial wind barriers – such as trees, fences and landforms – to help control the emission of dust from the plant should be considered.
8	Batching plants should be sited on land that is not flood prone.
8	Suspend operation when wind speed exceeds 20 km/hr. in areas within 500 m of any settlement.
8	The prevailing wind direction should be considered to ensure that aggregate handling systems located in the leeward direction to minimize the effects of the wind.
8	Sprinkle water on all exposed surfaces, particularly those close and up-wind of settlements.
	Noise Control
14	Locate noisy equipment away from potential sources of conflict.
14	Locate noisy equipment behind sound barriers or sound absorbers – for example, gravel stockpiles or constructed barriers.
14	Install silencing devices to all pressure operated equipment.
14	Schedule blasting outside of hours when people are most disturbed by noise (such as at night).
14	Unscheduled blasting will be strictly prohibited in any case.
	Closure and Completion
20	After closure, areas under use shall be covered with grass and shrubs.
20	Back fill to original levels.

Exhibit 0.16: Construction Camp Manager EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measure</i>
	Pollution Control
5, 6, 7, 13, 15	Develop and implement a Waste Management Plan
5, 6, 7, 13, 15	Solid waste should only be disposed of at designated sites.
6,7	Large flood lights should not be installed outside 50 m of the Project fence.
6,7	Lights should be directed towards Project facilities and not towards the natural habitats.
8	Water will be sprinkled on all exposed surfaces, particularly those close and up-wind of the settlements.
	Resource Use
6	Source goods/materials locally where possible.
12	Water conservation techniques will be developed and implemented
	Spill Control
13, 15	Spill control kit (shovels, plastic bags and absorbent materials) will be available near fuel and oil storage areas.
13, 15	The bottom of any soak pit or septic tank will be constructed at least 100 meters away from springs and water bores
13, 15	Record of spills and volume of removed contaminated soil will be maintained.
	Maintenance
14	Equipment under use will be regularly maintained, tuned, and provided with mufflers to minimize noise levels.
	Noise Control
14	Equipment in poor state of maintenance, particularly without effective noise control will be checked to determine if it can be improved, and replaced with less noisy equipment as soon as practicable.
14	Equipment emitting excessive noise in comparison with other similar equipment will not be allowed to operate.
	Closure and Completion
17	Construction camp after the closure shall be covered with grass and shrubs.

Exhibit 0.17: Spoil Disposal SiteManager EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measures</i>
17	Slope movements will be monitored around excavation work areas.
16, 17	Restore to the maximum extent possible the hydrological regime and reinstate natural drainage of the land (including provisions to maintain the water balance of the

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<i>Impact Reference</i>	<i>Mitigation Measures</i>
	site and protect from flooding where appropriate)
16, 17	Reinstate topsoil (in case it was stripped before construction activities)
16, 17	Revegetate sites with suitable native plant species
16, 17	Drain spoil piles to prevent the concentration of flow and to prevent rill and gully erosion
16	Separate organic material (e.g., roots, stumps) from the dirt fill and store separately. Place this material in long-term, upland storage sites, as it cannot be used for fill.
16	Store "clean" material in a short-term disposal site (stockpile) if it will likely be re-used for fill or shoulder widening projects.
16	Where feasible, recycle asphalt material in embankments and shoulder backing. Place these materials where they will not enter the stream system. Asphalt that is 5 years old is considered "inert" (that is, all oils washed off).
16	Do not add excess unusable material to permanently closed sites.
16	Spread material not to be re-used in compacted layers, generally conforming to the local topography. Design the final disposal site reclamation topography to minimize the discharge of concentrated surface water and sediment off the site and into nearby watercourses.
16	Cover the compacted surfaces with a 6-inch layer of organic or fine-grained soil, if feasible.
16	After placement of the soil layer, track walk the slopes perpendicular to the contour to stabilize the soil until vegetation is established. Track walking creates indentations that trap seed and decrease erosion of the reclaimed surfaces. (See figure on next page.)
16	Revegetate the disposal site with a mix of native plant species. Cover the seeded and planted areas with straw compost, mulched with straw at a rate of 1 to 1 ½ tons per acre. Apply jute netting or similar erosion control fabric on slopes greater than 1:2 if site is erosive.
16	Locate stockpiles away from drainage lines, at least 10 meters away from natural waterways and where they will be least susceptible to wind erosion
16	Ensure that stockpiles and batters are designed with slopes no greater than 1:2 (vertical/horizontal).
16	Besides these measures, erosion can also be minimized by regular rehabilitation of areas not in use for Project activities during construction. These will include: • Re-grading and immediate re-vegetation (using fast-growing species and different functional groups of plants for keeping soil in place) of slopes to minimize erosion,
16	Install erosion and sediment control measures, if possible before construction commences. • Identify drainage lines and install control measures to handle predicted storm-water and sediment loads generated in the mini-catchment.
16	Design and install appropriate erosion and sediment run-off control measures appropriate to site conditions to handle a one-in-two-year storm event (two-year ARI with intensity of six hours), for temporary structures, and a one-in-fifty year storm event, for permanent structures.
16	Establish an adequate inspection, maintenance and cleaning program for sediment

<i>Impact Reference</i>	<i>Mitigation Measures</i>
	run-off control structures. Ensure that contingency plans are in place for unusual storm events.
16	Continually assess the effectiveness of sediment control measures and make necessary improvements.
16	Keep temporary disposal sites out of wetlands, adjacent riparian corridors, and ordinary high water areas as well as high risk zones, such as 100-year floodplain and unstable slopes.
16	Anticipate sufficient storage area with no risk for sediment delivery for piles that may slump. Stress cracks indicate that the pile is at risk of slumping.

Exhibit 0.18: Transport Fleet Manager EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measures</i>
	Develop and implement a Traffic Management Plan.
	Community Safety
12	Access of community to water sources shall be kept clear so that the community's ability to meet its water requirements are not compromised.
14	Equipment emitting excessive noise in comparison with other similar equipment will not be allowed to operate.
14	Equipment in poor state of maintenance, particularly without effective noise control will be checked to determine if it can be improved, and replaced with less noisy equipment as soon as practicable.
14	Blowing of horn will be prohibited on all access road except under emergency conditions.
24	Prohibiting use of horns particularly pressure horns, in areas where the group is moving.
14	Equipment under use will be regularly maintained, tuned, and provided with mufflers to minimize noise levels.
24	Keep speeds slow where there is traffic exchange between roads.
24	Make roundabouts for the congestion points.
24	Construction traffic will not travel during school starting and ending hours on designated road segments in front of schools on the transport route
24	Designate traffic wardens at roads on the transport route to manage traffic during important hours
	Pollution Control
8	Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
8	Install and maintain all vehicles and machinery with appropriate emission control equipment.

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<i>Impact Reference</i>	<i>Mitigation Measures</i>
8	Regularly maintain vehicles and equipment to keep emissions in check.
8	Smoke from internal combustion engines should not be visible for more than ten seconds.
8	To the extent possible, use new and low emission equipment and vehicles.
8	Purchase best quality fuel and lubes and where possible use lead free oil and lubes.
8	Sprinkle water on all unsealed roads used by Project vehicles that are within 200 m of any settlement.
8	Reduce traffic speeds on all unpaved surfaces to 15 miles per hour or less.
8	Paved roads shall be swept frequently if soil material has been carried onto adjacent paved, public thoroughfares from the Project site.
8	Install wheel washers where vehicle exit onto paved road from unpaved.
8	Wheel washing of vehicles leaving the site.
8	Wash vehicles/equipment prior to each trip.
8	Use catalytic converters on vehicles, an emission control device, used to convert harmful pollutants to less harmful pollutants e.g. it converts the nitrogen oxides back into nitrogen and oxygen.
8	Appropriate maintenance of vehicles and machinery.
12, 16	Exercise care while moving heavy machinery to avoid damage or blockage of natural waterways and channels.
14	Fit and maintain appropriate mufflers on earth-moving and other vehicles on the site.
14	Mobile plants such as excavators, front-end loaders and other diesel-engine equipment should be fitted with residential class mufflers and other silencing equipment, as applicable.
14	Haul roads within the site should have as low a gradient as possible, and paving should be considered if practicable where noise-sensitive receptors are likely to be affected;
14	Owners and operators of existing facilities should implement special noise reduction measures, such as erecting purpose-built acoustic barriers, restricting opening hours and maintaining transport vehicle
15	Carry cleanup kits in all fuel trucks.
15	Fueling should only take place over impermeable surfaces, other hazmats should be stored and used over impermeable surfaces.
22	Make roundabouts for the congestion points.
23	Retain as much natural vegetation as possible to reduce the impact of smoke due to vehicles.
24	The vehicles going on the spoil routes and passing through the communities must be completely covered to avoid dust emissions.
24	Strictly implement speed limits and defensive driving policies.
24	Keep speeds slow (30 km/hr) on unsealed roads.

<i>Impact Reference</i>	<i>Mitigation Measures</i>
24	Sprinkle water on unsealed roads that are used for construction traffic.
24	Retain as much natural vegetation as possible to reduce the impact of smoke due to vehicles.
24	The vehicles going on the spoil routes and passing through the communities must be completely covered to avoid dust emissions.
24	Road safety awareness education will also be included during community visits or information sessions, so that communities can be familiarized with common road signs and the types of vehicles and equipment that will be moving through the area.
24	Make roundabouts for the congestion points.
24	Construction traffic will not travel during school starting and ending hours on designated road segments in front of schools on the transport route.
24	Maintain vehicles especially brakes.
24	Promptly and properly repair and maintain roads that are subject to damage by Project activities.

Exhibit 0.19: Labor Manager EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measures</i>
	Health and Safety
14	Reduce workers' exposure to high noise levels by keeping moving workers away from the noise source; restricting access to areas; rotating workers performing noisy tasks; and shutting down noisy equipment when not needed.
14	Use earplugs to reduce workers' exposure to high noise levels.
	Community Employment
26, 27	Ensure preferential recruitment of local candidates provided they have the required skills and qualifications.
26, 27	Include an assessment of the contractor's demonstrated commitment to domestic and local procurement and local hiring in the tender evaluation process.
26, 27	Determine what is considered to be 'fair and transparent' in recruitment and in distribution of jobs between different community groups, in consultation with local communities and their leaders.
26, 27	Support a 'vocational training program' to assist local people to qualify for semi-skilled positions focusing on issues such as procurement, involvement of vulnerable groups in Project opportunities and continual professional development of staff.
26, 27	Assist local people having practical skills but lacking qualifications to obtain their certificates and thus increase their employment opportunities.

Exhibit 0.20: Community Liaison Officer EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measures</i>
	Community Water Supply
12	Water for construction will be sourced from authorized abstraction sources agreed between the local communities, local government and EPC contractor.
12	Access of community to water sources shall be kept clear so that the community's ability to meet its water requirements are not compromised.
12	Support the community in development of alternate water supply schemes through local NGOs
12	Ensure the availability of water to the communities and the access of the communities to the water resources being used by them is not adversely affected.
14	Close liaison with the community and regular monitoring of the noise levels in the community are key to successfully implementation of the above mitigation measures. Specifically: The communities will be informed of all major construction activities at three days in advance. Noise control measures will be discussed with the community through informal and formal meetings.
	Construction Noise
14	A complaint registering, tracking and redressal mechanism will be implemented.
14	Noise levels will be monitored regularly in the community in order to take timely corrective measures, if needed.
14	Inform local communities of blasting timetable in advance and provide adequate notice of when blasts are required outside of the planned schedule.
	Grievance Procedure
14, 24	Encourage local communities to use the grievance procedure for concerns related to deterioration of local services and environment (including noise)
14, 24	Provide support for implementation of the PEDO Stakeholder Engagement Plan by:
14, 24	a. maintaining regular communication with local communities and other stakeholders to minimize tensions arising from Project activities;
14, 24	b. maintaining a grievance procedure, and encourage and facilitate stakeholders to use the mechanism to express concerns; and
14, 24	c. providing sufficient resources to the community relations officers to enable them to monitor negative perceptions and associated tensions, and to address them in a timely fashion.
	Training and Recruitment
26	Coordinate recruitment efforts related to non-skilled labor, including for non-skilled labor positions required by contractors.
27	Support initiatives promoting a culture of learning in local communities.
27	Plan and implement training program for vulnerable groups to encourage their participation in economic opportunities created by the Project.
27	Assist employees and local communities to improve basic personal financial life skills

<i>Impact Reference</i>	<i>Mitigation Measures</i>
	through training and awareness campaigns, respectively.
27	Consider further training programs to prepare retrenched workers to seek employment in sectors not related to dam construction.
	Graveyard Land Acquisition
34	Plaster the graves with mud or cement.
34	If relocation of the graveyard cannot be avoided, it shall be managed through the local religious authorities.

Exhibit 0.21: Project Environmental Manager EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measures</i>
	Community Water Supply
12	Water for construction will be sourced from authorized abstraction sources agreed between the local communities, local government and EPC contractor.
	Poaching and Wildlife
5,6,7	Encourage personnel to report sightings of wildlife of conservation importance or incidents of poaching to PEDO.
6	Project staff and contractors to report kills of large mammals particularly designated species of conservation concern.
6,7	Regulations for Project staff and contractors to avoid illegal poaching to be incorporated in contract documents.
6,7	Provide adequate knowledge to the workers on relevant government regulations and punishments for illegal poaching.
	Awareness Trainings
5,6,7	Train and raise awareness regarding AIS among Project staff and contractors.
6,7	Provide awareness training to staff and contractors on: prevention of injury of animals; identification of likely species found on site; identifications of animal hazards (such as venomous snakes); and what to do if dangerous animals are encountered.

Exhibit 0.22: Owner's Engineer EMP Responsibilities

<i>Impact Reference</i>	<i>Mitigation Measures</i>
7	Solid waste should only be disposed of at designated sites.
11	Monitoring records of local springs within 1 km downstream of Dam Site
11, 12	Maintain records of water release to downstream of river at Dam Site
3, 4	Ensure release of environmental flow of the river in dry seasons.
17	Develop and implement an emergency response plan.

23.2.2 Specific Environment Management Plans

Nineteen specific management plans that are to be developed to facilitate the implementation of the mitigation measures are detailed in **Exhibit 0.23**. Additional plans may be developed on discretion to further facilitate other areas of mitigation.

It should be noted that these plans (and other required mitigation measures not included within these plans) will be operationalized via Site Specific Environmental Management Plans (SSEMP) that are discussed in detail in **Section 9.5.3**. All construction sites must have a SSEMP prepared by the EPC Contractor and approved by PEDO before any major construction activity is started on the site.

Some of the required plans that have been developed as part of the EIA are described in the following sections.

Exhibit 0.23: Supporting Plans

No.	Title	Description and Requirements	Responsibility
1	Air Pollution Control Plan	The plan will incorporate mitigation measures described under IR 8 in Exhibit 9.8 .	EPC Contractor
2	Biodiversity Action Plan	<p>The Study Area for the Project falls in Critical Habitat as defined in the IFC PS6 due to the presence of the endemic and restricted range species the Malbant's Loach and Kashmir Hillstream Loach. The Project is required to achieve a 'Net Gain' in the population of both species to comply with PS6.</p> <p>There is an increasing threat to river ecology and fish fauna due to increasing levels of illegal fishing and unregulated sand mining in the Project area. The EFlow assessment of the Project (see Volume 2C of the EIA) recommended an environmental flow of 1.5 m³/s downstream of the dam, and implementation of strict protection measures and management measures to control illegal fishing and regulate sand mining. A Biodiversity Action Plan (BAP) has been prepared as a part of the EIA to ensure that the protection measures as assumed in the EFlow assessment are implemented to protect fish fauna in general and Nalbant's Loach and Kashmir Hillstream Loach, in particular, such that achievement of Net Gain in the populations of these two species is achieved.</p> <p>In addition, management measures triggered by the CIA of the Project and included in the BAP are establishment of an Institute for Research on River Ecology and a Watershed Management Program (WMP). Together, these are aimed at improving conditions for both aquatic and terrestrial ecology derived from research and development in areas such as captive breeding and restocking, genetic studies, improvements in</p>	As given in BAP

No.	Title	Description and Requirements	Responsibility
		water quality, afforestation, land use management, amongst others. The complete plan is presented in the BAP in Volume 2C.	
3	Blasting and Explosives Control Plan	The plan will be developed using mitigation measures described under IR 9 and 10 in Exhibit 9.8.	EPC Contractor Headrace Tunnel Construction Manager Quarry Area Manager
4	Construction Site Environmental Management Plan	The plan will incorporate mitigation measures for the site.	EPC Contractor All managers for construction sites
5	Emergency Preparedness and Response Plan	This plan will identify emergency situations such as fires, landslides, earthquakes, coffer dam failure etc. that could realistically occur and detail the response that is required.	PEDO
6	Environmental Training Plan	This plan will sensitize Project employees on environmental aspects and will incorporate mitigation measures described under IR 5 and, 6 in Exhibit 0.8.	Labor Manager Project Environmental Manager
7	Surface Run Off and Erosion Control Plan	The plan will contain mitigation measures listed under IR 16 in Exhibit 0.8.	EPC Contractor
8	Spoil Disposal Plan	Major measures for safe spoil disposal are included in the Project design. The plan will contain these Project design features and additional mitigation measures as listed under IR 17 in Exhibit 0.8.	EPC Contractor Disposal Site Manager
9	Noise and Vibration Control Plan	An important feature of effective noise control is regular monitoring in effected communities and a complaint registering and redressal mechanism. Key measures presented in IR 14 in Exhibit 0.8 should be incorporated in the plan.	Community Liaison Officer
10	Occupational Health and Safety	This plan should seek to meet guidelines followed by ADB, specifically those laid down in the IFC's General EHS Guidelines on Occupational Health and Safety.	Labor Manager
11	Reservoir Clearing Plan	This plan should ensure maximum utilization of cleared material by local communities and limit clearing to where required.	Community Liaison Officer EPC Contractor
12	Sediment Mining and Management Plan	This plan will be based on the guidelines presented in the BAP in Volume 2C.	PEDO



No.	Title	Description and Requirements	Responsibility
13	Site Rehabilitation and Landscaping Plan	The plan will contain measures listed under IR 18 and 20 in Exhibit 0.8 .	EPC Contractor
14	Spill Prevention and Response Plan	The plan will contain measures listed under IR 13 and 15 in Exhibit 0.8 .	EPC Contractor
15	Traffic Management Plan	The plan will contain measures listed under IR 22, 23, 24 in Exhibit 0.8 .	Transport Fleet Manager
16	Vocational Training Plan	The plan will outline the 'vocational training program' to assist local people to qualify for semi-skilled positions focusing on issues such as procurement, involvement of vulnerable groups in Project opportunities and continual professional development of staff.	PEDO
17	Waste Management Plan	A waste management plan is the written record of what must be done to achieve the goals you have set for managing construction waste. Where subcontractors have sole responsibility for their waste, they should complete their own waste management plan. Each site should have its own waste management plan.	All construction site managers especially Construction Camp Manager
18	Water Sourcing and Abstraction Plan	The plan will contain measures listed under IR 12 in both Exhibit 0.7 and Exhibit 0.8 .	EPC Contractor
19	Worker Accommodation Management Plan	This plan can draw upon the IFC publication <i>Workers' accommodation: processes and standards</i> , <i>A guidance note by IFC and the EBRD.p</i>	Labor Manager Construction Camp Managers

Frameworks for Spoil and Quarry Management Plans

The exact location of quarry and spoil disposal areas will require technical and engineering studies which will be conducted at the detailed engineering stage. Proposed locations for spoil disposal areas are shown in **Section 3.4.4** and a comparison of the impacts of these locations is provided in **Section 7.8.3**. This section provides frameworks for preparation of the Spoil and Quarry Management Plans. These plans will be prepared for each of the spoil disposal and quarry areas prior to commencement of quarrying and spoil disposal operations in the construction phase.

24. Spoil Management Plans

This section provides the framework for development of the Spoil Management Plan (SMP) including purpose of the plan, mitigation hierarchy, and guidelines for on-site management.

A SMP will be prepared prior to commencement of any tunnelling works and other works that may generate spoil. The SMP will incorporate detailed information on the handling of spoil generated during construction. It should be consistent with the Traffic Management Plan to allow for ready access to spoil and spoil disposal areas and to avoid disturbance to the non-Project related traffic.

Purpose

The purpose of the SMP is to:

- identify environmental management issues associated with sourcing, handling, transportation, stockpiling, disposal and reuse of spoil material; and
- document and describe the systems and procedures developed to mitigate environmental impacts specifically to:
 - Minimise spoil removal and associated impacts on stakeholders, community and the environment;
 - Maximise the beneficial reuse of spoil material from the Project; and
 - Address the Project wide objective to provide certainty of delivery by managing spoil in a manner that avoids impacts on construction activities and timing

Mitigation Hierarchy

Where feasible and reasonable, spoil should be managed according to the following hierarchy:

- Minimisation of spoil generation through design and management
- Reuse of spoil within the Project
- Beneficial reuse of spoil outside the Project for environmental and community works
- Beneficial reuse of spoil outside the Project for site levelling, development or rehabilitation
- Disposal of spoil outside the Project for non-beneficial uses (landfilling)

On-site Management

On-site management includes management of stockpiling sites, spoil transport, spoil tracking and spoil testing for re-use.

Stockpiles

On site management of spoil material stockpiling sites involves planning for stockpiling including selection of stockpiling sites, their accessibility to the road network, management of stockpiles to minimize wind and water erosion, management of stockpiles to minimize dust from exposed surfaces and management of noise and dust during loading and unloading.

The stockpile sites need to:

- Have ready access to the road network

- Be located on levelled land where possible
- Not affect land use of adjacent properties
- Be located in areas so that the erosion control measures can be implemented
- Be located in areas so that flooding does not result in runoff
- Be located in areas such that they do not result in the disturbance of species of conservation importance
- Be positioned in areas where there is minimal visual, noise and vibration impacts anticipated on nearby residents
- Be located within the Project approved boundary
- Be located in areas such that they do not affect cultural heritage
- Ensure land care and avoid loss of habitat and spread of invasive plant species
- Avoid flooding of trees and waterlogging of soils
- Have contaminated materials stockpiled separately
- Have erosion and sedimentation controls in place
- Be subjected to regular inspection

Spoil transport

The following need to be considered for spoil transport:

- Spoil transport/haulage routes should be identified, assessed and if necessary upgraded
- Haulage routes should be assessed and if necessary upgraded
- The routes should be selected to minimize impacts on sensitive receptors including people, ecology and the landscape
- Transport should be undertaken with minimization of noise and dust

Spoil tracking

A spoil tracking system should be developed which should include fields such as:

- Date
- Docket Number
- Haulage Company (if other than EPC Contractor)
- Material Classification
- Quantity in Tonnes to be Transported
- Truck Identification Number
- Location of Spoil Generation Site
- Location of Spoil Receiving Site

Spoil Testing

It is necessary to determine if the waste material is hazardous or non-hazardous and whether or not it requires any special treatment before disposal or re-use. Spoil testing before re-use is important to answer questions such as the following:

Are manufactured chemicals or process residues present?

Are sulfidic ores or soil present?

Are naturally occurring asbestos soils present?

Is there any other waste present?

25. Quarry Management Plans

Quarrying involves the removal, haulage, processing, stockpiling, and distribution of rock products. Planning a site for quarrying must take account of geological, environmental, and engineering parameters. Rehabilitation and post quarry land use options must also be considered in planning and developing a quarry.

The framework for the Quarry Management Plan (QMP) includes its environmental objectives, major activities, key management areas, rehabilitation and site selection guidelines.

Environmental Objectives

Environmental objectives of the QMP are to:

Protect water quality

Reduce potential for erosion and sedimentation

Protect the general amenity of the site and surrounding area

Protect the acoustic environment and surrounding residences to minimize disturbance to people

Protect air quality

Ensure land care and avoid loss of habitat and spread of invasive plant species

Minimize waste and control waste disposal

Avoid complaints from the community

Major Activities

The major activities of the QMP include:

demarcation of the area to be quarried;

an indication of final contours and floor levels including the proposals for the coordination of final levels of adjoining land;

proposed ultimate drainage of quarried lands and include any water consents that it may be necessary to obtain;

an indication of the period over which quarrying will continue, and of staged development

provision for the disposal and/or stockpiling of overburden, waste and quarried material, including the area to be used for stockpiling; areas for stockpiling topsoil (where applicable); provision for screening unsightly features from public view and fencing dangerous or potentially dangerous features; description of methods to be employed to prevent contamination of air or natural water and to comply with the noise and vibration provisions of these rules; description of methods to be employed to maintain impact of sensitive ecological resources as identified in the EIA within acceptable limits; an indication of the route by which quarried material is to be removed from the lot; provision for the progressive restoration of the lot such that the land will be left in such condition that is suitable for the establishment of those uses to which that land may subsequently be put; and description of methods to be employed to avoid, remediate or mitigate any adverse effects of quarrying operations on identified significant places and areas

Key Management Areas

The following are key management areas:

Noise Management
Stormwater Management
Air Quality Management
Traffic Management
Blasting Management
Landcare Management
Oil, Grease, Fuel and Chemical Management
Ecological Management (if resources of concern exist as identified in ecological baseline in the EIA or Biodiversity Management Plan)
Community Relations Management
Waste Management
Rehabilitation Management

Rehabilitation

Rehabilitation is an essential component of quarry planning and development. Good planning prior to the commencement of quarrying greatly assists in the management of environmental impacts and provides for efficient operations.

The principal objectives of rehabilitation and landscaping at the proposed quarry will be:
To reduce the potential for erosion



- To protect and enhance visual screening
- To protect the general amenity of the area both during and subsequent to extractive operations
- To ensure a safe and stable landform
- To ensure self-sustaining vegetation
- To protect and enhance the wildlife habitat of the site
- To improve and maintain habitats in buffer areas surrounding the quarry
- To ensure a sustainable post extraction land use

Site Selection Guidelines

The location of the quarry and processing plant needs to be done to maximize noise and dust attenuation as well as visual impact. Careful site selection will:

- reduce the potential environmental impacts and consequently, the need for impact mitigation and ongoing management measures
- reduce levels of public controversy
- avoid potential delays in the approval process.

Principles of site selection for quarry proposals consideration must be given to whether:

- the land use is permissible
 - environmentally sensitive areas are avoided
 - the use is compatible with nearby land uses
 - initial site investigations indicate the site is fundamentally suitable for a quarry or not
- The following steps are recommended for site selection:

Describing the socio-environmental conditions of each site and identifying potential impacts;

Constructing a comparative matrix to evaluate relative site characteristics with respect to physical, ecological, socioeconomic factors; and

Selecting the most suitable site based on the above factors and with the stakeholder participation.

Details of the factors that need to be considered for the physical, ecological and socioeconomic environment are as follows:

Physical Environment

- accessibility by heavy transport vehicles
- being, or having the potential to be, well drained;
- resulting in minimal soil loss and erosion;
- not degrading water quality in waterways and aquifers;

stable enough to attenuate noise and vibration levels; screened to minimize dust pollution; being restorable to a suitable condition.

Key questions include the following:

- Are the rainfall patterns or prevailing wind directions likely to cause management difficulties?
- Are the local climatic conditions (e.g. air movement, rainfall) in combination with the topography likely to result in microclimatic conditions which will adversely increase impacts on the community?
- Are there any site constraints which make on-site water management difficult (including both process water and stormwater)?
- Are there risks of surface water pollution because of the proximity or pathways to waterbodies?
- Can any required separation distances from waterbodies under any existing legislation or guidelines be complied with?
- Are there risks of groundwater pollution because of shallow or rising groundwater tables, or proximity to groundwater recharge areas, or areas with a high vulnerability to pollution?
- Is the site susceptible to flooding?
- Are there any topographic or geological characteristics which will cause difficulties in managing impacts (subsidence, slippage, seismic)?
- Are the soils highly erodible? Identify any potential sediment management problems?
- Are there existing soils problems e.g. contaminated soils, acid sulfate or saline soils?
- Can the standard and capacity of the road network accommodate traffic likely to be generated by the proposal?
- Can truck traffic avoid residential areas, hospitals, schools and commercial areas?
- If inadequacies exist, can the road network or traffic management be changed to minimise any impacts particularly on residential areas?

Ecology

maintenance of the quality, structure and functioning of important natural and sensitive ecosystems; minimizing impacts on species populations and biodiversity

Key questions include the following:

- Is there sufficient separation from environmentally sensitive areas such as national parks, nature reserves, wetlands, protection zones?
- Can clearing of natural vegetation be avoided?



Can clearing of vegetation of high significance be avoided e.g. vegetation used for visual screening, riparian vegetation, vegetation used as corridors for the movement of fauna?

Are threatened flora or fauna species, populations and ecological communities or their habitats likely to be affected?

Socioeconomic Environment

Community infrastructure
public goods and services
aquifers used by local communities
recreation
community activities
aesthetics
quality of life
open space and community amenity

Key questions include the following:

Is the proposal likely to be compatible with surrounding existing or proposed land uses, particularly any residential, special uses (such as schools, hospitals, community buildings) and any sites of outstanding natural or environmental value?



Is there likely to be a problem in meeting sustained compliance with dust, noise or water quality requirements due to the proximity and nature of nearby land uses?

Is the proposal likely to pose health risks?

Is the proposal likely to affect the heritage of significance?

Is the site highly visible?

Will there be significant visual impacts?

25.2 Implementation Plan

Effective implementation and functioning of the EMP depends on adequate human and financial resources, clearly defined responsibilities for environmental management, appropriate training and good communication. An outline of how these features will be managed for the Project is presented below.

25.2.1 Site Specific Environmental Management Plans

EPC's Contractor's managers during the construction phase will operationalize their responsibilities described in **Section 9.4 (Mitigation and Management Plan)** by developing Site Specific Environmental Management Plans (SSEMP). These will be applied to the actual site where construction activities will occur. Ideally, the preparation of the SSEMP must occur before the contractor is given access to the project site.

However, it can be prepared after the access is given but certainly *before* the initiation of site clearance and any major site construction or erection work. At a minimum the following sites should have an SSEMP prepared:

Dam Site

Powerhouse Site

Headrace Tunnel site

Tailrace Tunnel site

Waste Dump Areas

Quarry Areas

Workshops

Batching Plants

Labour Camp

Some of these sites, such as the headrace tunnel may require multiple SSEMPs to cover the entire spatial extent of the development.

All contract documents must include the requirement that SSEMPs be prepared by the contractor and reviewed by PEDO and OE and approved by ADB prior to commencement of construction activities.

26. Preparing an SSEMP

This section explains the following steps that should be followed while developing an SSEMP:

Definition of boundaries

Identification of environmental values and sensitive receptors of the site and its surrounds

Definition of construction activities

Assignment of environmental management measures

Preparation of site plans

Preparation of environment work plans

27. Definition of Boundaries

For megaprojects with multiple construction sites, such as a hydropower scheme, there will be a number of SSEMPs for each site. A hydropower scheme would need to have SSEMPs covering works at the dam site, the powerhouse, the switchyard, the downstream channel, headrace and tailrace tunnels, the intake structures, quarries that supply aggregate, the waste disposal areas, contractor's camps, equipment yards, workers' accommodations, etc. Generally, areas falling under the jurisdiction of a construction manager should have a separate SEMP.

28. Identification of Sensitive Receptors

Once the boundaries of a site to be covered by a SSEMP have been defined, the sensitive receptors surrounding the site and the environmental values of the area need to be confirmed.

Areas that can be considered sensitive receptors include

- Forested area
- Water bodies
- Communities (including schools, hospitals, homes)
- Agricultural areas

The physical, ecological and socioeconomic baselines in the **Section 4, Description of the Environment** provide the necessary details. The information is best presented as an overlay on the detailed engineering drawings or maps for the project.

29. Construction and Associated Mitigation Activities

A schedule of works for the project will have been prepared during the detailed design phase. It is important to understand what the various phases of work are for each site, as different phases will include different activities and thus different environmental management requirements. In this simplified example, the construction of a bridge across a river could have the following schedule of works:

- Site surveying, vegetation clearance
- Site establishment
- Soil stripping and earth movement
- Bridge construction
- Grading approaches
- Surfacing
- Painting and finishing structures
- Landscaping and signage

The planning of the environmental management requirements for the bridge must ensure that the necessary environmental management activities take place at the right time. For example, the site survey should mark up areas of vegetation to be removed, trees that must be saved, and the locations of any species of importance. Soil stripping will need to be accompanied by the introduction of erosion-control measures to prevent sediment from entering the river. The concrete pouring and filling of the bridge abutments will require a large number of vehicle movements, so it may be necessary to develop a traffic management plan to ensure that the vehicles don't disrupt traffic on existing roads. If there are sensitive receptors nearby, there may be a requirement to limit working hours that will require a change in the work schedule. These measures are easy to plan for, but very hard to introduce once the project has started. This, again, emphasizes the need for effective planning of the environmental management measures.

Section 9.4 (Mitigation and Management Plan) provides a list of required mitigation measures that must be incorporated into the relevant SSEMPs.

30. Site Plan

A site plan must cover the extent of the construction activity and should contain:

- Location and nature of planned work;
 - Locations of sensitive receptors; and
 - Locations of required mitigation activities.
- Other important features may include:
- Indication of North, and scale;
 - Existing and planned supporting infrastructure (e.g., access roads, water supplies, electricity supplies, etc.);
 - Contours; and
 - Drainage systems.

31. Work Plan

The completed SSEMP provides details of all the environmental management requirements for all stages of the construction process. For individual work teams responsible for only a small part of the overall construction work, it can be hard to understand what is required for their particular work components. For example, the work team responsible for stripping soil for the construction areas are not going to be interested in the requirements for pouring concrete for footings and foundations. However, it is essential that the soil stripping team know exactly what to clear, what to leave, and where to put stockpiles of soil for later use.

When different work activities are required at different times or at different locations, environmental work plans can be prepared. These are similar to the work method statements often produced for major construction projects.

31.1.1 Site Inspection

Site inspections will be undertaken regularly in relevant areas of the Project. The inspections will focus on compliance with the EMP. The inspections will play an important role in increasing awareness of EMP.

Minor non-conformances will be discussed during the inspection and recorded as a finding in the inspection report. Major non-conformances will be reported as incidents. Inspection results will be disclosed at management meetings.

31.1.2 Non-conformance and Incidents

Non-conformances include the following:

- exceedances of relevant thresholds as identified during routine monitoring;
- non-conformances with the requirements of the EMP or supporting documentation identified during an internal inspection;

non-conformances identified during an audit or by regulatory authorities; events, such as spills, resulting in potential or actual environmental harm; events that did or could result in injury to staff, visitors to site or surrounding communities; and

significant complaints or grievances received from any source.

Corrective and preventive actions will be identified and implemented in response to these non-conformances. These actions will address the root cause of the non-conformance and will reduce or prevent repeated non-conformances.

A process will be established for the identification, investigation and tracking of non-conformances, including:

- prioritizing and classifying non-conformances based on the type and severity of the non-conformance;

- recording of non-conformances and the results of corrective and/or preventive actions, including the actions necessary to mitigate or remedy any associated impacts;

- defining results expected from the corrective and/or preventative actions;

- confirming the corrective and/or preventive actions taken to eliminate the causes of the non-conformance are appropriate to the magnitude of problem and commensurate with the impacts encountered;

- reviewing the effectiveness of the corrective and/or preventive actions taken; and implementing and recording required changes in the EMP or monitoring programme resulting from corrective and preventive action.

Serious non-conformances will be classified as incidents. Incidents will be promptly reported to appropriate management. A guideline will be prepared on:

- the types of incidents reportable to internal management at the site, Project and corporate levels, as well as to regulatory authorities and other external stakeholders; and

- standards to be observed when reporting incidents.

During construction, environmental monitoring will ensure the protection of air and noise pollution, community relations, and safety provisions. During operation, emissions, air, noise, and waste water quality monitoring and greenbelt development around the plant will be important parameter of the monitoring program.

The monitoring requirement can only be fulfilled by maintaining the proper documentation records of the findings. Daily checklists, weekly reports and monthly audit will be taken in accordance with construction management plan. Based on the EIA approval a scheduled audit will be conducted by the PEDO and reports will be shared with the regulatory authority and funding agency if required.

31.1.3 Audits

Formal audits will be undertaken at planned intervals in accordance with the requirements of client and regulatory authorities. Procedures for audits will be established, implemented and maintained. These will cover the audit criteria, scope, frequency and methods, and will address the responsibilities and requirements for planning and conducting audits, reporting results and retaining associated records.

Any negative findings arising from an audit will be treated as an incident and dealt with in accordance with the non-conformance and incident procedure. Results from audits and evaluations of compliance with legal requirements will be reported to site and senior management and subject to management reviews. Usually environmental regulatory authorities require a quarterly audit report for large scale projects.

The following audits will be carried out for:

- Labor
- Health and Safety
- Environment

31.2 Monitoring Plan

Monitoring of environmental components and mitigation measures during implementation and operation stages is a key component of the EMP to safeguard the protection of environment. The objectives of the monitoring are to:

- manage environmental issues arising from construction works through closely monitoring evidence for implementation of the mitigation measures and environmental compliance; and
- monitor changes in the environment during various stages of the Project life cycle with respect to baseline conditions.

A monitoring mechanism is developed for identified impact and includes:

- location of the monitoring (near the Project activity, sensitive receptors or within the Project influence area);
- means of monitoring, i.e. parameters of monitoring and methods of monitoring (visual inspection, consultations, interviews, surveys, field measurements, or sampling and analysis); and
- frequency of monitoring (daily, weekly, monthly, seasonally, annually or during implementation of a particular activity).

Monitoring program will include regular monitoring of construction and commissioning activities for their compliance with the environmental requirements as per relevant standards, specifications and EMP. The purpose of such monitoring is to assess the performance of the undertaken mitigation measures and to immediately formulate additional mitigation measures and/or modify the existing ones aimed at meeting the environmental compliance as appropriate during construction.

The monitoring program will be coupled with a series of supporting procedures, yet to be developed, covering:

- sample or data collection;
- sample handling, sample storage and preservation;
- sample or data documentation;
- quality control;
- data reliability (calibration of instruments, test equipment, and software and hardware sampling);
- data storage and backup, and data protection;
- interpretation and reporting of results; and
- verification of monitoring information by qualified and experienced external experts.

31.2.1 Specific Monitoring Plan

Environmental monitoring and reporting plan for the construction and operation phases are provided in **Exhibit 0.21**. Moreover, each supporting plan (as described in **Section 9.4**) includes monitoring and documentation requirements; the same is also true of the SSEMP (as described in **Section 9.5.3**). Therefore, the monitoring plan will also contain requirements of these additional plans once they have been developed.

Monitoring framework for biodiversity is presented in **Section 9 (Monitoring and Evaluation Framework)** in the BAP in **Volume 2C**.

31.2.2 Documentation and Reporting

Monitoring elements of the EMP will be documented and controlled in accordance with a document control system by the OE and communicated to PEDO. Records demonstrating compliance with legal requirements and conformance with the EMP will also be maintained. PEDO through its OE will supervise, establish, implement and maintain procedures.

Documentation and record keeping controls will include:

- measures to enable relevant documents and records to be readily available and identifiable (labeled, dated and properly filed), legible and protected from damage;
 - review, revision and approval of documents for adequacy by authorized personnel at least once a year;
 - establishment of the electronic document control version as the ‘authorized version’;
 - making current versions of relevant documents available at locations where operations essential to the effective functioning;
 - suitably identifying obsolete documents retained for legal and knowledge preservation purposes; and
 - identification and segregation of confidential and privileged information.
- Monitoring data will be documented and analyzed to determine temporal and spatial trends and confirm compliance with relevant thresholds. Monitoring reports will be

produced to meet internal and external reporting requirements. If monitoring results indicate non-conformance with stipulated thresholds or if a significant deteriorating trend is observed, it will be recorded as a non-conformance and handled by the non-conformance and incident procedure. The following reports will be produced:

Based on reports provided by the Construction Contractor as listed in

Exhibit 0.24, quarterly and annual reports will be reviewed by OE/PEDO for monitoring of the physical and social environment and shared with the KP-EPA.

Reports for biological environment will be produced under the frameworks provided in the BAP.

Monitoring of NTDC's implementation of mitigation measures as described in the EIA of transmission lines will be carried out as part of the monitoring activities of the EMP.



Exhibit 0.24: Environmental Monitoring Program for Construction and Operation

Aspect	Type of monitoring	Frequency of Monitoring	Locations	Reporting Frequency	Monitoring and Implementation Responsibility	Report Preparation Responsibility	Report Receiving Authority
Soil Quality	Visual inspection for any oil leaks in the construction area and presence of oil in the drains at the construction site	Daily	Construction area and drains at the construction site	Monthly report during construction	EPC Contractor, OE, PEDO	EPC Contractor	PEDO, OE and EPA, KP
Soil Erosion	Visual inspection of soil erosion and land sliding, especially in the wet season	Once a month in dry season, Once a week in wet season.	Construction sites, rehabilitated areas and water release points	Monthly report during construction	EPC Contractor, OE, PEDO	EPC Contractor	PEDO, OE and EPA, KP
Waste Disposal	Inspection of waste disposal areas and channels	Weekly	Waste disposal sites,	Quarterly report during construction	EPC Contractor, OE, PEDO	EPC Contractor	PEDO, OE and EPA, KP
Water Resource Depletion	Record of water used and source of water supply for construction, sprinkling and camp	Daily	Construction sites, truck filling points and water tanks at camp.	Quarterly report during construction	EPC Contractor, OE, PEDO	EPC Contractor	PEDO and EPA, KP
Community Water Supplies	Monitor flow for springs identified as at risk from tailrace construction.	Monthly	Identified springs in communities.	Quarterly report during construction	EPC Contractor, OE, PEDO	EPC Contractor	PEDO and EPA, KP
Fugitive Dust Emissions	Air quality sampling at social receptors in case any complaints regarding excessive particulate matter in ambient air are received.	As required, in case complaints are received	Social receptors	Report as required, in case complaints are received	EPC Contractor, OE, PEDO	EPC Contractor	PEDO and EPA, KP

Aspect	Type of monitoring	Frequency of Monitoring	Locations	Reporting Frequency	Monitoring and Implementation Responsibility	Report Preparation Responsibility	Report Receiving Authority
Vehicular and Machinery Exhaust Emissions	Visual checks of exhaust emissions from vehicles and batching plant machinery to ensure excess pollutants are not being released	Monthly	Construction sites and batching plant location	Quarterly	EPC Contractor, OE, PEDO	EPC Contractor	PEDO and EPA, KP
Noise Nuisance	Monitoring of the noise levels in the nearest communities against the baseline noise conditions	Once a month and when a complaint is received	Nearest settlements or area for which complaint is received	Quarterly	EPC Contractor, OE, PEDO	EPC Contractor	PEDO and EPA, KP
Traffic	Random speed checks and inspections and investigations in case of complaints by community	Once a month and in case complaints are received	Different location and different time	Quarterly	EPC Contractor, OE, PEDO	EPC Contractor	PEDO and EPA, KP
Distribution of Project Employment	When complaint is received or an issue observed	When a complaint is received	Construction site, camp and nearby villages	Monthly	EPC Contractor, OE, PEDO	EPC Contractor	PEDO and EPA, KP
Social Unrest due to Conflicting Social Norms	When complaint is received or an issue observed	When a complaint is received	Construction site, camp and nearby villages	Monthly	EPC Contractor, OE, PEDO	EPC Contractor	PEDO and EPA, KP
Operation Phase							
Waste Disposal	Inspection of waste disposal areas and channels	Weekly	Dam and Powerhouse sites	Quarterly	O&M Contractor	O&M	PEDO, and EPA, KP
Environmental Flow	Continuous record of downstream release into river by dam	Continuous	Dam site	Quarterly	O&M Contractor	O&M	PEDO, and EPA, KP
Biodiversity Action Plan	As described in BAP	As described in BAP	As described in BAP	As described in BAP	As described in BAP	As described in BAP	As described in BAP

Aspect	Type of monitoring	Frequency of Monitoring	Locations	Reporting Frequency	Monitoring and Implementation Responsibility	Report Preparation Responsibility	Report Receiving Authority
		start at least one year before start of construction the BAP is to be initiated before financial close					

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31.3 Roles and Responsibilities of Key Staff

To be effective, this EMP must be viewed as a tool reflecting to the contractors and sub-contractors' overall commitment to environmental protection. This must start at the most senior levels in the organization. Contractor management must provide strong and visible leadership to promote a culture in which all employees share a commitment to environmental awareness and protection. The following are commitments to be achieved by the highest position in Pakistan from PEDO:

- Putting environmental matters high on the agenda of meetings;

- Highlighting the importance of environmental issues in relation to the HSE considerations in business decisions and communication with stakeholders;

- Evaluating environmental aspects, before final decisions are reached;

- Being fully aware of the main environmental hazards associated with the Contractor and Sub Contractor activities and the systems, procedures and field practices in place to manage these hazards;

- Immediately and visibly responding and being involved in investigating incidents or other abnormal events related to environmental and HS issues;

- Seeking internal and external views on environmental issues; and recognizing their achievement.

The organizational setup of PEDO for implementation of the EMP is provided in **Error! Reference source not found.** Key roles and responsibilities are described below.

31.3.1 PEDO

With overall responsibility for the Project, PEDO will:

- Prepare the ESMS and implement the ESMS and EMP.

- Minimize any impact the Project may have on the environment through preparation of this EIA (as being carried out in the design stage).

- Appoint responsible contractors who will comply with this EIA.

- Approve environmentally safe materials for use on site in accordance with the EIA.

- Ensure all relevant parties receive a copy of the approved EIA and that it is incorporated into all contractual documentation.

- Obtain the relevant environmental permits, consents and authorizations prior to commencing site works.

- Comply with all requirements of EPA, KP and obtain NOCs related to the Project.

31.3.2 Owner's Engineer

Hiring an owner's engineer (OE) in the power industry is a practice which is considered a standard since the last two decades.¹ The OE is a person or, more appropriately, a team of experts that serves as an independent advocate for the owner. The OE plays a supporting but a very critical role as he is the technically trained eyes and ears of the project proponents in the field. It is expected that an OE will also be hired for the Project construction and commissioning phases. The specific roles and responsibilities of the OE will be defined in their contract. Typically, there are several important environmental roles that the OE can undertake on behalf of PEDO.

In general, following types of tasks can be assigned to the OE:

- Prepare technical specifications for design of environmental element
- Approval of technical design developed by the EPC Contractor of environmental elements of the Project
- Review and Approval of SSEMP
- Environmental Monitoring
- Review of the environmental monitoring reports and data produced by EPC

Some role for the OE is suggested in this document. However, prior to commencement of construction a formal agreement will be reached between PEDO and the OE on the latter's environmental role and responsibility.

31.3.3 Construction Contractor

The EPC or Construction Contractor will prepare a 'Construction Management Plan' (CMP) demonstrating the manner in which they will comply with the requirements of mitigation measures proposed in the EMP. After completion of the Construction Contractor's contract, PEDO will be in charge of the operation and maintenance of the Project and will be responsible for compliance with the monitoring plan during operations. The Construction Contractor's general responsibilities will be to:

- Ensure the implementation of the EIA/EMP throughout construction works by all contractor personnel and subcontractors.
- Ensure that adequate resources are available to implement the requirements of this EMP.
- Undertake quarterly environmental audits and report to PEDO on regular basis.
- To coordinate with PEDO for all correspondence to EPA, KP.
- Prepare a comprehensive legislation list and ensure compliance to these legislations.

31.3.4 Sub-Contractors

Any Sub Contractor hired directly or indirectly by the Construction Contractor to carry out Project related tasks will be designated as a sub-contractor. It will be the responsibility of those sub-contractors, whose activities have at least one interface with identified key environmental aspects, to comply with the EIA at all times. They must also designate sufficient competent resources to

¹ <http://www.powermag.com/who-needs-an-owners-engineer/>

ensure all Sub-Contractor personnel receive the required training. Sub-contractors directly in charge of activities shall be registered and approved. Registration documentation will be provided to PEDO prior to commencement of any activities. Sub-contractors will be expected to demonstrate a proactive behavior towards environmental concerns. It will be their responsibility to provide information requested by PEDO with regard to their scope of activities and to demonstrate compliance with the applicable environmental requirements.

Change Management and Document Control

It is possible that some changes in Project design will be required at the time of Project implementation. These can include changes to

- Operations and infrastructure,
- New developments (such as an expansion),
- Personnel and the Company,
- Legislation, and

Project baseline environmental conditions (such as a new settlement established near Project infrastructure).

These changes could result in changes to the significance of environmental and social impacts and risks. This may necessitate updates to existing authorizations/ permits, changes to the ESMS, which may have to be approved by regulatory authorities, and general changes to the ESMS framework.

This section describes the mechanism that will be in place to manage changes that might affect the project's environmental impacts. The Change Management System recognizes three orders of changes:

First Order: A first order change is one that leads to a significant departure from the project and consequently requires a reassessment of the environmental impacts. A new environmental assessment will be conducted and a revised ESIA or IEE for updates will be submitted to the Punjab EPA for a first-order change in the project.

Second Order: A second order change is one that may result in different project impacts, although the overall magnitude of project impacts would be similar to those assessed in this report. The required action for such changes is to reassess the impact of the activity on the environment and report it to the Punjab EPA.

Third Order: A third-order change or uncertainty is one that is of little consequence to the ESIA and IEE findings. In case such a change is made, the only action necessary will be to make the required changes in the EMMP (Construction or Operations) to reflect how the change has been dealt with.

Changes will not be made without the required authorizations/ permits in place. The measures identified as necessary to mitigate impacts and risks will be implemented. The various elements of the ESMS will be modified as required in response to the change.

A procedure specifically for changes to the policy/s, ESMS, underlying management plans and supporting documentation will be established. This will detail:

- how the changes are to be recorded;

who has responsibility for overseeing changes and checking that they do not conflict with any planning conditions or other obligations;
the process of review and sign off in response to changes; and
how changes to the ESMS and underlying and associated plans should be communicated internally and externally.



Performance Security

..... Bank's name, and address of issuing branch or office.....
Beneficiary: Name and address of the employer.....

Date:

Performance Guarantee No.:

We have been informed that name of the contractor. (hereinafter called "the Contractor") has entered into Contract No. reference number of the contract. datedwith you, for the execution of name of contract and brief description of plant and services. (hereinafter called "the Contract").

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

At the request of the Contractor, we name of the bank. hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of name of the currency and amount in words¹. (..... amount in figures.) such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire no later than the earlier of

- (a) 18 months after our receipt of
 - (i) a copy of the Completion 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 14 days have elapsed from receipt of such notice (or 7 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 Completion Certificate has been issued but the Employer is making use of the Facilities; or
- (b) the ___ day of ___, 2

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

This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458 (or ICC Publication No. 758 as applicable), except that subparagraph (ii) of Sub-Article 20(a) is hereby excluded.²

.....
Signature(s) and seal of bank (where appropriate)

- Note to Bidder -

¹ The guarantor shall insert an amount representing the percentage of the contract price specified in the contract and denominated either in the currency(ies) of the contract or a freely convertible currency acceptable to the employer.

² Or the same or similar to this clause specified in the Uniform Rules for Demand Guarantees, ICC Publication No. 758, where applicable.

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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.



Advance Payment Security

..... *Bank's name, and address of issuing branch or office.*.....

Beneficiary: *Name and address of the employer.*.....

Date:

Advance Payment Guarantee No.:

We have been informed that *name of the contractor.* (hereinafter called "the Contractor") has entered into Contract No. *reference number of the contract.* dated *with you, for the execution of* *name of contract and brief description of plant and services.* (hereinafter called "the Contract").

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum *name of the currency and amount in words*¹ (..... *amount in figures.*) is to be made against an advance payment guarantee.

At the request of the Contractor, we *name of the bank.* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of *name of the currency and amount in words*² (..... *amount in figures.*) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor:

- (a) used the advance payment for purposes other than the costs of mobilization and cash flow support in respect of the Works; or
- (b) has failed to repay the advance payment when it has become due and payable in accordance with the conditions of the Contract, specifying the amount payable by the Contractor.

It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Contractor on its account number *contractor's account number.* at *name and address of the bank.*

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor as indicated in copies of interim statements or payment certificates, which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate, indicating that 80% of the Contract Price has been certified for payment, or on the ... day of³, whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

¹ The guarantor shall insert an amount representing the amount of the advance payment denominated either in the currency(ies) of the advance payment as specified in the contract, or in a freely convertible currency acceptable to the employer.
² Footnote 1.

³ Insert the expected expiration date of the time for completion. The employer should note that in the event of an extension of the time for completion of the contract, the employer would need to request an extension of this guarantee from the guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [6 months][1 year], in response to the Employer's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

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This guarantee is subject to the Uniform Rules for Demand Guarantees, ICC Publication No. 458 (or ICC Publication No. 758 as applicable).

.....
Signature(s) and seal of bank (where appropriate)

— Note to Bidder —

If the institution issuing the advance payment security is located outside the country of the employer, it shall have a correspondent financial institution located in the country of the employer to make it enforceable.

